THE PROFESSIONAL AUDIO DIVISION OF CROWN INTERNATIONAL, INC.

COM-TECH®

Service Manual

Models:

Com-Tech 810 & 1610

Some models may be exported under the name *Amcron*®

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120 VAC North American Units:

Commercial Audio E106377

For Canada

KSVCCT810/1610
8/98

The information furnished in this manual does not include all of the details of design, production, or variations of the equipment. Nor does it cover every possible situation which may arise during installation, operation or maintenance. If you need special assistance beyond the scope of this manual, please contact the Crown Technical Support Group.

Mail: P.O. Box 1000, Elkhart IN 46515-1000
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TO PREVENT ELECTRIC SHOCK DO NOT REMOVE TOP OR BOTTOM COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DISCONNECT POWER CORD BEFORE REMOVING REAR INPUT MODULE TO ACCESS GAIN SWITCH.

AVIS

À PRÉVENIR LE CHOC ÉLECTRIQUE N'ENLEVEZ PAS LES COUVERTURES. RIEN DES PARTIES UTILES À L'INTÉRIEUR. DÉBRANCHER LA BORNE AVANT D'OUVRIR LA MODULE EN ARRIÈRE.

WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE!

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Figure 1.1 Com-Tech 810 *and* 1610 *front panels*

1 Introduction

This manual contains service information for the Crown *Com-Tech–10 Series* power amplifiers. It is designed to be used in conjunction with the *Com-Tech* Reference Manual. Some important information is, however, duplicated in this Service Manual in case the Reference Manual is not readily available.

NOTE: THE INFORMATION IN THIS MANUAL IS INTENDED FOR USE BY AN EXPERIENCED TECHNICIAN ONLY!

1.1 The Com-Tech Series

The *Com-Tech* series is a complete family of amplifiers with a wide range of power output capabilities. *Com-Tech* amplifiers can directly drive "constant voltage" lines, so you can avoid the expense, distortion and insertion loss associated with step-up transformers for distributed loudspeaker systems. *Com-Tech* amplifiers also utilize Crown's patented *ODEP®* protection circuitry, which keeps the amplifier working under severe conditions that would shut down a lesser amplifier. All *Com-Tech* amplifiers feature Crown's exclusive *P.I.P.®* (Programmable Input Processor) expansion system. The *P.I.P.* expansion system makes it easy to tailor your amplifier to a specific application or to add future technology as it develops.

1.2 Warranty

Each Reference Manual contains basic policies as related to the customer. For further assistance please contact the Crown Technical Support Group at:

Crown International, Inc.
Mailing: PO Box 1000
Elkhart, IN 46515-1000
or
Shipping: Plant 2 S.W.
1718 W. Mishawaka Rd.
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Web: www.crownaudio.com

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2 Specifications

The following specifications apply to all models in Dual mode with 8-ohm loads and an input sensitivity of 26 dB unless otherwise specified.

MAP at 1 kHz: This term refers to maximum average power in watts at 1 kHz with 0.1% THD.

Full Bandwidth Power: This term refers to maximum average power in watts from 20 Hz to 20 kHz with 0.1% THD.

120 VAC, 60 Hz Units: These North American units have dedicated transformers for 120 VAC, 60 Hz power mains.

100/120 VAC Units: These units have two-tap transformers that accept a 50- or 60-Hz AC line, and can be configured for 100 or 120 VAC mains.

220/240 VAC Units: These units have two-tap transformers that accept a 50- or 60-Hz AC line, and can be configured for 220 or 240 VAC mains.

2.1 Performance

Frequency Response: ±0.1 dB from 20 Hz to 20 kHz at 1 Watt (See Figure 2.1).

Phase Response: ±10 degrees from 10 Hz to 20 kHz at 1 Watt (See Figure 2.4).

Hum and Noise: A-weighted, 105 dB below full bandwidth power; No weighting, 100 dB below full bandwidth power.

Total Harmonic Distortion (THD): Less than 0.05% at full power from 20 Hz to 1 kHz increasing linearly to 0.1% at 20 kHz.

Intermodulation Distortion (IMD): (60 Hz and 7 kHz 4:1) Less than 0.05% from -35 dB to full power bandwidth.

Damping Factor: Greater than 1000 from 10 Hz to 400 Hz (See Figure 2.2).

Crosstalk: Greater than 70 dB down at 10 kHz. (See Figure 2.5).

Common Mode Rejection Ration (CMRR): Better than 70 dB.

Slew Rate: Greater than 17 volts per microsecond.

Voltage Gain: (At the maximum level setting) 20:1 ±3% or 26 dB ±0.25 dB. 90:1 ±12% or 39 dB ±1 dB with the input sensitivity set to 0.775 volts for 70 volt output. The following voltage gain specifications are for units with the input sensitivity set to 0.775 volts for 8/4 ohm output:

Com-Tech 810: 64:1 ±12% or 36 dB ±1 dB.
Com-Tech 1610: 85:1 ±12% or 39 dB ±1 dB.

2.2 Power

Output Power: See the minimum Guaranteed Power table in Figures 2.6-7 for the output power specifications under a variety of conditions.

It is extremely important to supply the amplifier with adequate AC power. Power amplifiers cannot add power–they need the required voltage and current to deliver the undistorted rated wattages you expect.

Load Impedance: Safe with all types of loads. With 8/4 ohm output, all *Com-Techs* are rated for 4 to 8 ohms in Dual mode, 8 to 16 ohms in Bridge-Mono mode, and 2 to 4 ohms in Parallel-Mono mode. With a 70 volt output, rated loads vary among the different models for each dual/mono mode (see the power matrices that follow).

AC Power Requirements: All units require less than 90 watts at idle. See Section 3 for detailed information on AC power requirements and thermal dissipation.

Low-Voltage Power Supply: ±15 VDC regulated supplies are provided by a winding on the power transformer.

Power Cord: An appropriate AC line cord is provided with a nominal cable length of 3 feet.

2.3 Controls

Enable: A front panel rocker switch used to turn the amplifier on and off, and to enable the remote feature.

Input Attenuation: A detented 21-position back panel Input Attenuation control for each channel.

Output Mode: A back panel switch for each channel used to select 8/4-ohm or 70-volt output.

Dual/Mono: A 3-position back panel switch used to select Dual, Bridge-Mono or Parallel-Mono operation.

Reset: A back panel push button used to reset the amplifier's AC mains breaker.

Input Sensitivity: A three-position switch inside the *P.I.P.* compartment used to select an input sensitivity for both channels: 0.775 volts for MAP at 1 kHz in 8/4 ohm mode, 0.775 volts for MAP at 1 kHz in 70-volt mode, or a voltage gain of 26 dB.

2.4 Indicators

Enable: This amber indicator shows the on/off status of the unit's low-voltage power supply and the activation of the energy-saving mode.

***SPI* (Signal Presence Indicator):** Each channel has a green indicator that flashes to show audio output.

***IOC* (Input/Output Comparator):** Each channel has a yellow indicator that flashes if the output waveform differs from the input waveform by 0.05% or more. The LEDs act as sensitive distortion indicators to provide proof of distortion-free performance.

***ODEP* (Output Device Emulation Protection):** Each channel has a green multifunction indicator that shows the channel's reserve energy status. Normally, the LEDs are brightly lit to show that reserve energy is available. In the rare event that a channel has no reserve, its indicator will dim in proportion to *ODEP* limiting.

2.5 Input/Output

Input Connector: A barrier block on the standard PIP2-BB with three-terminal balanced connections for input to each channel and test points for a DVM.

Input Impedance: Nominally 20 K ohms, balanced. Nominally 10 K ohms, unbalanced.

Input Sensitivity: Settings include 0.775 volts for 8/4-ohm output, 0.775 volts for 70-volt output, and a voltage gain of 26 dB.

Output Connector: A back panel barrier block with two-terminal connections for each output channel.

Output Impedance: Less than 10 milliohms in series with less than 2 microhenries (see Figure 2.3).

DC Output Offset: Less than ±10 millivolts.

RSVP: An RJ11 modular connector on the back panel interfaces with an RSVP to provide remote control of amplifier power on/off functions.

2.6 Output Signal

Dual: Unbalanced, two-channel.

Bridge-Mono: Balanced, single-channel. Channel 1 controls are active; Channel 2 should be turned down. Channel 1 red terminal is positive, referenced to ground, when the input is positive.

Parallel-Mono: Unbalanced, single-channel. Channel 1 controls are active; Channel 2 is bypassed.

2.7 Protection

Com-Tech amplifiers are protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature, chain destruction phenomena, input overload damage and high-frequency blowups. It also protects loudspeakers from input/output DC and turn-on/turn-off transients.

If unreasonable operating conditions occur, the patented *ODEP* circuitry proportionally limits the drive level to protect the output devices, particularly in the case of elevated temperature. Transformer overheating results in a temporary shutdown of both channels. The transformer automatically resets itself when it has cooled to a safe temperature. Controlled by slew rate, voltage amplifiers protect against RF burnouts, and input overload protection is provided by current-limiting resistance at the input.

Turn On: The four-second turn on delay prevents dangerous turn-on transients. "Soft-start" circuitry provides low inrush so power sequencers are rarely needed with multiple units. *Note: The turn-on delay time may be changed. Contact Crown's Technical Support Group for details.*

Circuit Breaker: Circuit breaker current ratings vary based on the *Com-Tech* model and AC mains voltage.

All 100/120 VAC Units:
Com-Tech 810: 20 amperes.
Com-Tech 1610: 30 amperes.

All 220/240 VAC Units:
Com-Tech 810: 10 amperes.
Com-Tech 1610: 20 amperes.

2.8 Construction

Durable black powdercoat finish on the steel chassis, front panel Lexan overlay, and specially-designed flow-through ventilation from front to side panels.

Cooling: Internal heat exchangers with on-demand forced air cooling (fan is optional for the North American *Com-Tech 210*).

Dimensions: 19 inch (48.3 cm) standard rack mount width (EIA RS-310-B), 16 inch (40.6 cm) depth behind mounting surface, and 0.25 inches (0.6 cm) in front of mounting surface. Amplifier height varies among the available models and with different AC power requirements (see Figure 2.10).

Height A: 3.5 inches (8.9 cm)
Models: *Com-Tech* 210 (All)
Com-Tech 410 (North American)

Height B: 5.25 inches (13.3 cm)
Models: *Com-Tech* 410 (100/120 VAC, 50/60 Hz)
Com-Tech 410 (220/240 VAC, 50/60 Hz)
Com-Tech 810 (All)

Height C: 7 inches (17.8 cm)
Model: *Com-Tech* 1610 (All)

Approximate Weight: Center of gravity is 6 inches (15.2 cm) behind the front mounting surface.

120 VAC, 60 Hz North American Units:

Com-Tech 810: 47 pounds, 4 ounces (21.5 kg) net; 50 pounds, 8 ounces (22.9 kg) shipping weight.

Com-Tech 1610: 57 pounds, 14 ounces (26.3 kg) net; 66 pounds, 10 ounces (30.2 kg) shipping weight.

100/120 VAC, 50/60 Hz Units:

Com-Tech 810: 45 pounds, 1 ounce (20.5 kg) net; 49 pounds, 10 ounces (22.5 kg) shipping weight.

Com-Tech 1610: 54 pounds, 11 ounces (24.8 kg) net; 64 pounds, 3 ounces (29.1 kg) shipping weight.

220-240 VAC, 50/60 Hz Units:

Com-Tech 810: 45 pounds, 4 ounces (20.5 kg) net; 49 pounds, 13 ounces (22.6 kg) shipping weight.

Com-Tech 1610: 55 pounds, 2 ounces (25.0 kg) net; 64 pounds, 10 ounces (29.3 kg) shipping weight.

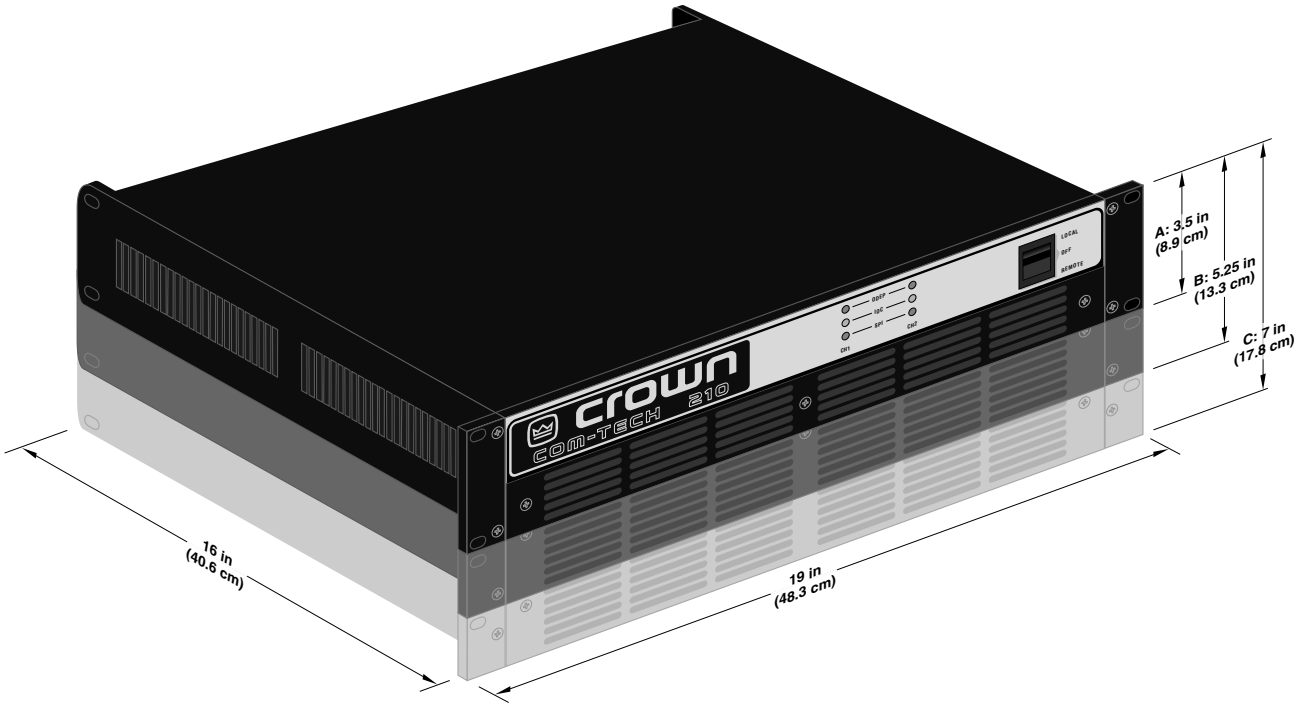

Figure 2.10 Mounting Dimensions

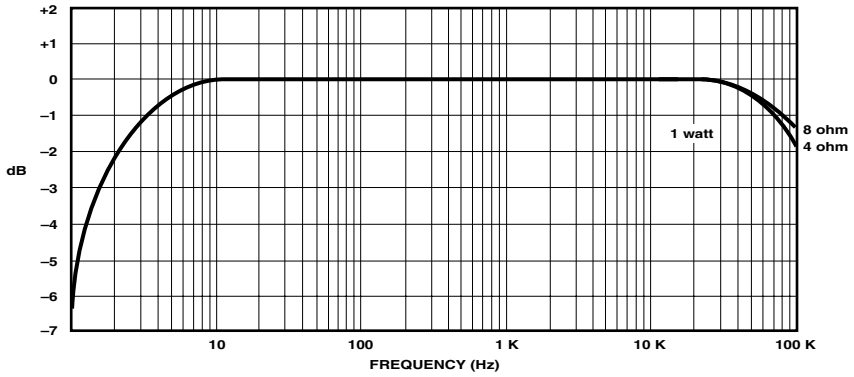

Figure 2.1 Typical Frequency Response

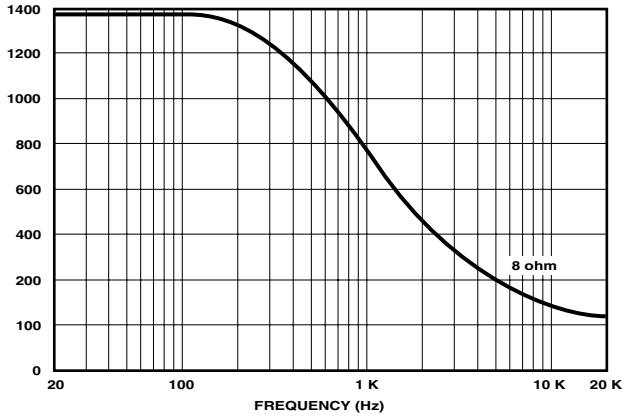

Figure 2.2 Typical Damping Factor

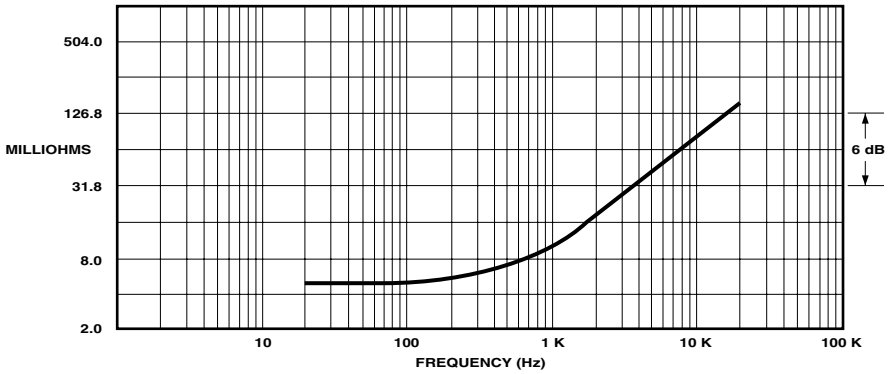

Figure 2.3 Typical Output Impedance

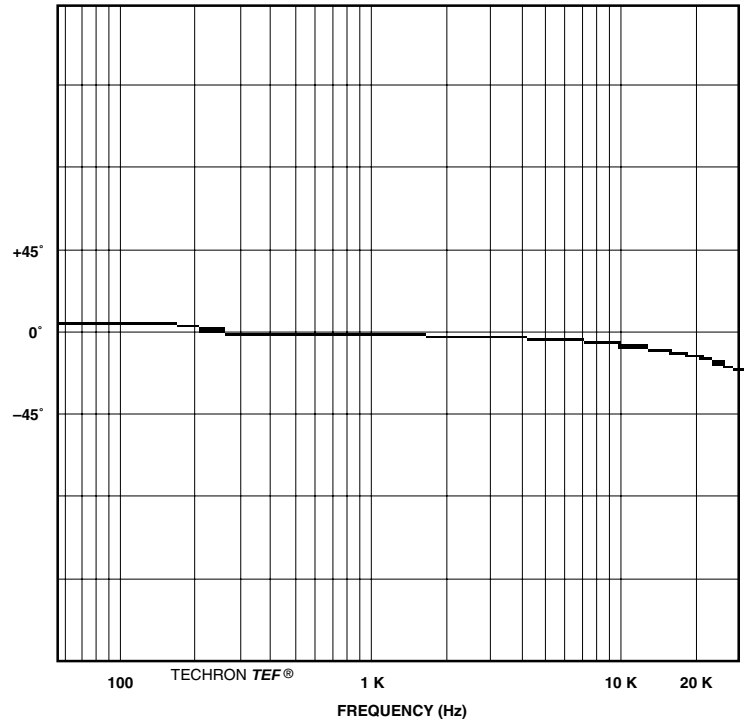

Figure 2.4 Typical Phase Response

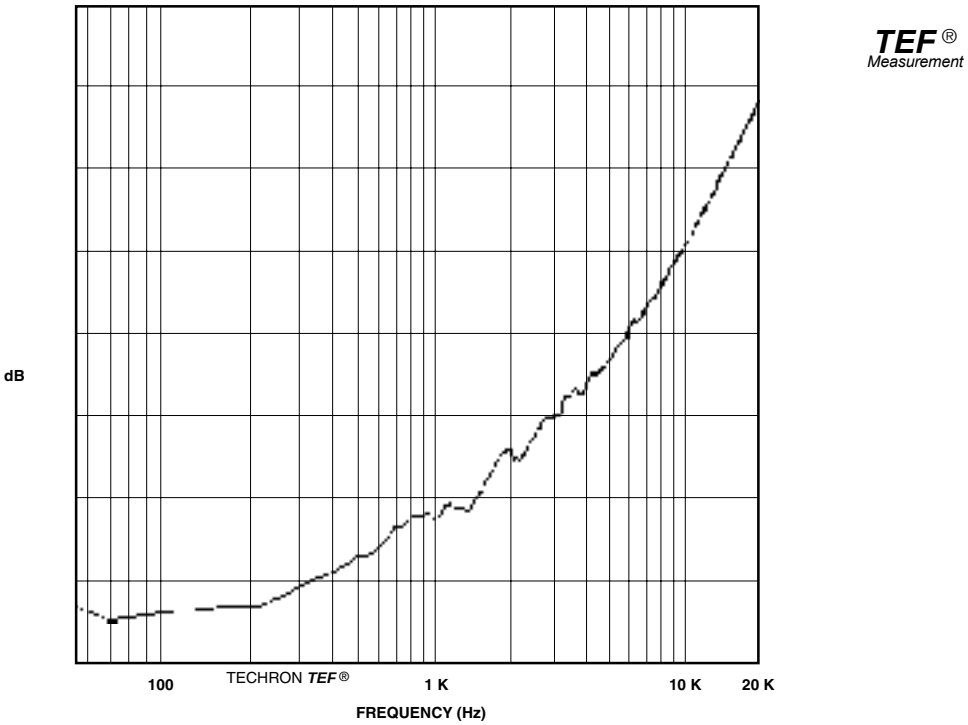

Figure 2.5 Typical Crosstalk

Crown specifications are guaranteed for three years.

In an effort to provide you with as much information as possible about the high power-producing capabilities of your amplifier, we have created the following power matrices.

Minimum Guaranteed Power Specifications

Crown's minimum power specifications represent the absolute smallest amount of output power you can expect from your amplifier when it is driven to full output under the given conditions. Some spaces in each matrix may be left blank because the same guarantee is not provided for those conditions—however, your amplifier will perform well under all conditions listed in each matrix.

When measuring power, 0.1% THD appears to be the industry standard for distortion. Two of the maximum average power specifications shown in each minimum power matrix are measured at 0.1% THD so you can easily compare Crown specifications to those of other manufacturers. But this high level of distortion actually allows for some clipping which is undesirable. Because of this, a maximum average power specification at 0.05% THD is included in each minimum power matrix which represents non-clipped conditions. Although most manufacturers do not give you power specifications at 0.05% THD, we encourage them to provide these specifications so you will have a more realistic representation of the way amplifiers should be used in the real world—without a clipped output signal.

Many manufacturers publish power specs with a tolerance of ±1 dB or worse. This means their amplifier can deviate more than 20% in output! A 100 watt amplifier would meet their specification if it only produced 79.4 watts. Other manufacturers qualify their specs by saying they are "typical," "subject to manufacturing tolerances," "single channel driven" or that they are specified with "fuses bypassed." Each of these statements effectively removes any performance guarantee. In fact, some manufacturers use these tactics to generate large power numbers, and they don't even print a disclaimer. We take a different approach at Crown—our amplifiers are *guaranteed* to meet or exceed their specifications for three years. Further, because our published specs are set below our "in-house" measurements, you can expect *every* Crown amplifier to meet *or exceed* its published minimum power specs. We believe you should get what you pay for.

Com-Tech 810 – Minimum Guaranteed Power (Watts)

AC Mains	Dual/Mono Mode	Load in Ohms (Constant Voltage)	Maximum Average At 0.1% THD (See note 1) 1 kHz	Maximum Average At 0.1% THD (See note 2) 20Hz-20kHz	Maximum Average At 0.05% THD (See note 3) 1 kHz	FTC Continuous Average At 0.1% THD (See note 4) 1 kHz	FTC Continuous Average At 0.1% THD (See note 4) 20Hz-20kHz
120 VAC, 60 Hz	Dual (both channels driven)	4	490	460	480	470	455
		8	305	295	300	300	290
		12.5 (70V)	460	455	455	450	445
	Bridge-Mono (balanced output)	8	975	935	965	950	905
		16	610	600	605	605	600
		25 (140V)	920	905	905	905	880
	Parallel-Mono	2	965		950	950	
		4	610		600	605	
		6.25 (70V)	915		905	910	
100/120 VAC, 50/60 Hz	Dual (both channels driven)	4	460	440	460	445	425
		8	300	290	295	295	290
		12.5 (70V)	425	415	420	410	400
	Bridge-Mono (balanced output)	8	925	885	915	890	840
		16	600	580	595	595	575
		25 (140V)	855	825	850	830	800
	Parallel-Mono	2	925		920	895	
		4	600		595	595	
		6.25 (70V)	855		845	830	
220/240 VAC, 50/60 Hz	Dual (both channels driven)	4	485	470	485	465	450
		8	310	305	310	310	300
		12.5 (70V)	440	430	435	425	420
	Bridge-Mono (balanced output)	8	965	920	955	930	875
		16	620	605	615	615	600
		25 (140V)	885	855	875	865	840
	Parallel-Mono	2	940		930	920	
		4	615		610	600	
		6.25 (70V)	875		870	855	

Figure 2.6 Com-Tech 810 Minimum Power Matrix

Minimum Power Notes:

All minimum power specifications are based on 0.5% regulated AC mains with THD of less than 1.0% and an ambient room temperature of 70° F (21° C). Standard EIA power (RS-490) is not shown here because it is identical to FTC Continuous Average Power.

1. A 1 kHz sine wave is presented to the amplifier and the output monitored for nonlinear distortion. The level is increased until THD reaches 0.1%. At this point, average power per channel is reported.
2. A sine wave is presented to the amplifier over the range from 20 Hz to 20 kHz and the output monitored for nonlinear distortion. The level at each frequency is increased until THD reaches 0.1%. At this point, average power per channel is reported.
3. A 1 kHz sine wave is presented to the amplifier and the output monitored for nonlinear distortion. The level is increased until THD reaches 0.05%. At this point, average power per channel is reported.
4. Continuous power in the context of Federal Trade Commission testing is understood to be a minimum of five minutes of operation. Harmonic distortion is measured as the RMS sum total and given as a percentage of the fundamental output voltage. This applies for all wattages greater than 0.25 watts.

Com-Tech 1610 – Minimum Guaranteed Power (Watts)							
AC Mains	Dual/Mono Mode	Load in Ohms (Constant Voltage)	Maximum Average			FTC Continuous Average	
			At 0.1% THD (See note 1)	At 0.1% THD (See note 2)	At 0.05% THD (See note 3)	At 0.1% THD (See note 4)	
			1 kHz	20Hz-20kHz	1 kHz	1 kHz	20Hz-20kHz
120 VAC, 60 Hz	**Dual** (both channels driven)	4	870	810	860	850	
		8	540	520	535	540	510
		6.25 (70V)	960	910	955	960	
	Bridge-Mono (balanced output)	8	1745	1595	1725	1700	
		16	1080	1040	1070	1075	1040
		12.5 (140V)	1805	1725	1795	1770	
	Parallel-Mono	2	1745		1720	1690	
		4	1080		1070	1075	
		3.13 (70V)	1780		1760	1745	
100/120 VAC, 50/60 Hz	**Dual** (both channels driven)	4	815	775	805		
		8	535	515	530	530	510
		6.25 (70V)	860	830	850	815	
	Bridge-Mono (balanced output)	8	1625	1545	1615		
		16	1070	1035	1060	1055	1020
		12.5 (140V)	1700	1640	1695	1625	
	Parallel-Mono	2	1660		1640		
		4	1080		1070	1060	
		3.13 (70V)	1700		1690	1620	
220/240 VAC, 50/60 Hz	**Dual** (both channels driven)	4	840	785	840		
		8	545	525	540	540	505
		6.25 (70V)	875	755	870	850	
	Bridge-Mono (balanced output)	8	1675	1550	1665		
		16	1090	910	1075	1070	900
		12.5 (140V)	1755	1315	1745	1710	
	Parallel-Mono	2	1650		1635		
		4	1075		1065	1065	
		3.13 (70V)	1745		1735	1715	

Figure 2.7 Com-Tech 1610 Minimum Power Matrix

Maximum Power Specifications

Crown's maximum power specifications represent the largest amount of output power you can expect from your amplifier when it is driven to full output under the given conditions. These specifications can be used to prevent loudspeaker and hearing damage.

The maximum power matrices include specifications for single cycle and 40-millisecond burst sine waves. Burst signals act like large transient peaks that are present in common source signals. Loudspeakers can respond to a single cycle burst, so the single cycle burst specifications should be used to help you protect your loudspeakers. In contrast, a 40 millisecond burst represents the typical response time of the human ear. Your ear will not respond to the entire dynamic change of a burst that lasts less than 40 milliseconds.

The burst power specifications are provided at 0.05% THD which is a practical low distortion condition. Operating the amplifier at levels higher than 0.05% THD can result in output power levels that are higher than those listed in the maximum power matrices.

Com-Tech 810 – Maximum Power (Watts)

AC Mains	Dual/Mono Mode	Load in Ohms (Constant Voltage)	Single Cycle Tone Burst At less than 0.05% THD (See note 1)				40 Millisecond Tone Burst At 0.05% THD (See note 2)		
			20 Hz	50 Hz	1 kHz	7 kHz	50 Hz	1 kHz	7 kHz
120 VAC, 60 Hz	Dual (both channels driven)	4	515	575	695	690	545	470	495
		8	320	340	385	375	320	300	310
		12.5 (70V)	480	530	590	575	480	455	475
	Bridge-Mono (balanced output)	8	1010	1120	1405	1385	1060	945	995
		16	640	680	770	755	650	595	620
		25 (140V)	980	1045	1185	1145	960	910	955
	Parallel-Mono	2	1060	1160	1390	1380	1100	950	985
		4	645	685	765	755	650	590	615
		6.25 (70V)	975	1045	1170	1135	985	910	945
100/120 VAC, 50/60 Hz	Dual (both channels driven)	4	460	605	750	730	555	470	490
		8	230	295	375	370	275	235	245
		12.5 (70V)	475	545	610	595	510	470	490
	Bridge-Mono (balanced output)	8	915	1195	1500	1480	1110	935	980
		16	600	705	810	790	665	600	630
		25 (140V)	920	1085	1230	1190	990	910	955
	Parallel-Mono	2	900	1195	1485	1450	1075	920	960
		4	600	700	805	780	660	600	625
		6.25 (70V)	915	1070	1210	1185	975	905	945
220/240 VAC, 50/60 Hz	Dual (both channels driven)	4	475	610	755	740	570	485	500
		8	305	360	405	395	340	305	320
		12.5 (70V)	475	545	615	590	505	475	490
	Bridge-Mono (balanced output)	8	930	1190	1530	1470	1095	945	985
		16	605	705	815	785	675	605	635
		25 (140V)	920	1085	1225	1180	980	910	945
	Parallel-Mono	2	910	1185	1475	1415	1085	920	955
		4	600	710	790	770	665	595	620
		6.25 (70V)	915	1080	1225	1175	985	910	940

Maximum Power Notes:

All maximum power specifications are based on 0.5% regulated AC mains with THD of less than 1.0% and an ambient room temperature of 70° F (21° C). Although it is an unusual condition, your amplifier can function well with AC mains voltages up to 10% over the specified line voltage. With overvoltage conditions, your amplifier may be capable of delivering instantaneous power levels up to 20% greater than the specifications in the matrix.

1. A single cycle sine wave is presented to the amplifier and monitored for nonlinear distortion. The average power during the burst is reported. Loudspeakers must be able to withstand this level if they are to be safely used with this amplifier.
2. A 40 millisecond sine wave burst (10 percent duty cycle) is presented to the amplifier and monitored for nonlinear distortion. Average power during the burst is reported. This power level is a measurement of the amplifier's maximum transient power that can be perceived by the human ear.

Figure 2.8 Com-Tech 810 Maximum Power Matrix

Com-Tech 1610 – Maximum Power (Watts)									
AC Mains	Dual/Mono Mode	Load in Ohms (Constant Voltage)	Single Cycle Tone Burst At less than 0.05% THD (See note 1)				40 Millisecond Tone Burst At 0.05% THD (See note 2)		
			20 Hz	50 Hz	1 kHz	7 kHz	50 Hz	1 kHz	7 kHz
120 VAC, 60 Hz	**Dual** (both channels driven)	4	780	1000	1245	1215	915	840	870
		8	525	600	670	655	555	525	545
		6.25 (70V)	950	1035	1205	1170	925	875	905
	Bridge-Mono (balanced output)	8	1600	1995	2480	2420	1875	1670	1745
		16	1050	1185	1330	1285	1145	1050	1090
		12.5 (140V)	1770	1980	2315	2225	1785	1675	1735
	Parallel-Mono	2	1590	1985	2465	2390	1830	1665	1715
		4	1140	1170	1330	1300	1130	1045	1080
		3.13 (70V)	1895	2015	2375	2280	1880	1715	1780
100/120 VAC, 50/60 Hz	**Dual** (both channels driven)	4	820	1060	1370	1335	1005	835	870
		8	555	655	750	720	610	550	570
		6.25 (70V)	955	1100	1295	1255	1025	895	930
	Bridge-Mono (balanced output)	8	1635	2095	2700	2680	1930	1650	1735
		16	1090	1285	1475	1440	1200	1080	1130
		12.5 (140V)	1895	2165	2550	2490	1985	1760	1825
	Parallel-Mono	2	1640	2105	2715	2630	1955	1655	1725
		4	1090	1300	1470	1425	1195	1080	1120
		3.13 (70V)	1845	2110	2530	2430	1965	1745	1810
220/240 VAC, 50/60 Hz	**Dual** (both channels driven)	4	800	1060	1295	1245	955	820	850
		8	535	630	700	685	590	530	550
		6.25 (70V)	885	1025	1210	1165	960	845	875
	Bridge-Mono (balanced output)	8	1600	2060	2580	2520	1915	1630	1695
		16	1055	1225	1410	1365	1155	1050	1095
		12.5 (140V)	1800	2115	2475	2395	1935	1720	1800
	Parallel-Mono	2	1615	2100	2585	2525	1920	1635	1700
		4	1065	1230	1415	1380	1175	1055	1095
		3.13 (70V)	1855	2080	2450	2315	1940	1720	1785

Figure 2.9 Com-Tech 1610 Maximum Power Matrix

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3 AC Power Draw and Thermal Dissipation

"Soft-Start" inrush current limiting protects the house circuit breaker when several amps are turned on simultaneously.

This section provides detailed information about the amount of power and current drawn from the AC mains by the *Com-Tech* amplifiers and the amount of heat produced under various conditions. The calculations presented here are intended to provide a realistic and reliable depiction of the amplifier. The following assumptions or approximations were made:

- The amplifier's available channels are loaded, and full power is being delivered.
- Amplifier efficiency at standard 1 kHz power is estimated to be 65%.
- In 8/4 ohm mode, typical quiescent power draw is 55 watts for the *Com-Tech 810* and 70 watts for the *Com-Tech 1610*.
- In 70 volt mode, typical quiescent power draw is 90 watts for the *Com-Tech 810* and *1610*.
- When running at full speed, typical power draw for the internal fan is 11 watts for the *Com-Tech 810* and 17 watts for the *Com-Tech 1610*.
- Quiescent thermal dissipation is related .
- The estimated duty cycles take into account the typical crest factor for each type of source material.
- Duty cycle of pink noise is 50%.
- Duty cycle of highly compressed rock 'n' roll midrange is 40%.
- Duty cycle of rock 'n' roll is 30%.
- Duty cycle of background music is 20%.
- Duty cycle of continuous speech is 10%.
- Duty cycle of infrequent paging is 1%.

Here are the equations used to calculate the data presented in Figures 3.1 and 3.2:

$$\text{AC Mains Power Draw (watts)} = \frac{\text{Total output power with all channels driven (watts)} \times \text{Duty Cycle}}{\text{Amplifier Efficiency (.65)}} + \text{Quiescent Power Draw (watts)}$$

The value used for quiescent power draw includes both the amplifier's quiescent power draw for the selected output mode and the power drawn by the fan if one is installed (these values are listed in the previous column). The following equation converts power draw in watts to current draw in amperes:

$$\text{Current Draw (amperes)} = \frac{\text{AC Mains Power Draw (watts)}}{\text{AC Mains Voltage} \times \text{Power Factor (.83)}}$$

The power factor of 0.83 is needed to compensate for the difference in phase between the AC mains voltage and current. The following equation is used to calculate thermal dissipation:

$$\text{Thermal Dissipation (btu/hr)} = \left(\frac{\text{Total output power with all channels driven (watts)} \times \text{Duty Cycle} \times .35}{\text{Amplifier Efficiency (.65)}} + \text{Quiescent Power Draw (watts)} \right) \times 3.415$$

The constant 0.35 is inefficiency (1.00–0.65) and the factor 3.415 converts watts to btu/hr. Thermal dissipation in btu is divided by the constant 3.968 to get kcal. If you plan to measure output power under real-world conditions, the following equation may also be helpful:

$$\text{Thermal Dissipation (btu/hr)} = \left(\frac{\text{Total measured output power from all channels (watts)} \times .35}{\text{Amplifier Efficiency (.65)}} + \text{Quiescent Power Draw (watts)} \right) \times 3.415$$

Com-Tech 810

	LOAD														
	8 Ohm Dual / 16 Ohm Bridge-Mono / 4 Ohm Parallel-Mono					4 Ohm Dual / 8 Ohm Bridge-Mono / 2 Ohm Parallel-Mono					70 V				
Duty Cycle	AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation	
		100-120 V	220-240 V	btu/hr	kcal/hr		100-120 V	220-240 V	btu/hr	kcal/hr		100-120 V	220-240 V	btu/hr	kcal/hr
50%	535	6.4	2.9	785	200	820	9.9	4.5	1125	285	810	9.7	4.4	1190	300
40%	440	5.3	2.4	670	170	670	8.0	3.7	945	240	670	8.0	3.6	1020	260
30%	350	4.2	1.9	560	140	520	6.2	2.8	765	195	525	6.3	2.9	850	215
20%	255	3.0	1.4	450	115	370	4.4	2.0	585	150	385	4.6	2.1	680	170
10%	160	1.9	0.9	335	85	220	2.6	1.2	405	100	245	2.9	1.3	510	130

Figure 3.1 Com-Tech 810 Power Draw, Current Draw and Thermal Dissipation at Various Duty Cycles

Com-Tech 1610

	LOAD														
	8 Ohm Dual / 16 Ohm Bridge-Mono / 4 Ohm Parallel-Mono					4 Ohm Dual / 8 Ohm Bridge-Mono / 2 Ohm Parallel-Mono					70 V				
Duty Cycle	AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation	
		100-120 V	220-240 V	btu/hr	kcal/hr		100-120 V	220-240 V	btu/hr	kcal/hr		100-120 V	220-240 V	btu/hr	kcal/hr
50%	920	11.1	5.0	1300	330	1435	17.3	7.8	1915	485	1590	19.1	8.7	2140	540
40%	755	9.1	4.1	1100	280	1165	14.0	6.4	1590	400	1295	15.6	7.1	1790	450
30%	590	7.1	3.2	905	230	895	10.8	4.9	1270	320	1000	12.0	5.5	1435	365
20%	425	5.1	2.3	705	180	630	7.6	3.4	950	240	700	8.4	3.8	1085	275
10%	260	3.1	1.4	510	130	360	4.3	2.0	630	160	405	4.9	2.2	730	185

Figure 3.2 Com-Tech 1610 Power Draw, Current Draw and Thermal Dissipation at Various Duty Cycles

4 AC Mains Voltage Conversion

4.1 *Com-Tech* Voltage Conversion

Due to Crown's distribution of *Com-Tech* amplifiers all over the world, not all of these amplifiers are built with the same power supply components. Refer to the following text to see if your unit is compatible with the voltage you need. See figure 4.1 for Control PCA layout.

4.1.1 120 VAC, 60 Hz Units

These North American units have dedicated transformers for 120 VAC, 60 Hz power mains. These units are not convertable for use at any other voltage or frequency.

4.1.2 100/120 VAC Export Units

These units have two-tap transformers that accept a 50 or 60 Hz AC line, and can be configured for 100 or 120 VAC. To convert from one voltage to another, switch the BLK/RED and BLK/WHT wires. Refer to the following chart.

Control Board Wiring		
Line	Wiring Connections	
Voltage	BLK/RED	BLK/WHT
100V	W9	W2
120V	W2	W9

4.1.3 220/240 VAC Export Units

These units have two-tap transformers that accept a 50 or 60 Hz line, and can be configured for 220 or 240 VAC. To convert from one voltage to another, switch the BLK/YEL and BLK/WHT wires. Refer to the following chart.

Control Board Wiring		
Line	Wiring Connections	
Voltage	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

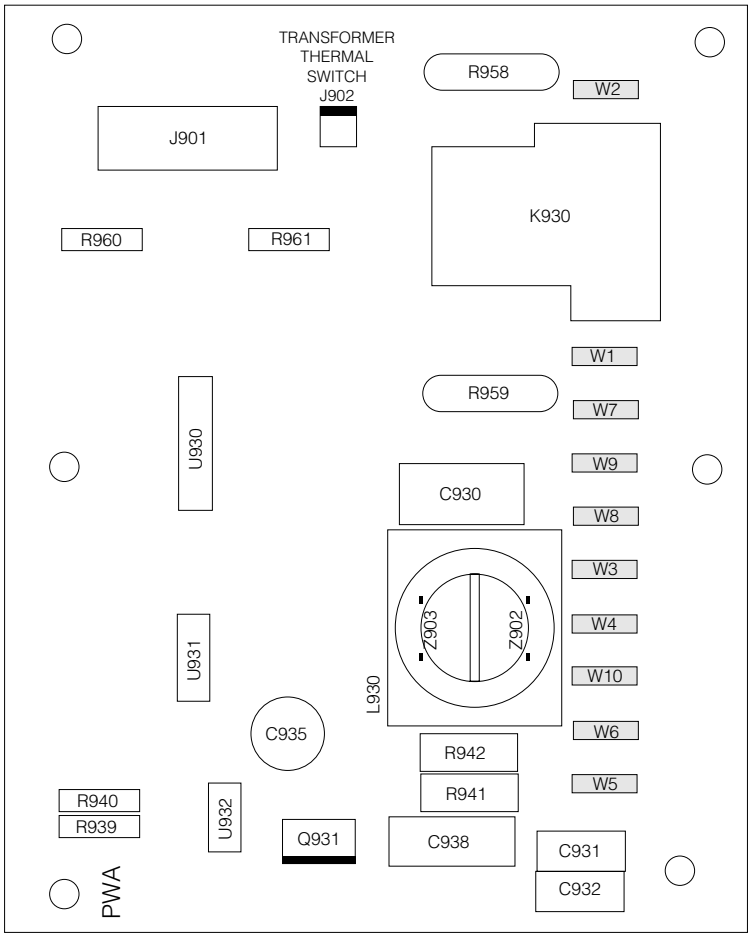

Figure 4.1 Control PCA Layout

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5 Theory

5.1 Overview

Com-Tech amplifiers incorporate several new technological advancements, including real-time computer simulation, low-stress output stages, an advanced heat sink embodiment and the Programmable Input Processor (*P.I.P.*) expansion system.

Custom circuitry is incorporated to limit temperature and current to safe levels, making it highly reliable and tolerant of faults. Unlike many lesser amplifiers, it can operate at its voltage and current limits without self-destructing.

Real-time computer simulation is used to create an analog of the junction temperature of the output transistors (hereafter referred to as the output devices). Current is limited only when the device temperature becomes excessive (and by the minimum amount required). This patented approach, called Output Device Emulation Protection (or *ODEP*) maximizes the available output power and protects against overheating—the major cause of device failure.

The amplifier is protected from all common hazards that plague high-power amplifiers, including shorted, open or mismatched loads; overloaded power supplies; excessive temperature and chain-destruction phenomenon; input overload; high-frequency blowups, internal faults; and input and output DC.

The four-quadrant topology used in a *Com-Tech* amplifier's output stages is called the *grounded bridge*. This patented topology makes full use of the power supply, providing peak-to-peak voltages to the load that are twice the voltage seen by the output devices.

As its name suggests, the *grounded bridge* topology is referenced to ground. Composite devices are constructed to function as large NPN and PNP devices to handle currents which exceed the limits of available devices. Each output stage has two composite NPN devices and two composite PNP devices.

The devices connected to the load are referred to as "high-side NPN and PNP" and the devices connected to ground are referred to as "low-side NPN and PNP." Positive current is delivered to the load by increasing conductance simultaneously in the high-side NPN and low-side PNP stage, while synchronously decreasing conductance of the high-side PNP and low-side NPN.

The two channels may be used together to double the voltage (Bridge-Mono) or current (Parallel-Mono) presented to the load. This feature gives you flexibility to maximize power available to the load.

A wide bandwidth, multiloop design is used for state-of-the-art compensation. This produces ideal behavior and results in ultra-low distortion values.

Aluminum extrusions have been widely used for heat sinks in power amplifiers due to their low cost and reasonable performance. However, measured on a watts-per-pound or watts-per-volume basis, the extrusion technology doesn't perform nearly as well as the heat exchangers developed for *Com-Tech* amplifiers.

Our heat exchangers are fabricated from custom convoluted fin stock that provides an extremely high ratio of area to volume, and area to weight. All power devices are mounted directly to massive heat spreaders that are electrically at the Vcc potential. Electrifying the heat spreaders improves thermal performance by eliminating an insulating interface underneath each power device. The chassis itself is used as part of the thermal circuit to maximize utilization of the available cooling resources.

5.2 Front End Operation

The front end is comprised of three stages: Balanced Gain Stage (BGS), Variable Gain Stage (VGS), and the Error Amp. Figure 5.1 shows a simplified diagram of a typical front end with voltage amplification stages.

5.2.1 Balanced Gain Stage (BGS)

Input to the amplifier is balanced. The shield is isolated from chassis ground by an RC network to interrupt ground loops. The non-inverting (+) side of the balanced input is fed to the non-inverting input of the first op-amp stage. The inverting (-) side of the balanced input is fed to the inverting input of the first op-amp stage. A potentiometer (R103) is provided for common mode rejection adjustment. Electrically, the BGS is at unity gain. (From an audio perspective, however, this stage actually provides +6dB gain if a fully balanced signal is placed on its input.) The BGS is a non-inverting stage. Its output is delivered to the Variable Gain Stage.

5.2.2 Variable Gain Stage (VGS)

From the output of the BGS, the signal goes to the VGS, where gain is determined by the position of the Sensitivity Switch, and level is determined by the level control. VGS is an inverting stage with the input being

fed to its op-amp stage. Because gain after this stage is fixed at 26 dB (factor of 20), greater amplifier sensitivity is achieved by controlling the ratio of feedback to input resistance. The Sensitivity Switch sets the input impedance to this stage and varies the gain such that the overall amplifier gain is 26 dB, or is adjusted appropriately for 0.775V input to attain rated output.

5.2.3 Error Amp

The inverted output from the VGS is fed to the non-inverting input of the Error Amp op-amp stage through an AC coupling capacitor (C107) and input resistor (R113). Amplifier output is fed back via the negative feedback (NFb) loop resistor (R114). The ratio of feedback resistor to input resistor fixes gain from the Error Amp input to the output of the amplifier at 26 dB. Diodes prevent overdriving the Error Amp. Because the Error Amp amplifies the difference between input and output signals, any difference in the two waveforms will produce a near open loop gain condition, which in turn results in high peak output voltage. The output of the Error Amp, called the Error Signal (ES) drives the Voltage Translators.

5.3 Voltage Amplification

The Voltage Translator stage separates the output of the Error Amp into balanced positive and negative drive voltages for the Last Voltage Amplifiers (LVAs), translating the signal from ground referenced ±15V to ±Vcc reference. LVAs provide the main voltage amplification and drive the High Side output stages. Gain from Voltage Translator input to amplifier output is a factor of 25.2.

5.3.1 Voltage Translators

A voltage divider network splits the Error Signal (ES) into positive and negative drive signals for the balanced voltage translator stage. These offset reference voltages drive the input to the Voltage Translator transistors (Q104/Q105). A nested NFb loop from the output of the amplifier mixes with the inverted signal riding on the offset references. This negative feedback fixes gain at the offset reference points (and the output of the Error Amp) at a factor of -25.2 with respect to the amplifier output. The Voltage Translators are arranged in a common base configuration for non-inverting voltage gain with equal gain. They shift the audio from the ±15V reference to VCC reference. Their outputs drive their respective LVA.

Also tied into the Voltage Translator inputs are the limiting transistors (Q102/Q103). These transistors steal drive as dictated by the *ODEP* circuitry (discussed later), or act as switches totally shunting audio to ground during the turn-on delay, or during a DC/LF or Fault protective action.

5.3.2 Last Voltage Amplifiers (LVAs)

The Voltage Translator stage channels the signal to the Last Voltage Amplifiers (LVAs) in a balanced configuration. The +LVA (Q106) and –LVA (Q109), with their push-pull effect through the Bias Servo, drive the fully complementary output stage. The LVAs are configured as common emitter amplifiers. This configuration provides sufficient voltage gain and inverts the audio. The polarity inversion is necessary to avoid an overall polarity inversion from input jack to output jack, and it allows the NFb loop to control Error Amp gain by feeding back to its non-inverting input (with its polarity opposite to the output of the VGS). With the added voltage swing provided by the LVAs, the signal then gains

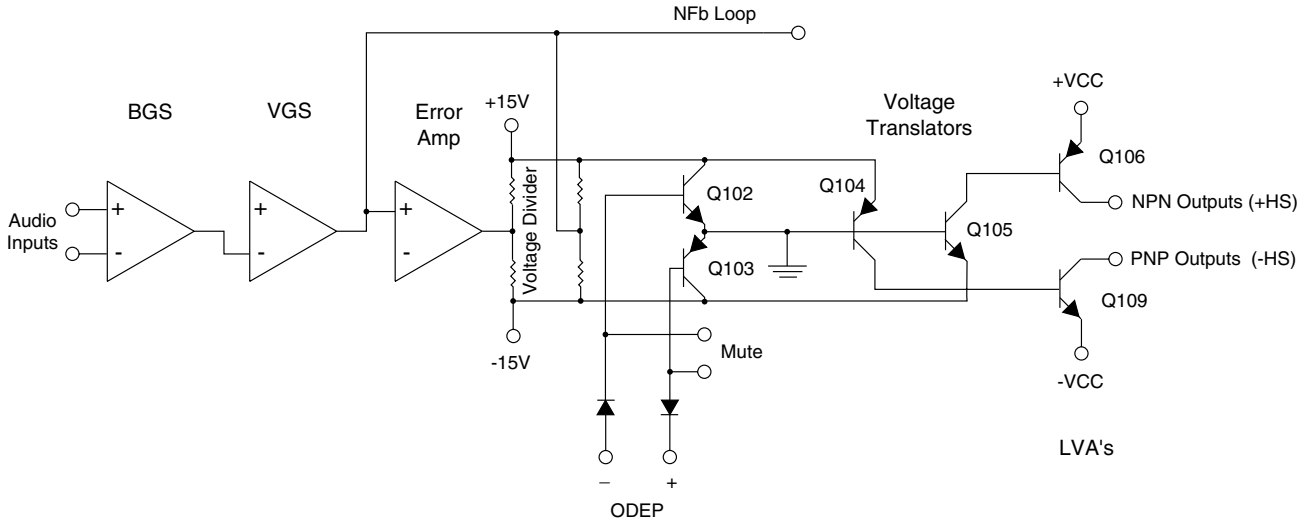

Figure 5.1 Typical Amplifier Front End and Voltage Amplification Stages.

current amplification through the Darlington emitter-follower output stage.

5.4 Grounded Bridge Topology

Figure 5.2 is a simplified example of the grounded bridge output topology. Grounded Bridge Topology consists of four quadrants of Darlington emitter-follower stages per channel: one NPN and one PNP on the High Side of the bridge (driving the load), and one NPN and one PNP on the Low Side of the bridge (controlling the ground reference for the rails). The output stages are biased to operate class AB+B, allowing for ultra low distortion in the signal zero-crossing region, as well as for high efficiency.

5.4.1 High Side (HS)

The High Side (HS) of the bridge operates much like a conventional bipolar push-pull output configuration. As the input drive voltage becomes more positive, the HS NPN conducts and delivers positive voltage to the load. Eventually the NPN devices reach full conduction and +Vcc is across the load. At this time the HS PNP is biased off. When the drive signal is negative going, the HS PNP conducts to deliver -Vcc to the load and the HS NPN stage is off.

The output of the +LVA drives the base of predriver device. Together, the predriver and driver form the first two parts of the three-deep Darlington. They are biased class AB. They provide output drive through the bias resistor, bypassing the output devices, at levels below about 100mW. An RLC network between the predriver and driver provide phase shift compensation and limit driver base current to safe levels. Output devices are biased class B, just below cutoff. At about 100mW output they switch on to conduct high current to the load. Together with predriver and driver, the output device provides an overall class AB+B output.

The negative half of the HS is almost identical to the positive half, except that the devices are PNP. One difference is that the PNP bias resistor is slightly greater in value so that the PNP output devices run closer to the cutoff level under static (no signal) conditions. This is because PNP devices require greater drive current.

HS bias is regulated by Q18, the Bias Servo. Q18 is a Vbe multiplier which maintains approximately 3.2V Vce under static conditions. The positive and negative halves of the HS output are in parallel with this 3.2V. With a full base-emitter on voltage drop across predrivers and drivers, the balance of voltage results in approximately .32V drop across the bias resistors in the positive half, and about .46V across the bias resistor in the negative half. Q18 conduction (and thus bias) is adjustable.

A diode string prevents excessive charge build up within the high conduction output devices when off. Flyback diodes shunt back-EMF pulses from reactive

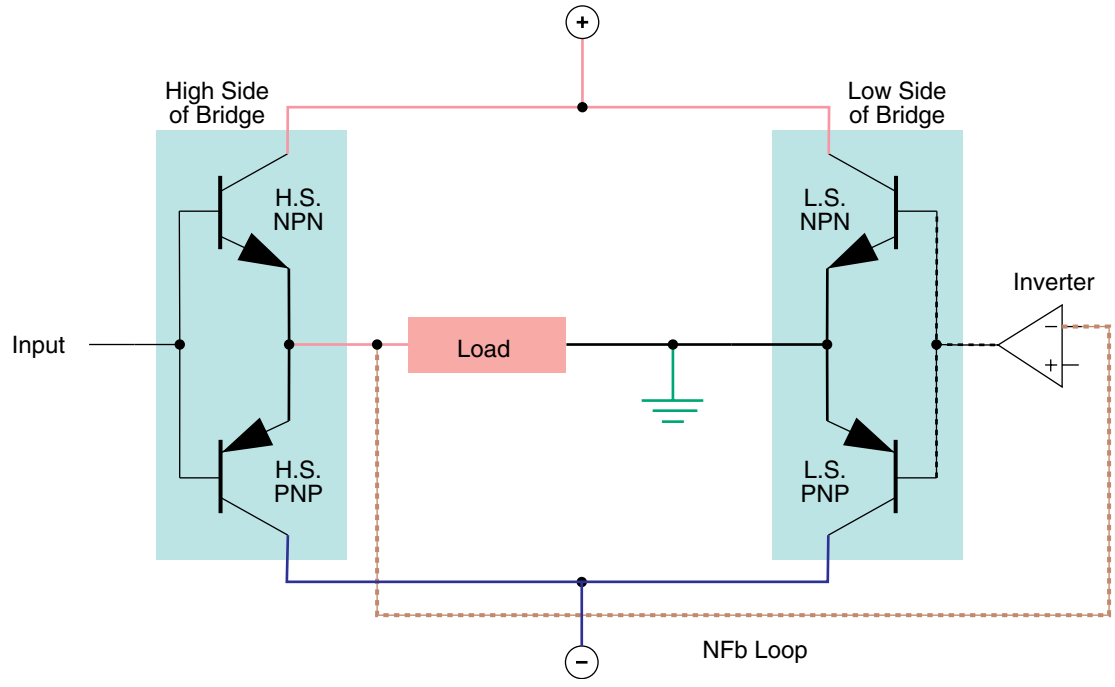

Figure 5.2 Crown's Patented Grounded Bridge Topology

loads to the power supply to protect output devices from dangerous reverse voltage levels. An output terminating circuit blocks RF on output lines from entering the amplifier through the amp's output connectors.

5.4.2 Low Side (LS)

The Low Side (LS) operates quite differently from the High Side. The power supply bridge rectifier is not ground referenced, nor is the secondary of the main transformer. In other words, the high voltage power supply floats with respect to ground, but ±Vcc remain constant with respect to each other. This allows the power supply to deliver +Vcc and -Vcc from the same bridge rectifier and filter as a total difference in potential, regardless of their voltages with respect to ground. The LS uses inverted feedback from the HS output to control the ground reference for the rails (±Vcc). Both LS quadrants are arranged in a three-deep Darlington and are biased AB+B in the same manner as the HS.

When the amplifier output swings positive, the audio is fed to an op-amp stage where it is inverted. This inverted signal is delivered directly to the bases of the positive (NPN) and negative (PNP) LS predrivers. The negative drive forces the LS PNP devices on (NPN off). As the PNP devices conduct, Vce of the PNP Darlington drops. With LS device emitters tied to ground, -Vcc is pulled toward ground reference. Since the power supply is not ground referenced (and the total voltage from +Vcc to -Vcc is constant) +Vcc is forced higher above ground potential. This continues until, at the positive amplifier output peak, -Vcc = 0V and +Vcc equals the total power supply potential with a positive polarity. If, for example, the power supply produced a total of 70V from rail to rail (±35VDC measured from ground with no signal), the amplifier output would reach a positive peak of +70V.

Conversely, during a negative swing of the HS output where HS PNP devices conduct, the op-amp would output a positive voltage forcing LS NPN devices to conduct. This would result in +Vcc swinging toward ground potential and -Vcc swinging further from ground potential. At the negative amplifier output peak, +Vcc = 0V and -Vcc equals the total power supply potential with a negative polarity. Using the same example as above, a 70V supply would allow a negative output peak of -70V. In summary, a power supply which produces a total of 70VDC rail to rail (or ±35VDC statically) is capable of producing 140V peak-to-peak at the amplifier output when the grounded bridge topology is used. The voltages used in this example are relatively close to the voltages of the PB-1/460CSL.

The total effect is to deliver a peak to peak voltage to the speaker load which is twice the voltage produced by the power supply. Benefits include full utilization of the power supply (it conducts current during both halves of the output signal; conventional designs require two power supplies per channel, one positive and one negative), and never exposing any output device to more than half of the peak to peak output voltage (which does occur in conventional designs).

Low side bias is established by a diode string which also shunts built up charges on the output devices. Bias is adjustable via potentiometer. Flyback diodes perform the same function as the HS flybacks. The output of the LS is tied directly to chassis ground via ground strap.

5.5 Output Device Emulation Protection (*ODEP*)

To further protect the output stages, a specially developed *ODEP* circuit is used. It produces a complex analog output signal. This signal is proportional to the always changing safe-operating-area margin of the output transistors. The *ODEP* signal controls the Voltage Translator stage by removing drive that may exceed the safe-operating-area of the output stage.

ODEP senses output current by measuring the voltage dropped across LS emitter resistors. LS NPN current (negative amplifier output) and +Vcc are sensed, then multiplied to obtain a signal proportional to output power. Positive and negative *ODEP* voltages are adjustable via two potentiometers. Across ±*ODEP* is a thermal sense (current source). The thermal sense causes the differential between +*ODEP* and –*ODEP* to decrease as heatsink temperature increases. An increase in positive output voltage and current into a load will result in –*ODEP* voltage dropping; an increase in negative output voltage and current will cause +*ODEP* voltage to drop. A complex RC network between the ±*ODEP* circuitry is used to simulate the thermal barriers between the interior of the output device die (immeasurable by normal means) and the time delay from heat generation at the die until heat dissipates to the thermal sensor. The combined effects of thermal history and instantaneous dynamic power level result in an accurate simulation of the actual thermal condition of the output transistors.

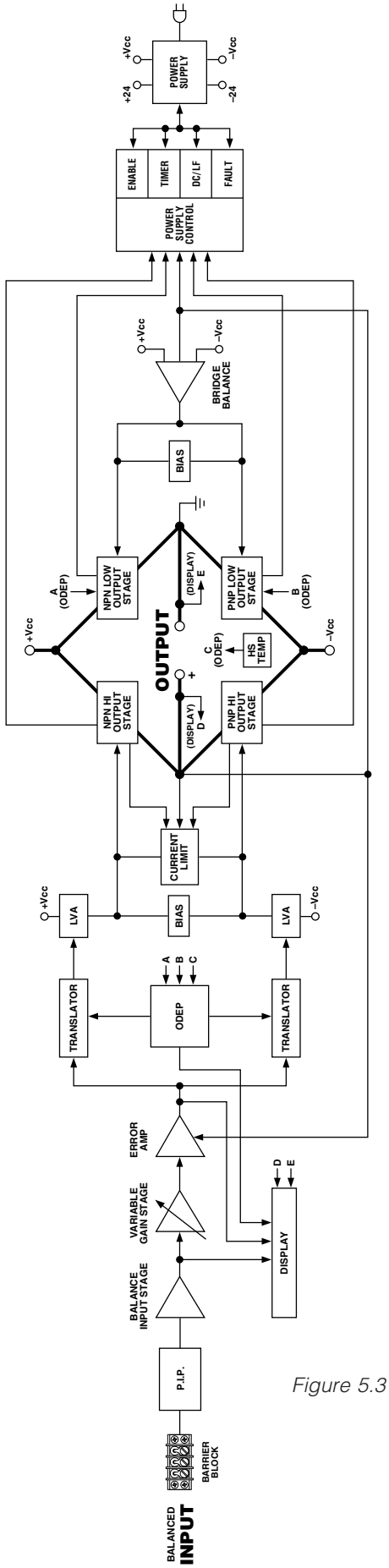

Figure 5.3 Circuit Block Diagram

5.6 Dual Operation

For simplicity, the discussion of Dual operation will refer to one channel only. Mono operation will be discussed in Sections 5.8 and 5.9 Please refer to the block diagram in Figure 5.3.

The signal at the *P.I.P.* barrier block passes directly into the balanced input stage. The balanced input stage causes balanced to single-ended conversion using a difference amplifier. Next the variable gain stage amplifies or attenuates the signal. The gain of this stage is set by the position of the input sensitivity switch and the back panel Input Attenuation control. The error amp amplifies the difference between the output signal and the input signal from the gain pot, and drives the voltage translator stage.

From the error amp, the voltage translator stage channels the signal to the Last Voltage Amplifiers (LVAs), depending on the signal polarity. The +LVA and the –LVA, with their push-pull effect through the bias servo, and drive the fully complementary output stage.

The bias servo is thermally coupled to the heat sink, and sets the quiescent bias current in the output stage to lower the distortion in the crossover region of the output signal.

With the voltage swing provided by the LVAs, the signal then gains current amplification through the Darlington emitter-follower output stage.

The bridge-balanced circuit receives a signal from the output of the amplifier and detects the difference between it and the signal at the Vcc supply. The bridge-balanced circuit then develops a voltage to drive the bridge-balanced output stage. This results in the Vcc supply having exactly one half of the output voltage added to the quiescent voltage.

The protection mechanisms that affect the signal path are implemented to protect the amplifier under real-world conditions. These conditions are high instantaneous current, excessive temperature, and output device operation outside safe conditions.

Two transistors act as a conventional current limiter, sensing current in the output stage. If current exceeds safe levels, the limiters remove the drive from the LVAs, limiting current in the output stage to a safe level.

To further protect the output stages, the patented *ODEP* circuitry is used. It produces an analog output proportional to the always changing *safe operating area* of the output transistor. This output controls the translator stage previously mentioned, removing any further drive that may exceed the *safe operating area* of the output stage.

A thermal sensor supplies the *ODEP* circuits with information on the operating temperature of the heat sink on which the output devices are mounted.

Should the amplifier fail in a way that would cause DC across the output lead, the DC protection circuit senses this on the negative feedback loop and shuts down the output stages until the DC is removed.

5.7 Bridge-Mono Operation

By setting the dual/mono switch on the back panel to Bridge-Mono, the user can convert the *Com-Tech* amplifier into a bridge-mono amplifier. With a signal applied to the Channel 1 input jack, and the load between the positive (+) output terminals on the back panel, twice the voltage can be output.

The Channel 1 output feeds the Channel 2 error amp. Because there is a net inversion, the Channel 2 output is out of polarity with Channel 1. This produces twice as much voltage across the load. Each of the channel's protection mechanisms work independently if a fault occurs.

5.8 Parallel-Mono Operation

With the dual/mono switch set to Parallel-Mono, the output of Channel 2 is paralleled with the output of Channel 1. A suitable high current-handling jumper must be connected across the positive (+) output terminals to gain the benefits of this operating mode.

The signal path for Channel 1 is the same as previously discussed, except that Channel 1 also drives the output stage of Channel 2. The Channel 2 balanced input, error amp, translators and LVAs are disconnected and no longer control the Channel 2 output stage. The Channel 2 output stage and protection mechanisms are also coupled through S1 and function as one.*

In Parallel-Mono mode, twice the current of a single channel is available. Because the Channel 2 *ODEP* circuit is coupled to Channel 1, you have added protection if a fault occurs in the Channel 2 output stage. The Channel 2 *ODEP* circuit limits the output of both output stages by removing the drive from the Channel 1 translator stages.

* Note: When the amplifier's dual/mono switch is moved to the Parallel/Mono position, the Channel 2 IOC indicator will illuminate. This is a normal condition in this configuration.

6 Electrical Checkout Procedures

6.1 General Information

The following test procedures are to be used to verify operation of this amplifier. DO NOT connect a load or inject a signal unless directed to do so by the procedure. These tests, though meant for verification and alignment of the amplifier, may also be very helpful in troubleshooting. For best results, tests should be performed in order.

All tests assume that AC power is from a regulated source. Test equipment includes an oscilloscope, a DMM, a signal generator, loads, and I.M.D. and T.H.D. noise test equipment.

6.2 Test Procedures

6.2.1 Standard Initial Conditions

Level controls fully clockwise.
Stereo/Mono switch in Stereo.
Sensitivity switch in 26 dB fixed gain position.
70-V mode switches in the 8/4 ohm position.

Place a jumper across pins 3 and 4 of both TP100 and TP200. This will keep the amplifier out of auto standby.

It is assumed, in each step, that conditions of the amplifier are per these initial conditions unless otherwise specified.

6.2.2 Turn On Delay

Spec: 4 seconds ±2 seconds.

Procedure: Up to 1 second after turn-on, the current path to the primary is through an NTC. After 1 second a relay closes that shorts out the NTC. Three seconds later bias is applied to the output section of the amplifier.

6.2.3 Output Bias Adjustment

Spec: 320 to 340 mVDC.

Procedure: While the heatsink temperature is less than 40° C measure the DC voltage on the output module across R37 (15 ohm), adjust R02 if necessary. Measure the DC voltage on the output module across R39 (15 ohm), adjust R33 if necessary. Repeat for the second channel.

6.2.4 *ODEP* Voltage Adjustment

Spec: See chart

Procedure: Measure the heatsink temperature. If unable to do so, note the room temperature and do this procedure while the heatsink temperature is still at room temperature.

Measure the voltage on TP100-5 and adjust R186 for the voltage per the chart. This voltage will be a negative voltage. Measure the voltage on TP100-10 and adjust R300 for the voltage per the chart. This voltage will be a positive voltage. For channel 2 the designations are TP200-5, TP200-10, R286, and R400.

ODEP Voltage Chart
Tolerance ±0.1V

°F	°C	Voltage
66	18.9	10.55
68	20.0	10.48
70	21.1	10.41
72	22.2	10.34
74	23.3	10.26
76	24.4	10.19
78	25.6	10.12
80	26.7	10.05
82	27.8	9.97
84	28.9	9.90
86	30.0	9.83
88	31.1	9.75
90	32.2	9.68
92	33.3	9.61
94	34.4	9.54

6.2.5 DC Offset

Spec: 0 VDC, ±10 mV.

Procedure: Measure DC voltage at the output connectors (rear panel). There is no adjustment for output offset. If spec is not met, there is an electrical malfunction. Slightly out of spec measurement is usually due to U104/U204 out of tolorance.

6.2.6 Quiescent Power Draw

Spec: 60 watts maximum

Procedure: With no input signal the amplifier should draw no more than 60 watts from the power source. Slightly high readings may be due to out of tolerance Output Bias Adjustment.

6.2.7 Voltage Gain

Spec *CT-810*: 26 dB – Gain of 20 ±3%
.775V for 8/4 Ohm – Gain of 64 ±12%
.775V for 70V – Gain of 90 ±12%

Spec *CT-1610*: 26 dB – Gain of 20 ±3%
.775V for 8/4 Ohm – Gain of 64 ±12%
.775V for 70V – Gain of 90 ±12%

Procedure: With the switch in the 26 dB position, inject a 0.775 VAC 1 kHz sine wave into the input. Measure 15.5 VAC ±0.5 VAC at the output. With the switch in the .775V 8/4 Ohm position, inject a 0.775 VAC 1 kHz sine wave into the input. Measure 29.45 VAC ±3.5 VAC at the output. With the switch in the .775V 70V position, inject a 0.775 VAC 1 kHz sine wave into the input. Measure 70 VAC ±8.4 VAC at the output. Return the Input Sensitivity Switch to 26 dB.

6.2.8 Current Sense Calibration

Spec: 2 amps = .665V at sense point.

Procedure: Load each channel to 8 ohms. Inject a 1 kHz sine wave into each input and adjust the level such that 16.0 Vrms appears on the outputs. For channel 1 measure Vrms at pin 9 of TP100 and adjust R361 until voltage at pin 9 is between 0.66 and 0.67 Vrms. For channel 2 measure pin 9 of TP200 and adjust R461.

6.2.9 Common Mode Rejection

Spec: >70 dB @ 1 kHz.

Procedure: Using a cable with the inverting and non-inverting inputs shorted together inject a 0 dBu (0.775 Vrms) 1 kHz sine wave into each channel, one channel at a time. At the output measure less than 4.9 mVrms. For channel 1 adjust R103 for the greatest rejection. For channel 2 adjust R203 for the greatest rejection.

6.2.10 Current Limit

Spec CT-810: 39 ±6 Amps
Spec CT-1610: 39 ±6 Amps

Procedure: Load the channel under test to 1 ohm. Inject a 1 kHz differentiated (10% duty cycle) square wave. See Figure 6.1 for differentiator circuit. Increase output level until current limit occurs. Current limit should occur at 39 ±6 amps (39 Vpk) on *CT-810*s and *CT-1610*s. Observe clean (no oscillations) current clipping. See Figure 6.2 for differentiated wave form at current limit.

6.2.11 10 kHz Square Wave Response

Spec: No overshoot, ringing, or oscillations. Slew rate 17 - 25 V/µS into 8 ohm load.
Procedure: Load the channel under test to 8 ohms. Inject a 10 kHz square wave to obtain 35 volts zero-to-peak at the output. Observe the wave form. It must not include overshoot, ringing, or any type of oscillation. Rise time should be between 17 and 25 volts per microsecond. See Figure 6.3 for typical 10 kHz square wave response.

6.2.12 20 kHz Crosstalk

Spec: 60 dB below 8 ohm 20-20kHz power.

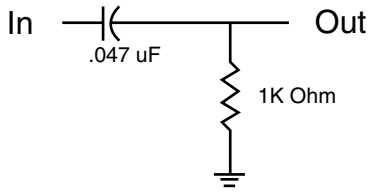

Figure 6.1 Differentiator Circuit

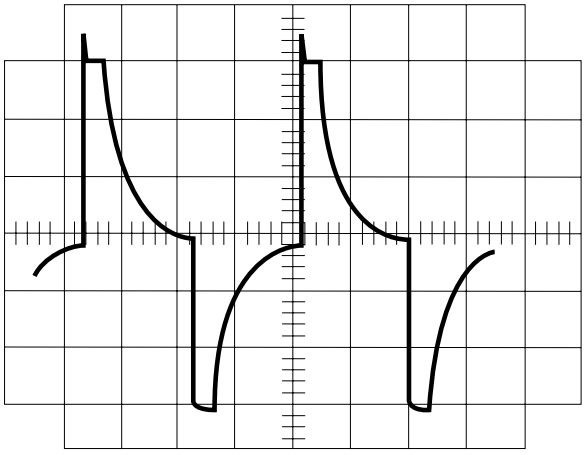

Figure 6.2 Differentiated wave form at current limit

Procedure: Load each channel to 8 ohms. Inject a 20 kHz sine wave into channel 1 and, if the amp is a *CT-810*, increase the level to 48 VAC at the output. If the amp is a *CT-1610* increase the level to 64 VAC. Terminate the channel 2 input with 600 ohms. Measure less than 48 millivolts AC at the output of channel 2 on a *CT-810* (less than 64 millivolts for a *CT-1610*). Repeat for channel 2 by driving channel 2 and terminating channel 1. Measure less than 48 millivolts at the output of channel one for a *CT-810* (less than 64 millivolts for a *CT-1610*).

6.2.13 Output Power

Spec: Maximum Average Power at 0.05% THD. Both channels driven.

Com-Tech 810:
8 ohm = 300 watts/channel maximum
4 ohm = 480 watts/channel maximum
12.5 ohm (70V mode) = 455 watts/channel maximum

Com-Tech 1610:
8 ohm = 535 watts/channel maximum
4 ohm = 860 watts/channel maximum
6.25 ohm (70V mode) = 955 watts/channel maximum

Procedure: Load each channel to 8 ohms. Inject a 1 kHz sine wave and, on a *CT-810*, measure at least 49.0 VAC at the output of each channel with less than 0.05% THD. With a *CT-1610*, the VAC measurement should be 65.4. Load each channel to 4 ohms. Inject a 1 kHz sine wave and, on a *CT-810*, measure at least 43.8 VAC at the output of each channel with less than 0.05% THD. On a *CT-1610* the VAC reading should be 58.7. Switch the output mode switches to 70V. If working on a *CT-410*, load each channel to 12.5 ohms, on a *CT-1610* the load should be 6.25 ohms. Inject a 1 kHz sine wave and, on the *CT-810*, measure at least 75.4 VAC at the output of each channel with less than 0.05% THD. On the *CT-1610*, you should measure at least 77.3 VAC.

6.2.14 *ODEP* Limiting

Spec: Clean limiting into a resistive load (see Figure 6.4).

Procedure: Load each channel to 4 ohms. Set the mode switches to 70V. Inject a 50 Hz sine wave into each channel and increase the level for 20 VAC at the output. If the unit is equipped with a fan, stuff a rag into it, preventing the fan from turning. Observe the wave form on an oscilloscope. After about 1 minute *ODEP* limiting will occur (see Figure 6.4). Once limiting occurs the wave form will collapse at a rapid rate. Make sure both channels limit. Remove the load and signal, remove the rag from the fan, and allow the amp to cool. Put each channel back into the 8/4 ohm mode.

6.2.15 Fan Operation

Spec: Continuously variable. Varies with *ODEP* voltage.

6.2.16 LF Protection

Spec: Amplifier channel will cycle into protect with .5 Hz 6Vp-p or 2 Hz 6 Vrms sine wave at the output.

Procedure: Inject a 2 Hz sine wave into the input of the channel under test. Increase the level until the amplifier cycles on and off. It should cycle on and off when the output reaches approximately 6 Vrms.

20kHz power
0 dB < .01%

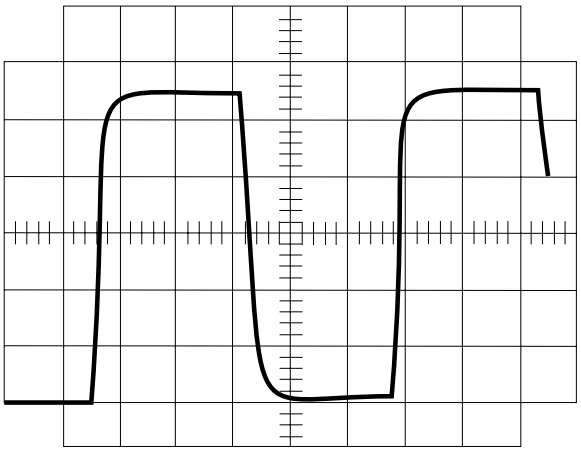

Figure 6.3 10 kHz square wave response

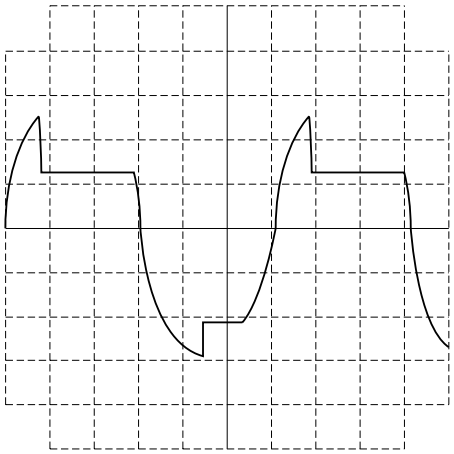

Figure 6.4 ODEP *limiting wave form*

6.2.16 LF Protection
Spec: Amplifier channel will cycle into protect with .5 Hz 6Vp-p or 2 Hz 6 Vrms sine wave at the output.

Procedure: Inject a 2 Hz sine wave into the input of the channel under test. Increase the level until the amplifier cycles on and off. It should cycle on and off when the output reaches approximately 6 Vrms.

6.2.17 Signal to Noise
Spec *CT-810*: 100 dB below 295 watts into 8 ohms. 20Hz-20kHz unweighted.

Spec *CT-1610*: 100 dB below 520 watts into 8 ohms. 20Hz-20kHz unweighted.

Procedure: Short inputs. Load each channel to 8 ohms. On a *CT-810*, measure less than 486µVrms at the output of each channel. For the *CT-1610*, the measurement should be less than 645µVrms.

6.2.18 Intermodulation Distortion (IMD)
Spec: 8 ohms, 0dB = FTC continuous average 20Hz-20kHz power

0 dB < .01%
-35 dB < .05%

Procedure: Load each channel to 8 ohms. Inject a SMPTE standard IM signal (60 Hz and 7 kHz sine wave mixed at 4:1 ratio). Set the 60 Hz portion of the signal for 23 Vrms output. Set the 7 kHz portion to 25%. With the IM analyzer measure less than 0.01% IMD. Repeat the test at -35 dB and measure less than 0.05% IMD.

6.2.19 Displays
Spec:

Enable - On when low voltage supply is on.
ODEP - Dims in proportion to *ODEP* limiting.
IOC - On with error amp clip (distortion).
SPI - Flash in sync with amplifier output.

Procedure: Verify indicators per above specifications.

6.2.20 Auto Standby Operation
Spec: Amp goes into standby after 30 minutes of no input signal.

Procedure: Remove the jumpers on TP100 and TP200 pins 3 & 4. Apply 1 volt of a 1 kHz sine wave signal to both channels. Turn off or remove the signal. After 30 seconds verify that voltage across R37 and R39 (15 ohm on output assembly) decreases to less than 20 mVrms. Any noise generated by auto standby must be equal to or less than the residual noise of the amplifier. To test this use one 8 ohm speaker per channel.

6.2.21 Post Testing
After completion of testing, if all tests are satisfactory, the amplifier controls should be returned to the positions required by the customer. If conditions are unknown or unspecified, factory settings are as follows:

On CT810A and 1610A, remove the jumpers across pins 3 & 4 of TP100 and TP200.
Level Controls: 9 to 11 O'Clock.
Sensitivity Switch: .775V 8/4 Ohm.

7 Exploded Views

Com-Tech 810 Main Chassis 7-2
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Com-Tech 810 & 1610 Heatsink Assembly 7-18
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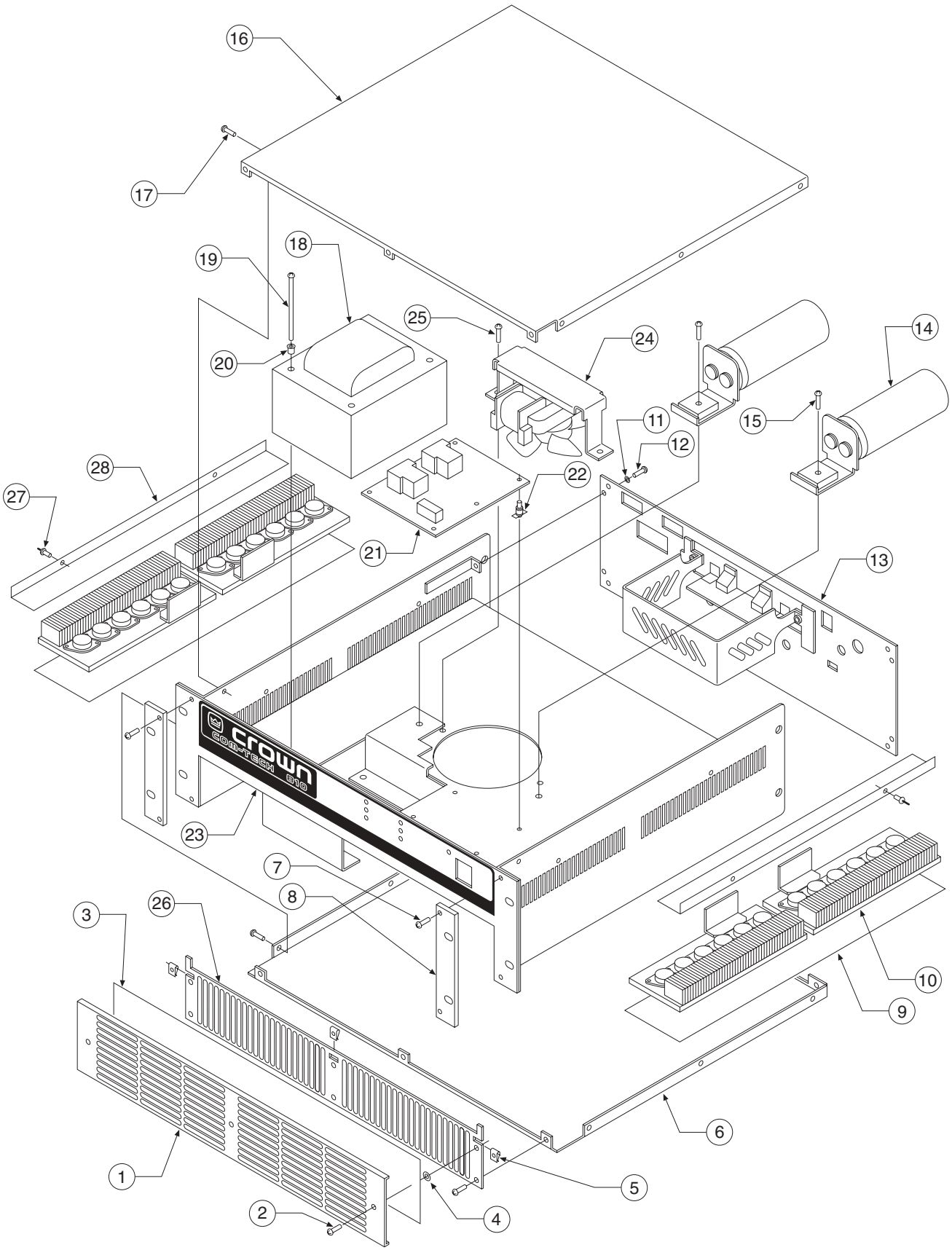

Figure 7.1 Com-Tech 810 Main Chassis

Item	Qty.	Description	CPN
1	1	GUARD, 2.4" FINGER BLK	F11572J8
2	3	8-32 X.5 OVAL HD PH MSCR BZ	A10090-70808
3	1	FILTER, FR AIR 3.15 X 16.23 X .13	D 7118-9
4	3	.5 X .136 X .02 NYLON WASHER	A10101-5
5	3	CLIP, CT/MA/MT/PB FIL GRILLE	A10173-1
6	1	CVR, MA MT PB CT TOP PC	D 8501-5
7	4	8-32 X .5 PNHD PH TAPTITE BLK	A10110-70808
8	2	END CAP, 3.5" BLK PC	F12706-2
9	1(per channel)	SILPAD, 2.87X14.57 7 MIL	D 7796-2
10	2(per channel)	HEAT SINK ASSEMBLY	See Fig. 7.9
11	3	#6 INT STAR WASHER BLACK	A10094-3
12	3	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
13	1	BACK PANEL ASSEMBLY	See Fig. 7.3
14	2	CAPACITOR ASSEMBLY	See Fig. 7.10
15	2	10-32 X .50 RDHD PH MSCR Z	A10086-11008
16	1	CVR, MA MT PB CT TOP PC	D 8501-5
17	8	SCREW, 6-32X.312 TORX PNHD SEM	103415-70605
18	1	XFMR, CT810/A 120V 60HZ	102779-1
18	1	XFMR,CT810/A 100/120V 50/60HZ	102780-1
18	1	XFMR, CT810/A 220/240V 50/60HZ	102781-1
19	4	10-32 X 1.75 TRHD PH MSCR Z	A10087-11028
20	4	#10 NYL SHLDR WASHER #10-375-A	A10099-7
21	1	PWA, CT'10A CONTROL 220/240V CE	125235-1
21	1	PWA, CT'10A CONTROL 120V	125416-1
21	1	PWA, CT'10A CONTROL 220/240V	125419-1
21	1	PWA, CT'10A CONTROL 100V	125420-1
22	5	4 PC BOARD SUPPORT	C6032-4
23	1	CHASSIS, CT'10A 3U CE (810A)	125302-1
24	1	TRANSMOTOR ASSEMBLY	See Fig. 7.11
25	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
26	1	GRILLE, 3.35" FILTER BLK PC	F12711-2
27	4	PLASTI-RIVET, .156 2 PRONG BLK	C 9387-9
28	2	SHROUD, 1.75X14.45 PAPER	D 8197-2

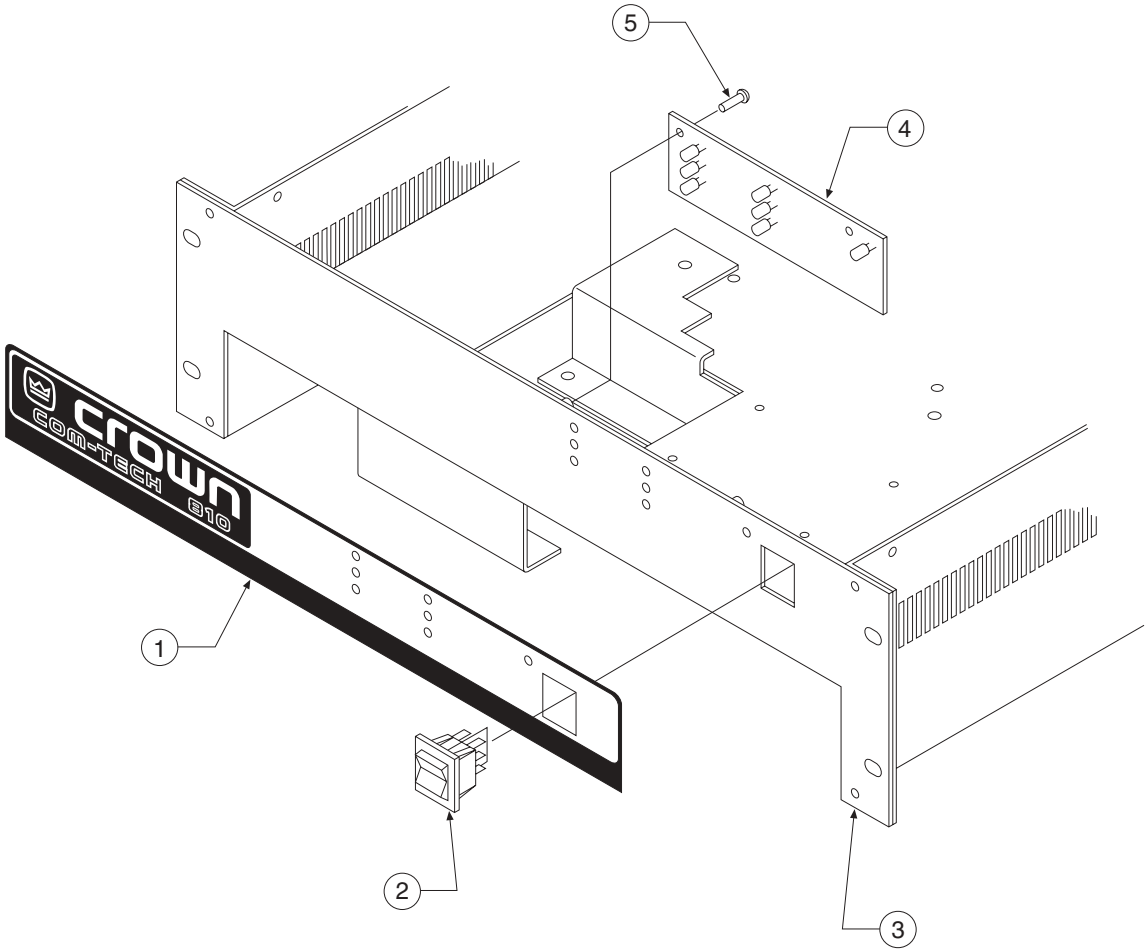

Figure 7.2 Com-Tech 810 Front Panel

Item	Qty.	Description	CPN
1	1	OVERLAY, CT810 REM FP	101741-1
2	1	SWITCH, DPDT CENTER OFF 16A	101843-1*
3	1	CHASSIS, CT'10A 3U CE	125302-1
4	1	PWA, CT10A DISPLAY	125402-1
5	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9

*Com-Tech 810A only.

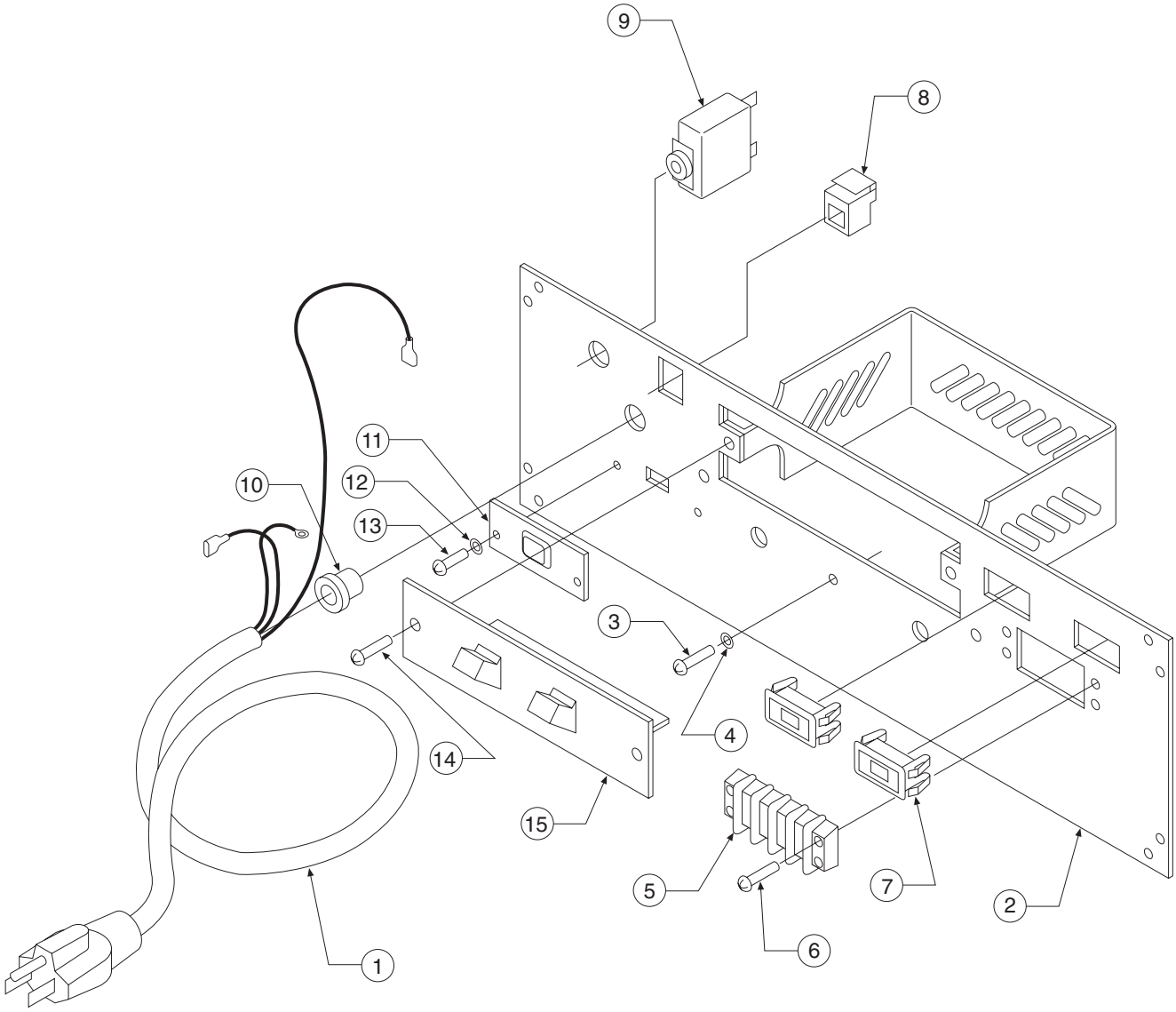

Figure 7.3 Com-Tech 810 Rear Panel

Item	Qty.	Description	CPN
1	1	PWR CORD, 14-3 SJT NEON 39 IN, 120V DOMESTIC	A11793-0109N
1	1	PWR CORD, 14-3 SJT 5-15 39 IN, 100V, 220V, 120 EXP.	A11793-0308N
1	1	PWR CORD, EUR PLUG 39 IN, 220 V CE	A10793-0507R
1	1	PWR CORD, INDIA PLUG 39 IN, 240V	A10793-0707R
1	1	PWR CORD, AUSTRALIA PLUG 39 IN, 240v	A10793-0807R
2	1	BP, CT810A REM PIP2 3U DOMESTIC	102398-1*
3	3	8-32 X .5 PNHD PH TAPTITE BLK	A10110-70808
4	3	#8 INT STAR LOCKWASHER BLACK	A10094-5
5	1	4-141-Y #6 BARRIER BLOCK	C 5990-4
6	4	8-32 X .37 RDHD BZ MSCR	A10086-70806
7	2	DPDT 15A SLIDE SW PNL MT	C 7957-1
8	1	JACK, RJ11 PANEL MOUNT	102686-1
9	1	BRKR, 1 POLE 10A SNAP-IN VDE 810A, 220V, 240V	C10170-6
9	1	BRKR, 1 POLE 20A SNAP-IN VDE 810A, 100V, 120V	C10177-1
10	1	STRAIN RELIEF SR7N-2 BLACK (14-3)	A10214-7
10	1	STRAIN RELIEF, EUR SR-6P30-CE	C10187-0
11	1	COVER, DUAL/MONO SWITCH PC	100454-1
12	2	#6 INT STAR WASHER BLACK	A10094-3
13	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
14	2	8-32 X .37 RDHD BZ MSCR	A10086-70806
15	1	ASM, PIP2BB	100450-1

*Com-Tech 810A only.

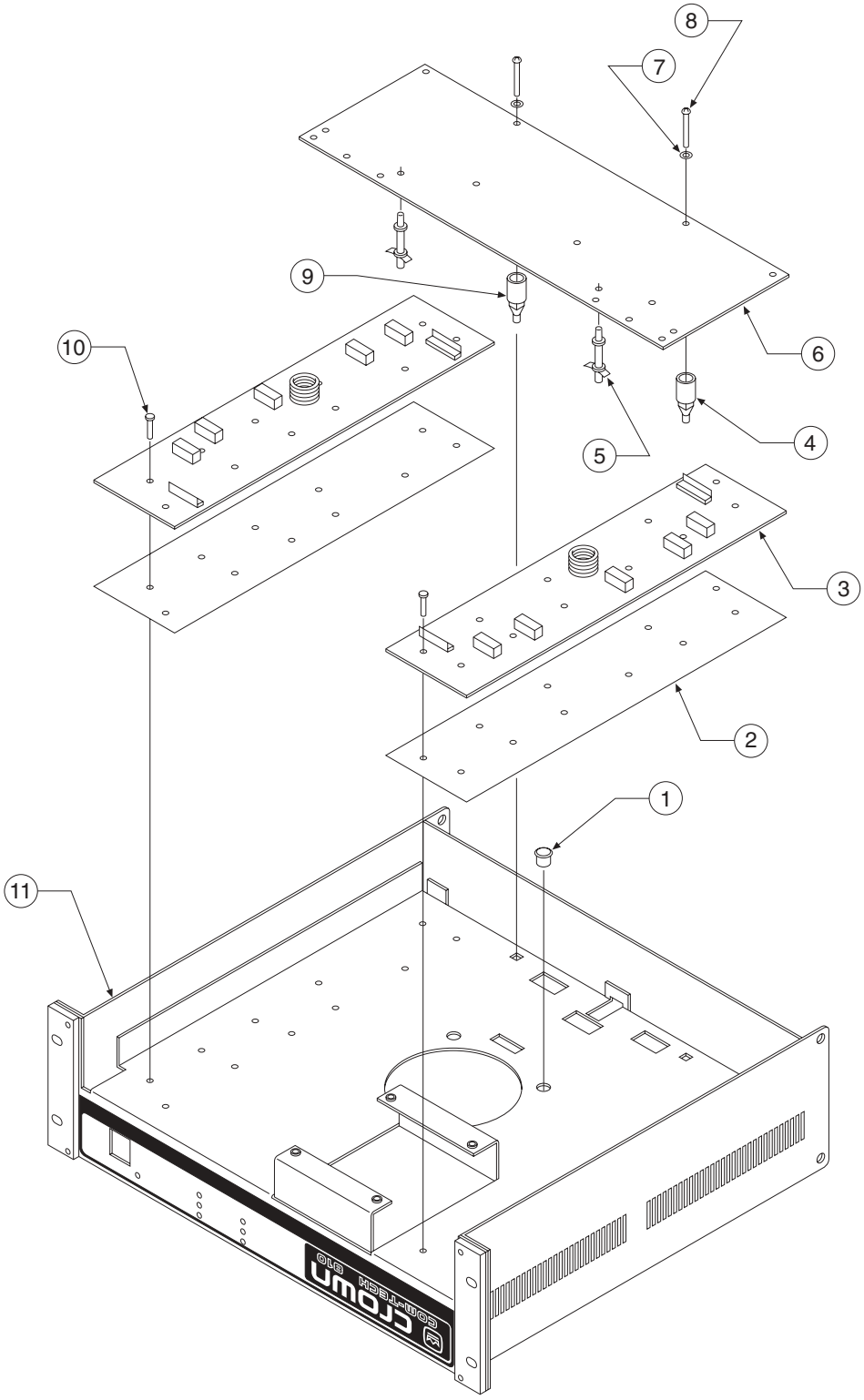

Figure 7.4 Com-Tech 810 Chassis Bottom

Item	Qty.	Description	CPN
1	2	OCB.500 SNAP BUSHING	A10192-1
2	2(per channel)	INSULATOR, THROUGH HOLE OUTPUT	125547-1
3	1(per channel)	PWA, CT810A/1610A OUTPUT	102774-1
4	2	1" SPACER TOGGLE NUT, PLASTIC	C 6913-5
5	2	TENSION RETAINING BD SUPPORTS	C 6912-7
6	1	PWA, CT810A MAIN DUAL POT	125412-3
7	2	NYL THUMBSCREW WASHER	D 4137-2
8	2	8-18X1.375 PH PNHD ST SCR Z	A10109-10822
9	2	.75" SPACER TOGGLE NUT PLASTIC	C 6914-3
10	12(per channel)	6-32 X .56 HEX WSHR HD W/T15	A10315-1
11	1	CHASSIS, CT'10A 3U CE (810A)	125302-1

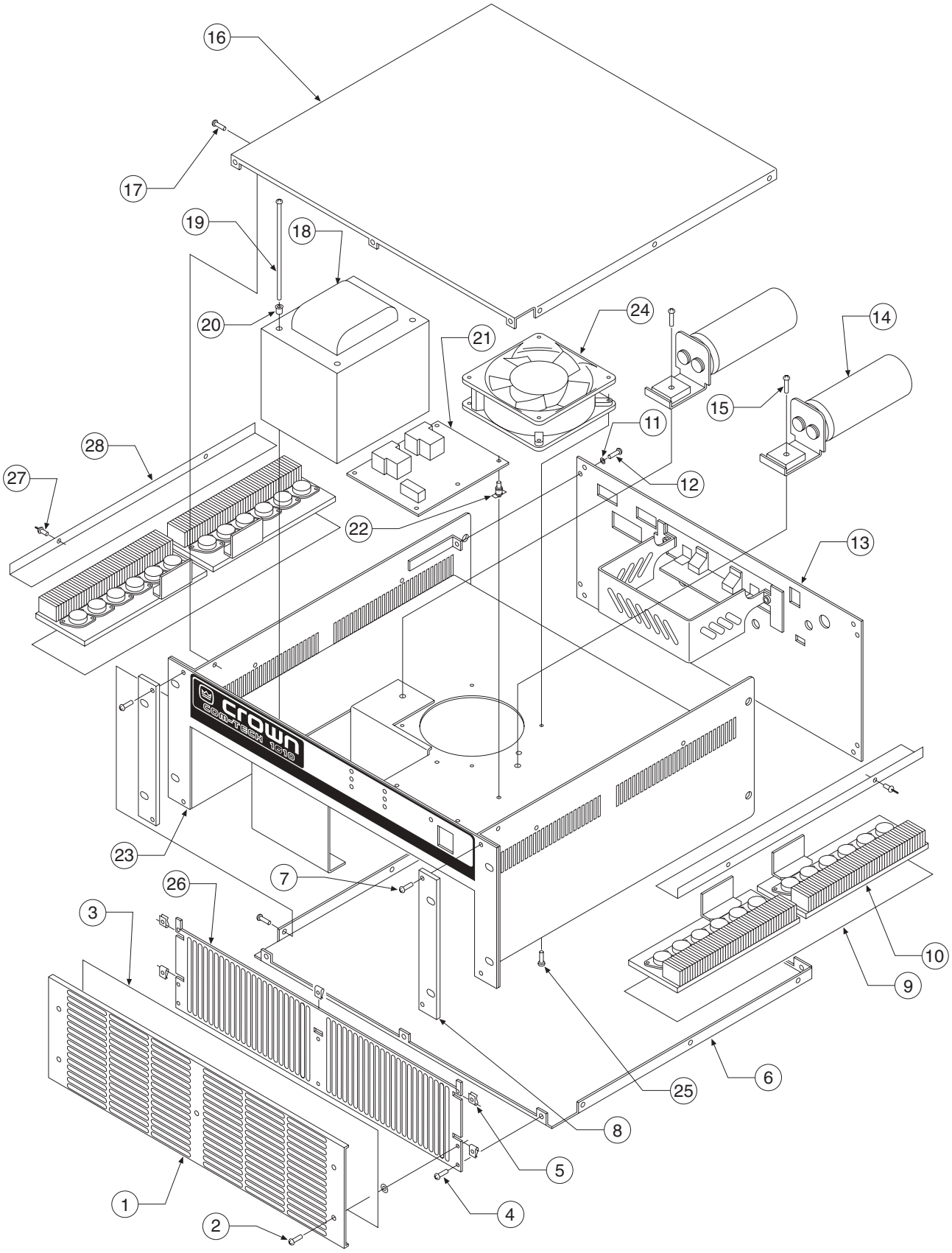

Figure 7.5 Com-Tech 1610 Main Chassis

Item	Qty.	Description	CPN
1	1	GUARD, 4.024: FINGER BLK	F11577J7
2	3	8-32 X.5 OVAL HD PH MSCR BZ	A10090-70808
3	1	FILTER, FR AIR 16.23 X 4.9	D 7119-7
4	3	.5 X .136 X .02 NYLON WASHER	A10101-5
5	3	CLIP, CT/MA/MT/PB FIL GRILLE	A10173-1
6	1	CVR, MA MT PB CT TOP PC	D 8501-5
7	4	8-32 X .5 PNHD PH TAPTITE BLK	A10110-70808
8	2	END CAP, 7" BLK PC	F12708-8
9	1(per channel)	SILPAD, 2.87X14.57 7 MIL	D 7796-2
10	2(per channel)	HEAT SINK ASSEMBLY	See Fig. 7.9
11	3	#6 INT STAR WASHER BLACK	A10094-3
12	3	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
13	1	BACK PANEL ASSEMBLY	See Fig. 7.7
14	2	CAPACITOR ASSEMBLY	See Fig. 7.10
15	2	10-32 X .50 RDHD PH MSCR Z	A10086-11008
16	1	CVR, MA MT PB CT TOP PC	D 8501-5
17	8	SCREW, 6-32X.312 TORX PNHD SEM	103415-70605
18	1	XFMR, CT1610/A 120V 60HZ	102782-1
18	1	XFMR, CT1610/A 100/120V 50/60HZ	102783-1
18	1	XFMR, CT1610/A 220/240V 50/60HZ	102784-1
19	4	10-32 X 1.75 TRHD PH MSCR Z	A10087-11028
20	4	#10 NYL SHLDR WASHER #10-375-A	A10099-7
21	1	PWA, CT'10A CONTROL 220/240V CE	125235-1
21	1	PWA, CT1610A CONTROL 100V	125417-1
21	1	PWA, CT1610A CONTROL 120V	125418-1
21	1	PWA, CT'10A CONTROL 220/240V	125419-1
22	5	4 PC BOARD SUPPORT	C6032-4
23	1	CHASSIS, CT'10A 4U CE (1610A)	125303-1
24	1	FAN, 4.7" BALL BEARING 4715-FS	C 7858-1
25	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
26	1	GRILLE, 5.1" FILTER BLK PC	F12712-0
27	4	PLASTI-RIVET, .156 2 PRONG BLK	C 9387-9
28	2	SHROUD, 1.75X14.45 PAPER	D 8197-2

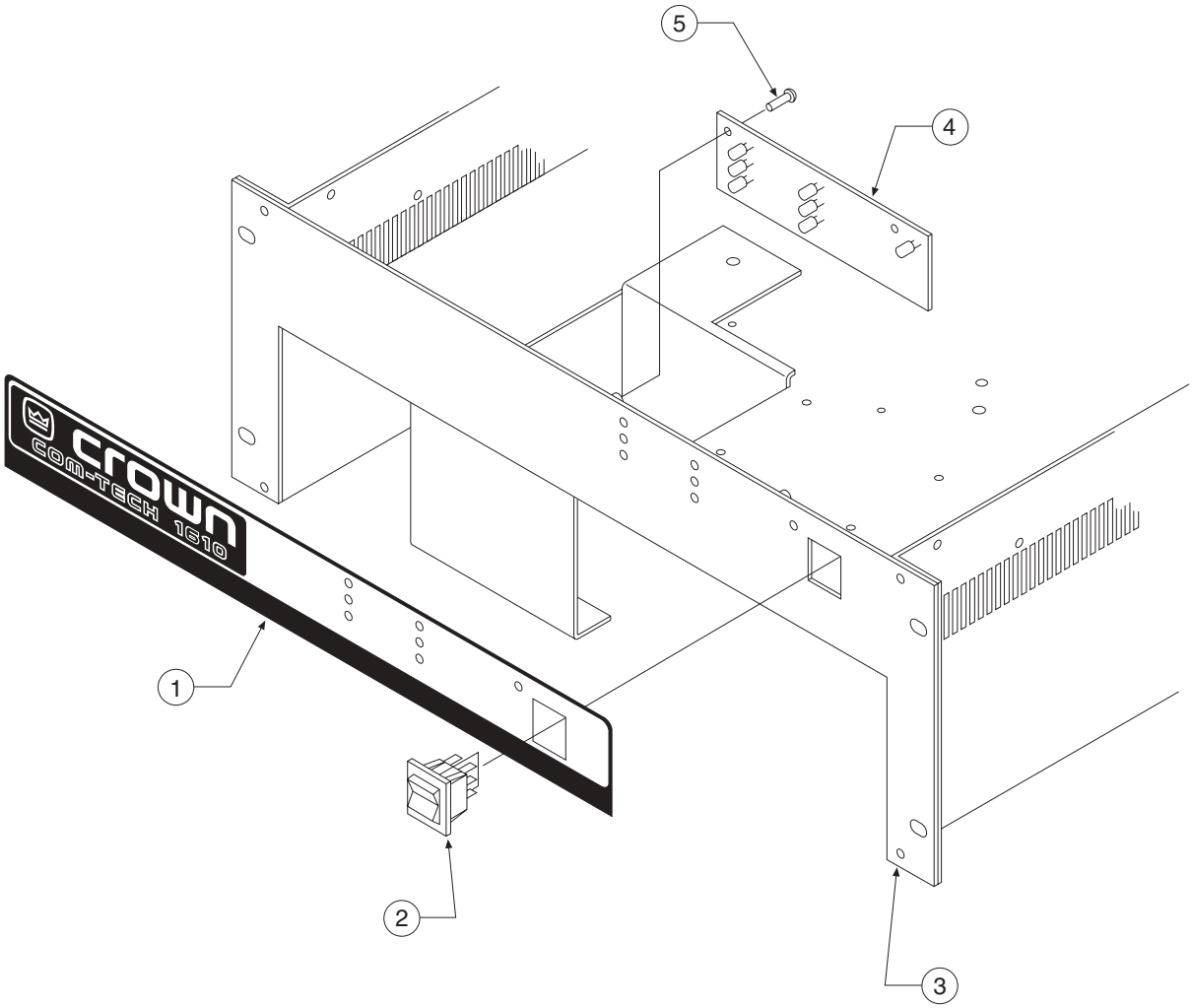

Figure 7.6 Com-Tech 1610 Front Panel

Item	Qty.	Description	CPN
1	1	OVERLAY, CT1610 REM FP	101743-1
2	1	SWITCH, DPDT CENTER OFF 16A	101843-1*
3	1	CHASSIS, CT'10A 4U CE	125303-1
4	1	PWA, CT10A DISPLAY	125402-1
5	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9

* Com-Tech 1610A only.

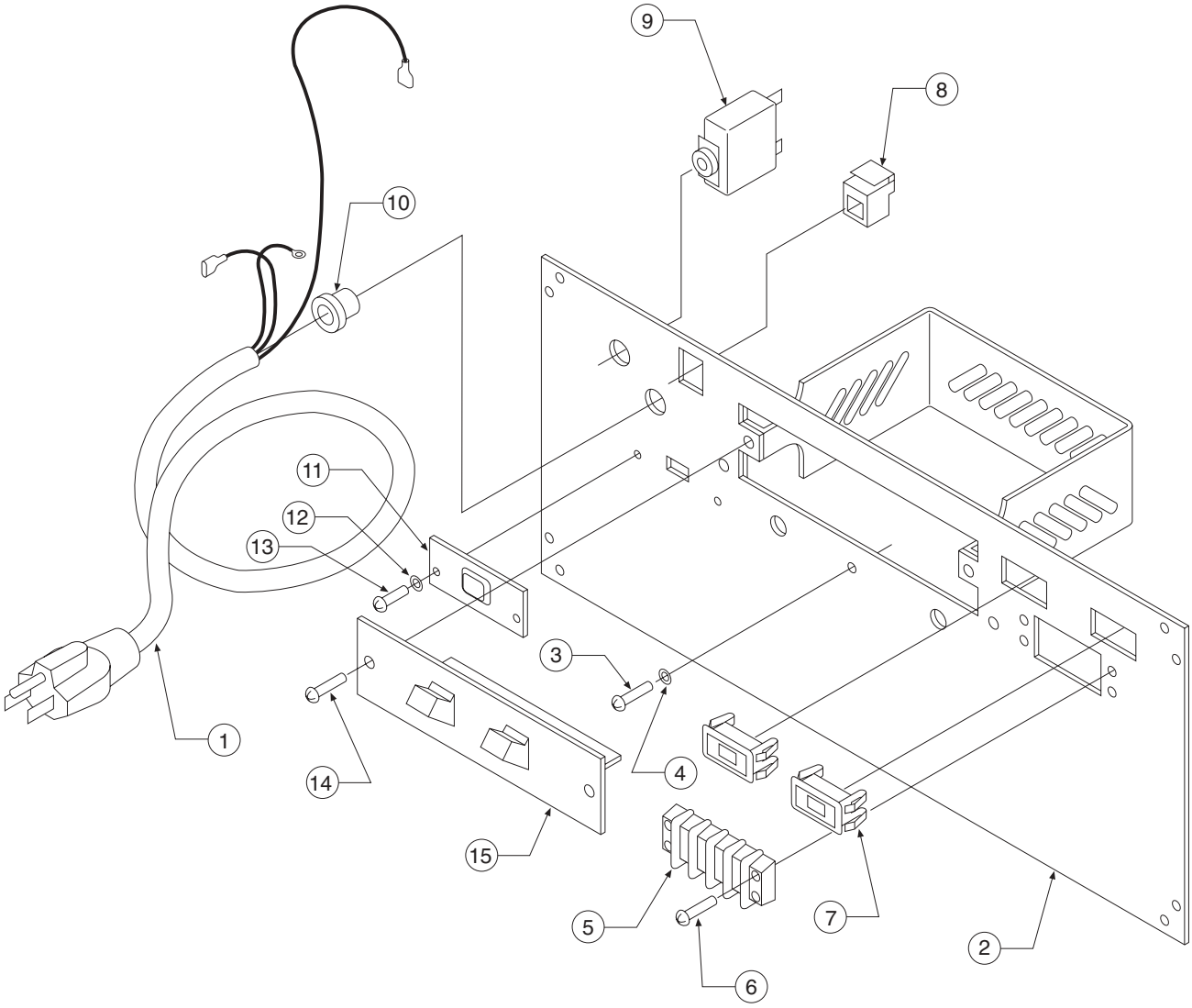

Figure 7.7 Com-Tech 1610 Rear Panel

Item	Qty.	Description	CPN
1	1	PWR CORD, 14-3 SJT NEON 39 IN, 120V DOMESTIC	A11793-0108N
1	1	PWR CORD, 14-3 SJT 5-15 39 IN, 100V, 220V, 120 EXP.	A11793-0308N
1	1	PWR CORD, EUR PLUG 39 IN, 220V CE	A10793-0507R
1	1	PWR CORD, INDIA PLUG 39 IN, 240V	A10793-0707R
1	1	PWR CORD, AUSTRALIA PLUG 39 IN, 240V	A10793-0807R
2	1	BP, CT1610A REM PIP2 4U DOMESTIC	102542-1*
3	3	8-32 X .5 PNHD PH TAPTITE BLK	A10110-70808
4	3	#8 INT STAR LOCKWASHER BLACK	A10094-5
5	1	4-141-Y #6 BARRIER BLOCK	C 5990-4
6	4	8-32 X .37 RDHD BZ MSCR	A10086-70806
7	2	DPDT 15A SLIDE SW PNL MT	C 7957-1
8	1	JACK, RJ11 PANEL MOUNT	102686-1
9	1	BRKR, 1 POLE 20A SNAP-IN VDE 1610A, 220V, 240V	C10177-1
9	1	BRKR, 30A 250VAC SNAP-IN THERM1610A, 100V, 120V	C 9837-3
10	1	STRAIN RELIEF SR7N-2 BLACK (14-3)	A10214-7
10	1	STRAIN RELIEF, EUR SR-6P30-CEE	C10187-0
11	1	COVER, DUAL/MONO SWITCH PC	100454-1
12	2	#6 INT STAR WASHER BLACK	A10094-3
13	2	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
14	2	8-32 X .37 RDHD BZ MSCR	A10086-70806
15	1	ASM, PIP2BB	100450-1

* Com-Tech 1610A only.

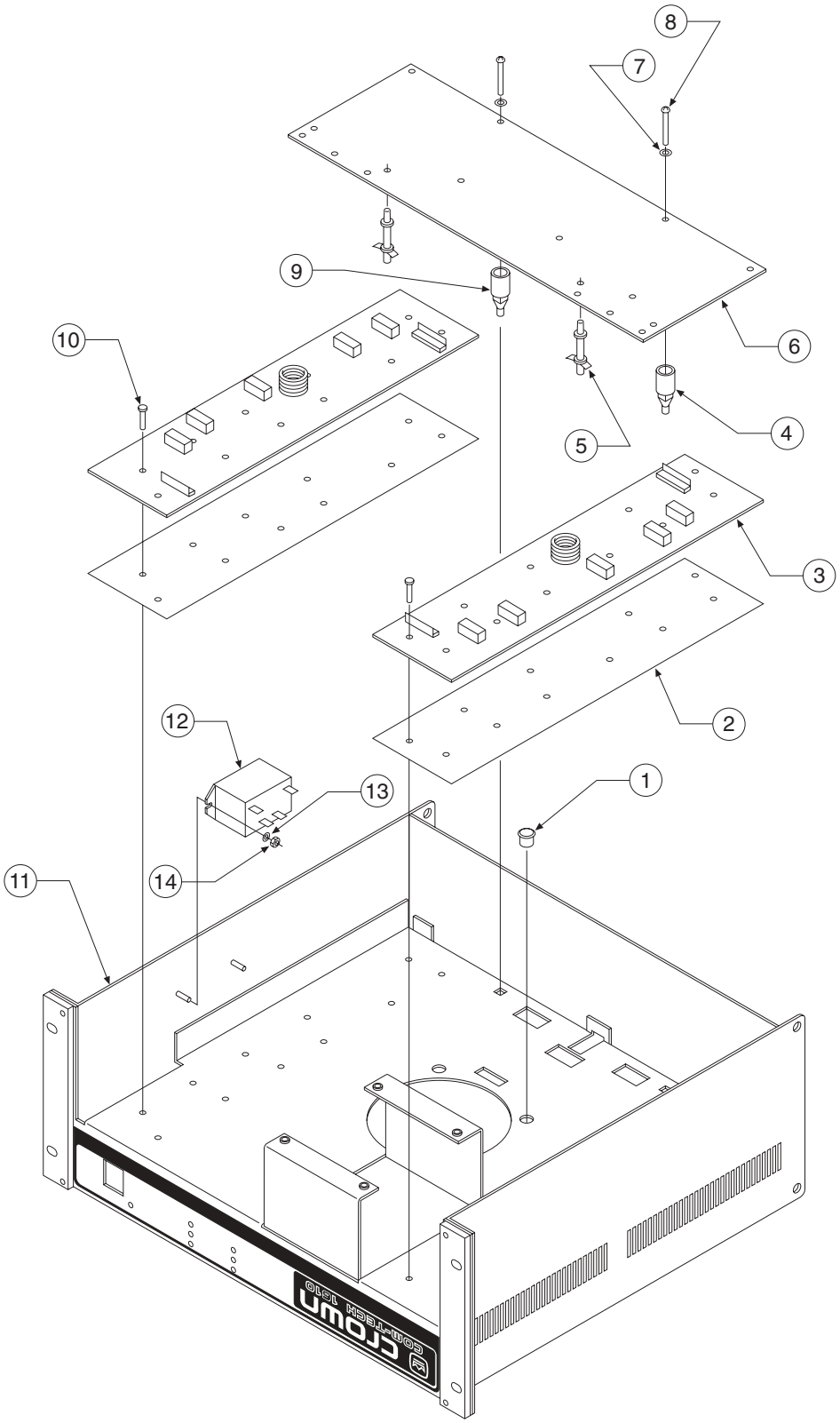

Figure 7.8 Com-Tech 1610 Bottom Chassis

Item	Qty.	Description	CPN
1	2	OCB.500 SNAP BUSHING	A10192-1
2	1(per channel)	INSULATOR, THROUGH HOLE OUTPUT	125547-1
3	1(per channel)	PWA, CT810A/1610A OUTPUT	102774-1
4	2	1" SPACER TOGGLE NUT, PLASTIC	C 6913-5
5	2	TENSION RETAINING BD SUPPORTS	C 6912-7
6	1	PWA, CT1610A MAIN DUAL POT	125413-2
7	2	NYL THUMBSCREW WASHER	D 4137-2
8	2	8-18X1.375 PH PNHD ST SCR Z	A10109-10822
9	2	.75" SPACER TOGGLE NUT PLASTIC	C 6914-3
10	12(per channel)	6-32 X .56 HEX WSHR HD W/T15	A10315-1
11	1	CHASSIS, CT'10A 4U CE (1610A)	125303-1
12	1	30A 120VAC SPST RELAY	C 7859-9
13	2	#6 INT STAR WASHER ZINC	A10094-4
14	2	6 X 32 HEX NUT	A10102-5

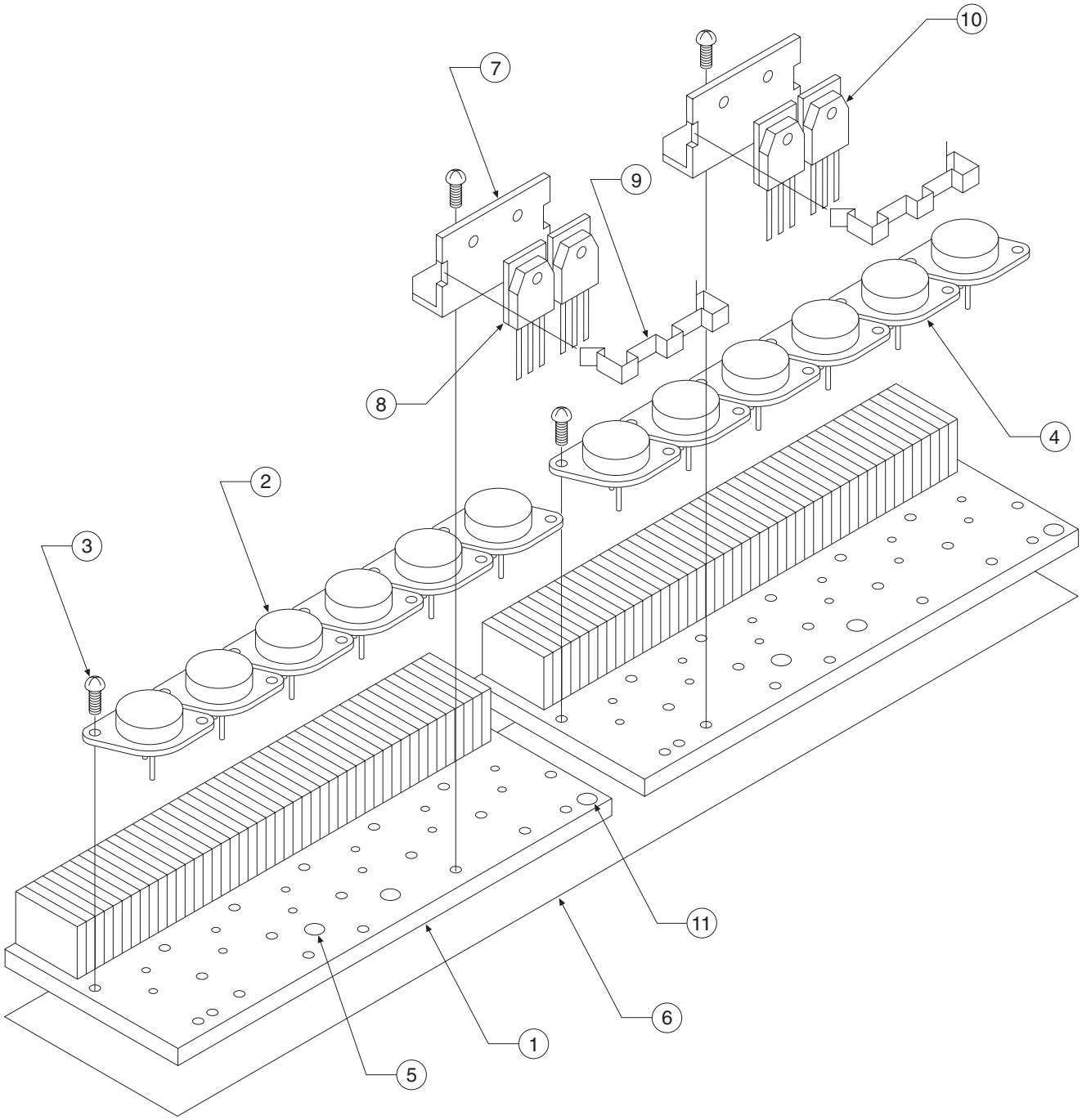

Figure 7.9 Com-Tech 810 & 1610 Heatsink Assembly

Item	Qty.	Description	CPN
1	2(per channel)	HS, ALUM 3/4" FINS ADH #7	M21324-5
2	6(per channel)	SJ7148 NPN PWR XSISTOR	C 8187-4
3	28(per channel)	6-32X.312 PAN HD T15 TT TYPE W	C 9491-9
4	6(per channel)	TRANSISTOR,PNP SELECT C 8188-2	D 9213-6
5	1(per channel)	ASM, THERMAL SENSE	H42902-9
6	1(per channel)	SILPAD, 2.87X14.57 7 MIL	D 7796-2
7	2(per channel)	BRKT, T03P HEATSINK	D 7666-7
8	2(per channel)	2SC2837 PWR NPN T03P SANKEN, DRIVER	C 8574-3
9	2(per channel)	CLIP, T03P MOUNTING	D 7665-9
10	2(per channel)	2SA1186 PWR PNP T03P SANKEN, DRIVER	C 8573-5
11	1(per channel)	ASM, BIAS XSISTOR	H42901-1

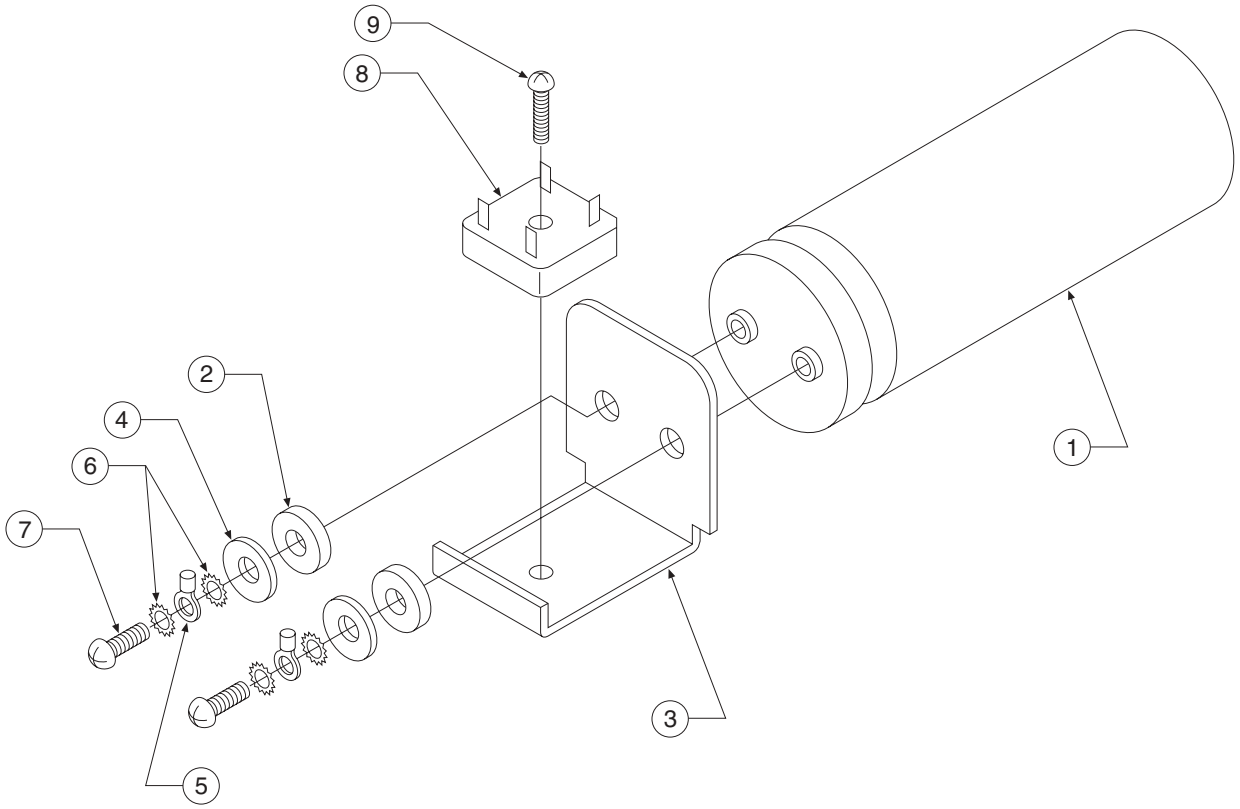

Figure 7.10 Com-Tech 810 & 1610 Capacitor Assembly

Item	Qty.	Description	CPN
1	1(per channel)	6300UF 150V ELECTROLYTIC CAP	D 8639-3
2	2(per channel)	WSHR, SHOULDER CAP ASM	D6764-1
3	1(per channel)	BRACKET, CAPACITOR	D 8438-0
4	2(per channel)	1/4" BELLEVILLE SPRING WSHR	A10098-5
5	2(per channel)	#8 RING TERM 16-22 AWG PIDG	C 7897-9*
6	4(per channel)	#10 INT TOOTH LOCKWASHER ZINC	A10094-8
7	2(per channel)	10-32 X .50 RDHD PH MSCR Z	A10086-11008
8	1(per channel)	35A 400V BRIDGE RECTIFIER	C 8752-5
8	1(per channel)	RECTIFIER, 35A W/.1UF CAP WELD (export)	H43603-2
9	2(per channel)	10-32 X .50 RDHD PH MSCR Z	A10086-11008

* Also part of wire assemblies H43469-8 and H43470-6.

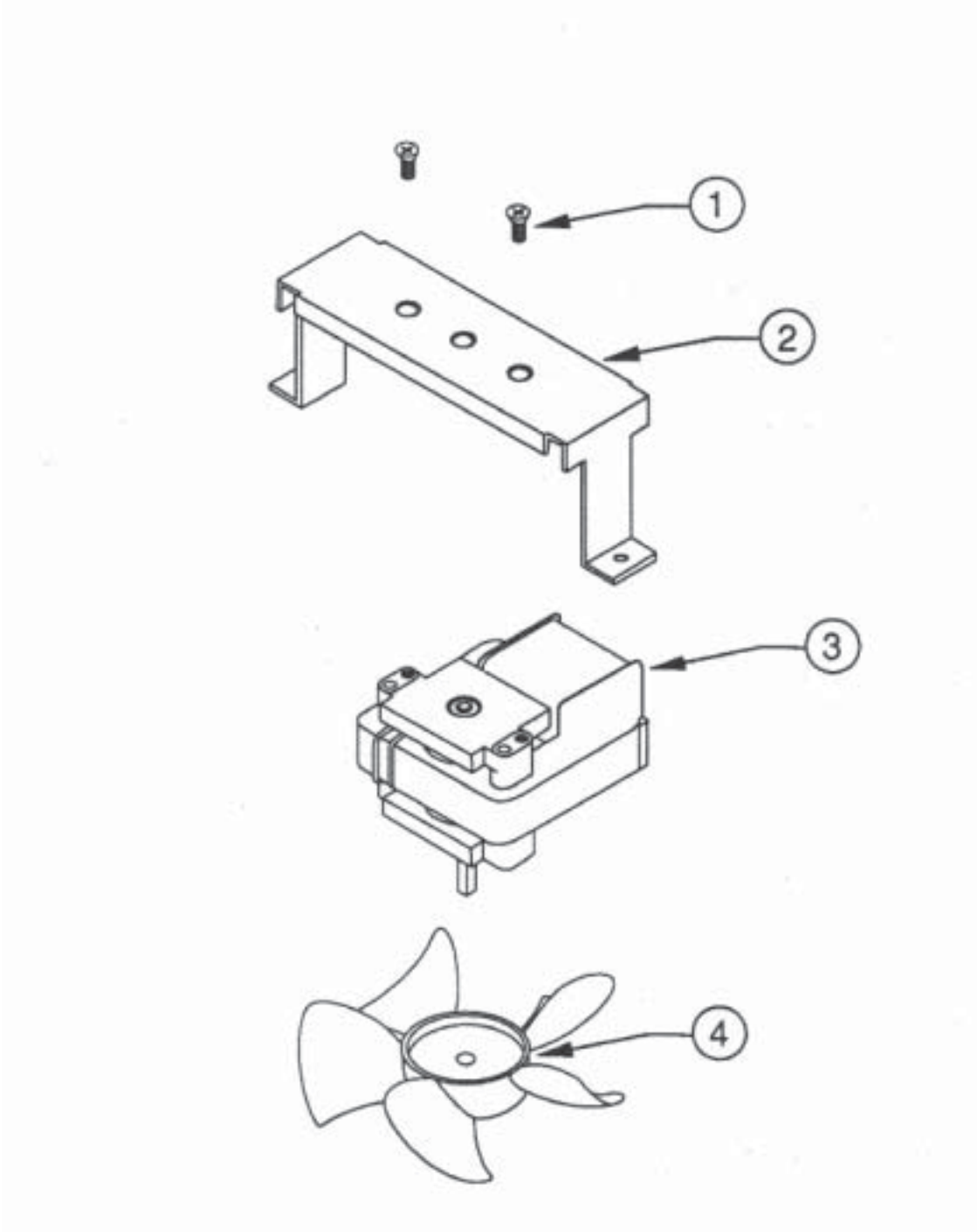

Figure 7.11 Com-Tech 810 Transmotor Assembly

Item	Qty.	Description	CPN
1	2	6-32 X5/16 UNDERCUT FLTHD MSCR	C 7062-0
2	1	BRACKET, FAN	D 8439-8
3	1	MOTOR, CT FAN PREP CE	101399-1
4	1	FAN BLADE, 4.0 INCH CCW	C 9939-7

8 Schematics and Module Documentation

MODULE HISTORY

The Com Tech 10A can be distinguished from the Com Tech 10 by the addition of an RJ11 jack located on the back panel. The Com Tech 10 amplifiers do NOT have this jack, only the 10As do. There have been several revisions, some which call for new modules. The following is a list of all modules used up to August 1998. (NLA is No Longer Available.)

DISPLAY MODULES:

Q43468-0
Built on D9001-5 board. NLA. Original PIP2, CT10 module. Replace with 125402-1.

100281-1
Built on 100280-1 board. NLA. CT10 module. Replace with 102682-1.

102682-1
Built on 102683-1 board. Original CT10A module. Replace with 125402-1.

125402
Built on 125403-1 board. Current Production.

OUTPUT MODULES CT-810(A)/1610(A):

Q43471-4
Built on D9139-3 board. NLA. Original CT10 module. Replace with 102774-1.

100289-1
Built on 100286-1 board. NLA. Replace with 102774-1.

100289-2
Built on 100286-1 board. NLA. Replace with 102774-1.

102774-1
Built on 102770-2 board. Original CT10A module. Current Production.

NOTE: *For Control Board replacement instructions, refer to page 8-3.*

CONTROL MODULES:

220/240V:

101057-1
Built on 100283-1 board. NLA. Original CT10 module. Replace with 102831-1.

101057-2
Built on 100283-1 board. NLA. Added remote turn-on, removed extra fan circuitry and added cap for turn on/off transients. Replace with 102831-1.

102831-1
Built on 102824-1 board. NLA. Original CT10A module. Replace with 125419-1.

125235-1
Built on 125235-1 board. CE version, for use on amplifiers that carry the CE rating. Current Production.

125419-1
Built on 125415-1 board. Current Production.

120V:

Q43474-8
Built on D9140-1 board. NLA. Replace with 102825-1.

100284-1
Built on 100283-2 board. NLA. Replace with 102825-1.

100284-2
Built on 100283-2 board. NLA. Replace with 102825-1.

101531-1
Built on 100283-2 board. Used on CT-1610 only. Added remote turn-on, removed extra fan circuitry and added cap for turn on/off transients. Replace with 125418-1.

102825-1
Built on 102824-1 board. If unit is a CT-1610A, replace with 125418-1. Otherwise use 125416-1.

102829-1
Built on 102824-1 board. NLA. Used in CT-1610A only. Replace with 125418-1.

125416-1
Built on 125415-1 board. Used in CT-210A/410A/810A. Current Production.

125418-1
Built on 125415-1 board. Used in CT-1610A only. Current Production.

100V:

101130-1
Built on 100283-1 board. NLA. Replace with 102833-1.

101130-2
Built on 100283-2 board. NLA. Replace with 125420-1.

101530-1
Built on 100283-2 board. NLA. Used in CT-1610 only. Replace with 125417-1.

102827-1
Built on 102824-1 board. NLA. Used in CT-1610A only. Replace with 125417-1.

102829-1
Built on 102824-1 board. NLA. Used in CT-1610A only. Replace with 125417-1.
102833-1
Built on 102824-2 board. NLA. Replace with 125420-1.
125148-1
Built on 125415-1 board. NLA. Used in CT-1610A only. Replace with 125417-1.
125417-1
Built on 125415-1 board. Used in CT-1610A only. Current Production.
125420-1
Built on 125415-1 board. Current Production.

MAIN MODULE:
CT-810(A)
Q43472-2
Built on D9000-7 board. NLA. Replace with 100296-3.
100296-1
Built on 100291 board. NLA. Replace with 100296-3.
100296-2
Built on 100291 board. NLA. Replace with 100296-3.
100296-3
Built on 100291-2 board. NLA. Replace with 102755-1.
102755-1
Built on 102756-1 board. Replace with 125274-1.
125274-1
Built on 125266-1 board. Dual Pot. Replace with 125412-3.
125412-1
Built on 125414 board. Dual Pot. Replace with 125412-3.
125412-2
Built on 125414-3 board. NLA. Dual Pot. Replace with 125412-3.
125412-3
Built on 125414-3 board. Current Production.

CT-1610(A)
Q43473-0
Built on D9000-7 board. NLA. Replace with 100298-3.
100298-1
Built on 100291 board. NLA. Replace with 100298-3.
100298-2
Built on 100291 board. Replace with 100298-3.
100298-3
Built on 100291-2 board. NLA. Replace with 102789-1.
102789-1
Built on 102756-1 board. Replace with 125275-1.
125275-1
Built on 125266-1 board. Dual Pot. Replace with 125413-2.
125413-1
Built on 125414 board. Dual Pot. Replace with 125413-2.
125413-2
Built on 125414-3 board. Dual Pot. Current Production.

SCHEMATIC INFORMATION:

The schematics provided are representative only. There may be slight variations from amplifier to amplifier. These schematics are intended to be used for troubleshooting purposes only.

Module	Schematic
Com-Tech 10 Main	100294
Com-Tech 810 Main	100297
Com-Tech 810A Main	125408
Com-Tech 810A Main	102768
Com-Tech 810A Main (Dual Pot)	102768
Com-Tech 1610 Main	100299
Com-Tech 1610A Main	125409
Com-Tech 1610A Main	102769
Com-Tech 1610A Main (Dual Pot)	102769
Com-Tech 10 Display	100281
Com-Tech 10A Display	125402
Com-Tech 10A Display	102682
Com-Tech 10 Control 120	100284
Com-Tech 10 Control 220/240	101057
Com-Tech 10A Control 220/240	125419
Com-Tech 10A Control 220/240 CE	125235
Com-Tech 1610 Control 120V	101529
Com-Tech 1610A Control 120V	125423
Com-Tech 1610A Control 120V	102830
Com-Tech 1610 Control 100V	101528
Com-Tech 1610A Control 100V	125422
Com-Tech 1610A Control 100V	102828
Com-Tech 810/1610 Output	100290
Com-Tech 810A/1610A Output	102773

CONTROL MODULE REPLACEMENT MODIFICATION INFORMATION:

The newer replacement control modules must have a connection directly to chassis ground. If the old amplifier control module was attached with five plastic stand-offs and one metal pem, then no modification is required. If the old amplifier control module was attached with six plastic stand-offs, then a ground wire must be added to the new control module.

The grounding wire should be at least 14 AWG wire and approximately 14 inches (35 cm) in length. One end of the wire should have a #8 ring terminal, which can be attached to the chassis ground lug used by the AC power cord. The other end of the grounding wire can be soldered to the control board at the ground pad. The grounding pad is located at the corner of the board around the mounting hole (it is also labeled "chassis ground"). The Crown part number for this wire is A11544-4140G.

All other wires and cables connecting to the control module should use the same location on the new control module as was used on the old module.

The older CT10 series amplifiers use a 2 position on/off switch with no remote position. This switch has only one wire that should be connected to tab W1 on the new control board.

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CT810 Main Module Information On Following Pages
Documentation, Component Map, Schematic

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100296

REVISION	C	TITLE: PWA; CT810 MAIN	PRINTS: K
MADE BY	TOM SZERENCSE		SHEET NO.: 1
DATE	02-24-97		CONT. ON SH: 2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN: TLM

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨			EAI# 96-272								
DATE ⇨	08-09-96	11-11-96	02-24-97								
SHEET NO. ⇩											
3	A	B	C								
4	A	B	C								
5	A	A	B								
6	A	A	B								
7	A	A	B								
8	A	B	C								
9	A	A	B								
10	A	A	B								
11	A	A	B								
12	A	A	B								
13	A	A	B								
14	A	A	B								
15	A	B	C								
16	A	A	B								
17	A	B	C								
18	A	A	B								
19	A	A	B								
20	A	A	B								
21	A	A	B								
22	A	A	B								
23	A	A	B								
24	A	A	B								

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APPROVALS	NAME	DATE
EE		
PE		2-24-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

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100296

REVISION	C	TITLE: PWA; CT810 MAIN	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	02-24-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	TLM

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-24	A	INITIAL RELEASE
TOM SZERENCSE	1-4, 8, 15, 17	B	INITIAL RELEASE OF 100296-2. RESORTED PART NUMBERS TO MATCH AS400 BILL. R107 AND R207 WERE C 9785-4.
TOM SZERENCSE	1-24	C	INITIAL RELEASE OF 100296-3. C155 & C255 WERE 22MF 50V. R115 & R215 WERE 274K, R116 & R216 WERE 9.53K, R333 & R433 WERE 665, R335 & R435 WERE 1MOHM, C1 WAS C 3913-8, R336 & R436 WERE 220, J800 WAS D 8681-5, J801 WAS D8680-7, C170 & C270 WERE 0.0047. C155 & C255 WERE 4.7 63V LYTIC U100 & U200 WERE C 7558-7. ADDED C171, C172, C271, C272 100MFD 25V ELECTROLYTICS. ADDED C173 AND C273 10MFD 16V ELECTROLYTICS. ADDED R371 & R471 10KOHM 1/4W. ADDED D135 & D235 1N961B. ADDED D133, D134, D233 AND D234 1N4148.

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 100297.
2. PWB PART NUMBER 100291-2.
3. PWA PART NUMBER 100296-3.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102A, U104A, U202A AND U204A ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

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DRAWN	TLM	02-24-97	DWG. NO. 100296	REV
PROJ.	D360		SHEET 3 CONT. ON SHEET 4	C

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	6	R159,R259,R336,R367,R436,
			R467
A10265-10021	10. KOHM .25W 1 MF T/R	20	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291,R337,R371,R437,R471,
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-11821	11.8 KOHM .25W 1% MF T/R	2	R108,R208
A10265-14321	14.3 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-28701	287. OHM .25W 1% MF T/R	2	R333,R433
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-32421	32.4KOHM .25 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-49931	499KOHM .25W 1% MF T/R	2	R332,R432
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270

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DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 4 CONT. ON SHEET 5	REV C
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10266-1031	10. KOHM .25W 5% CF T/R	18	R153,R156,R253,R256,R343,
			R345,R347,R348,R349,R352,
			R357,R443,R445,R447,R448,
			R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	10	R148,R151,R248,R251,R308,
			R325,R338,R408,R425,R438,
A10266-1051	1.0 MOHM .25W 5 CF T/R	3	R10,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-1831	18. KOHM .25W 5% CF T/R	4	R334,R370,R434,R470
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	4	R322,R335,R422,R435
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	2	R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	52	D100,D101,D102,D103,D104,
			D105,D106,D107,D108,D109,
			D111,D112,D115,D116,D118,
			D119,D121,D122,D123,D124,
			D125,D127,D130,D131,D133,
			D134,D200,D201,D202,D203,
			D204,D205,D206,D207,D208,
			D209,D211,D212,D215,D216,
			D218,D219,D221,D222,D223,
			D224,D225,D227,D230,D231,
			D233,D234
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3549-0	DIODE, 1N961B 10V ZENER T/R	2	D135,D235
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4019-3	4.7UF 35V 10% TANT CAP	2	C155,C255
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	10	C141,C145,C152,C154,C169,

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 6 CONT. ON SHEET 7	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C241,C245,C252,C254,C269,
C 6804-6	.1UF 50V AXIAL CER T/R 104	20	C134,C135,C136,C137,C138,
			C139,C144,C160,C161,C234,
			C235,C236,C237,C238,C239,
			C244,C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	10	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	2	U104,U204
C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	2	U102,U202
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	4	U101,U108,U201,U208
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	2	U109,U209
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8750-9	10UF 16V NP ELECTROLYTIC	2	C173,C273
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	9	C109,C125,C132,C153,C209,
			C225,C232,C253,C6
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9238-4	.0027UF 100V AXIAL CER T/R	2	C170,C270
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 7 CONT. ON SHEET 8	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10208-4	100.UF 25V 20% RAD ELECT T/R	4	C171,C172,C271,C272
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100291-2	PWB, CT10 MAIN, , ,	1	1
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101051-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200

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DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 8 CONT. ON SHEET 9	REV ©
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100291-2	PWB, CT10 MAIN, , ,	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 9	REV
PROJ.	D360		100296	CONT. ON SHEET 10	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C140		DO NOT INSTALL	O 4
C141	C 6802-0	.47UF 50V AXIAL CER T/R 474	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6802-0	.47UF 50V AXIAL CER T/R 474	P 4
C146		DO NOT INSTALL	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C154	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 6
C155	C 4019-3	4.7UF 35V 10% TANT CAP	J 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C169	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 6
C170	C 9238-4	.0027UF 100V AXIAL CER T/R	L 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C173	C 8750-9	10UF 16V NP ELECTROLYTIC	J 5
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 10	REV
PROJ.	D360		100296	CONT. ON SHEET 11	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240		DO NOT INSTALL	A 4
C241	C 6802-0	.47UF 50V AXIAL CER T/R 474	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 4
C246		DO NOT INSTALL	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C254	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 6
C255	C 4019-3	4.7UF 35V 10% TANT CAP	G 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 11	REV
PROJ.	D360		100296	CONT. ON SHEET 12	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C269	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 6
C270	C 9238-4	.0027UF 100V AXIAL CER	E 6
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C273	C 8750-9	10UF 16V NP ELECTROLYTIC	G 6
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 12	REV
PROJ.	D360		100296	CONT. ON SHEET 13	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D134	C 3181-2	DIODE, 1N4148 T/R	J 2
D135	C 3549-0	DIODE, 1N961B 10V ZENER T/R	J 5
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
D235	C 3549-0	DIODE, 1N961B 10V ZENER T/R	G 5
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 13	REV
PROJ.	D360		100296	CONT. ON SHEET 14	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 14	REV
PROJ.	D360		100296	CONT. ON SHEET 15	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	101051-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-11821	11.8 KOHM .25W 1% MF T/R	I 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 15	REV
PROJ.	D360		100296	CONT. ON SHEET 16	C

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 16	REV
PROJ.	D360		100296	CONT. ON SHEET 17	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14321	14.3 KOHM .25W 1% MF T/R	O 4
R188	A10265-32421	32.4KOHM .25 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 17 CONT. ON SHEET 18	REV C
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	101051-1	5K, , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-11821	11.8 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 18 CONT. ON SHEET 19	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14321	14.3 KOHM .25W 1% MF T/R	A 4
R288	A10265-32421	32.4KOHM .25 1% MF T/R	A 4
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 19 CONT. ON SHEET 20	REV C
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14321	14.3 KOHM .25W 1% MF T/R	P 4
R302	A10265-32421	32.4KOHM .25 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R332	A10265-49931	499KOHM .25W 1% MF T/R	L 6
R333	A10265-28701	287. OHM .25W 1% MF T/R	L 6
R334	A10266-1831	18. KOHM .25W 5% CF T/R	L 6
R335	A10266-2051	2.0 MOHM .25W 5 CF T/R	J 6
R336	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 6
R337	A10265-10021	10. KOHM .25W 1 MF T/R	J 6
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 20 CONT. ON SHEET 21	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R370	A10266-1831	18. KOHM .25W 5% CF T/R	L 6
R371	A10265-10021	10. KOHM .25W 1 MF T/R	J 5
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14321	14.3 KOHM .25W 1% MF T/R	B 4
R402	A10265-32421	32.4KOHM .25 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 21 CONT. ON SHEET 22	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R432	A10265-49931	499KOHM .25W 1% MF T/R	E 6
R433	A10265-28701	287. OHM .25W 1% MF T/R	E 6
R434	A10266-1831	18. KOHM .25W 5% CF T/R	E 6
R435	A10266-2051	2.0 MOHM .25W 5 CF T/R	G 6
R436	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 6
R437	A10265-10021	10. KOHM .25W 1 MF T/R	G 6
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 22 CONT. ON SHEET 23	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R470	A10266-1831	18. KOHM .25W 5% CF T/R	E 6
R471	A10265-10021	10. KOHM .25W 1 MF T/R	H 6
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U108	C 7444-0	LM393 DUAL COMPARATOR	K 6
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U208	C 7444-0	LM393 DUAL COMPARATOR	F 6
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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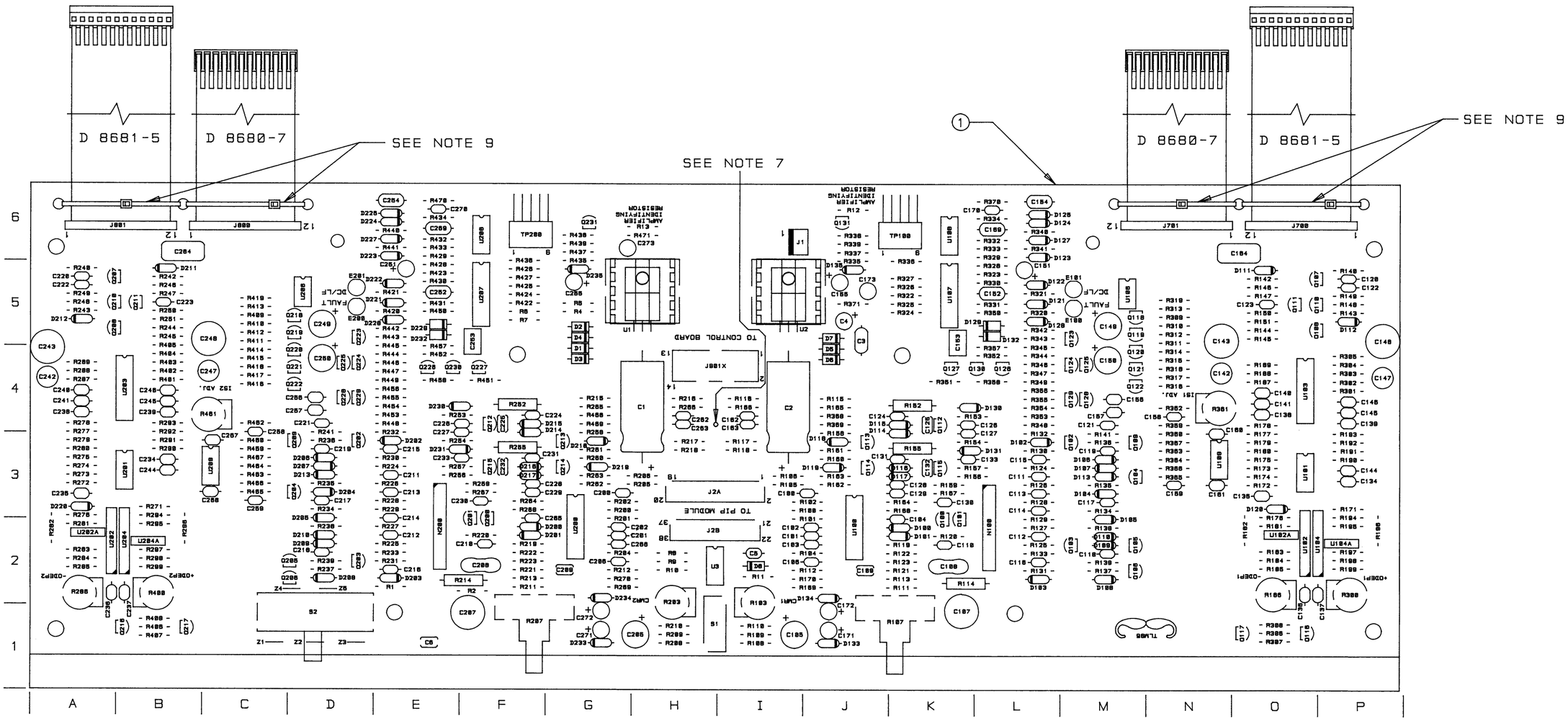
DRAWN	TLM	02-24-97	DWG. NO.	SHEET 23	REV
PROJ.	D360		100296	CONT. ON SHEET 24	B

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	TLM	02-24-97	DWG. NO. 100296	SHEET 24	REV (B)
PROJ.	D360				

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	INITIAL RELEASE	07/30/96	TLM			PM	TS
		B	R107 AND R207 WERE C 9788-4	11/08/96	TLM				TS
EAT# 96-272		C	C106 & C206 WERE 22PF. R115 & R215 WERE 274K. R118 & R218 WERE 9.53K, R333 & R433 WERE 665, R335 & R435 WERE 1M, R336 & R436 WERE 220 J800 WAS D 8681-5, J801 WAS D 8680-7. C170, C270 WERE .0047, U100, U200 WERE C 7558-7. C155 & C255 WERE 4.7 63V LYTIC. C1 WAS C 3913-8 ADDED C171, 172, 271, 272 100MF 25V. ADDED C173 & C273 10MF 16V. ADDED R371 & R471 10K. ADDED D133, 134, 233, 234 1N4148. ADDED D135, 235 1N961B. DELETED R3 & NOTE 4. RENUMBERED NOTES 5 & 6.	02/24/97	TLM				

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

THE PIN NUMBERS WITHIN "( )" REPRESENT THE PIP2 STANDARD PINOUT.

CT810 AMPLIFIER IDENTIFIER RESISTOR

LOW-SIDE ERROR AMP

TO OUTPUT BOARD CH1

TO OUTPUT BOARD CH1

TO DISPLAY BOARD J801X

PRE-DRIVER

ODEP

AUTO-STANDBY CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

INACTIVE
For Reference Use Only

PRINTS TO
G

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SCHEMATIC; CT810 MAIN

DRAWN	TLM	08/08/96	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100297 REV.B
SCALE	NONE		EE PM	08/30/96	E.C. EAT# 96-272
PROJ #	D360		PE TS	08/30/96	DWG. NO. SHEET 1 OF 2
FILENAME:	100297C.SCH		NEXT ASSEMBLY:		100297 REV C

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE LEVEL

LAST VOLTAGE AMP

PRE-DRIVER

UNUSED ELEMENTS

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

CT810 AMPLIFIER IDENTIFIER RESISTOR

TO OUTPUT BOARD CH2

LOW-SIDE ERROR AMP

ODEP

AUTO-STANDBY CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

TO TRANSFORMER MOTOR

COMMON POWER SUPPLY

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND J800 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.

CROWN INTERNATIONAL, INC.
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SCHEMATIC; CT810 MAIN

PRINTS TO							
G							

DRAWN	TLM	06/10/96	APPROVED BY :			DO NOT SCALE PRINT
CHECKED			ME			SUPERSEDES 100297 REV.B
SCALE	NONE		EE	PM	08/30/96	E.C. EAT# 96-272
PROJ #	D360		PE	TS	08/30/96	DWG. NO. SHEET 2 OF 2
FILENAME:	1002970C.SCM		NEXT ASSEMBLY:			100297 REV ©

CT810A Main Module 125412 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE 125412-1.	11-07-97	KLW	TLM			EB
		B	NOTE 2 WAS 125414-1. NOTE 3 WAS 125412-1 ADDED C175,C176,C275 AND C276. C122,C123,C222 AND C223 WERE 0.001UF.	12-16-97	JAW	KW			EB
EAD3921		C	REMOVED NOTE 9. RE-NUMBERED NOTES.	01-12-98	JAW	KW			EB
98E0129		D	R107 AND R207 WERE P/N 101051-1.	03-04-98	KLW	Jim			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125408.
2. PRINTED WIRING BOARD PART NUMBER 125414-3.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125412-2.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS TO: K

PWA; CT810A MAIN

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	11-07-97	APPROVED BY:			DO NOT SCALE PRINT
CHECKED	TLM	11-11-97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.N.
PROJ #	MD360D0		PE	EB	11-11-97	DWG. NO. SHEET 1 OF 22 / 125412 — REV D
NEXT ASSEMBLY						

INACTIVE
For Reference Use Only

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	9	R181,R184,R195,R198,R281,
			R284,R295,R298,R332
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10211	1.02K OHM 0.25W 1% MF T/R	4	R363,R365,R463,R465
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	6	R359,R362,R367,R459,R462,R467
A10265-11821	11.8K OHM 0.25W 1% MF T/R	2	R108,R208
A10265-14321	14.3K OHM 0.25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2K OHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1K OHM 0.25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-32421	32.4K OHM 0.25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665 OHM 0.25W 1% MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,
			R448,R449,R452,R457

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DRAWN	KLW	11-07-97	DWG. NO.	SHEET 2 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1531	15. KOHM .25W 5% CF T/R	2	R341,R441
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	4	R351,R358,R451,R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264
A10579-222KC	2200PF 100 10% POLY FILM T/A	4	C175,C176,C275,C276

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DRAWN	KLW	11-07-97	DWG. NO.	SHEET 3 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	59	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,D135
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D235,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	6	C141,C145,C152,C241,C245,C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	20	C134,C135,C136,C137,C138,
			C139,C144,C160,C161,C234,
			C235,C236,C237,C238,C239,
			C244,C267,C268,C3,C5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 4 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	14	C126,C158,C159,C162,C163,
			C173,C174,C226,C258,C259,
			C262,C263,C273,C274
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7417-6	3300PF 100V 10% CAP	4	C122,C123,C222,C223
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	16	Q107,Q110,Q113,Q117,Q119,
			Q121,Q126,Q128,Q207,Q210,
			Q213,Q217,Q219,Q221,Q226,
			Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8803-6	.047UF 50V 10%X7R AXL CER T/	4	C141,C145,C241,C245
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM 0.50W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9615-3	680PF 100V 5% AXL CER NPO T/	1	C8
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 5 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELEC	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OP AMP SGS ONL	4	U100,U103,U200,U203
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
125414-3	PWB, CT'10A MAIN, , ,	1	1
125931-1	POT, 5KOHM 10% LNR 21 DNT	2	R107,R207

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 6 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125414-3	PWB, CT'10A MAIN, , ,	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 9615-3	680PF 100V 5% AXL CER NPO T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 7417-6	3300PF 100V 10% CAP	P 5
C123	C 7417-6	3300PF 100V 10% CAP	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 7 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140		--- OPEN ---	O 4
C141	C 6802-0	.47UF 50V AXIAL CER T/R 474	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6802-0	.47UF 50V AXIAL CER T/R 474	P 4
C146		--- OPEN ---	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELEC T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C173	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C174	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C175	A10579-222KC	2200PF 100 10% POLY FILM T/A	N 2
C176	A10579-222KC	2200PF 100 10% POLY FILM T/A	P 2
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 8 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 7417-6	3300PF 100V 10% CAP	A 5
C223	C 7417-6	3300PF 100V 10% CAP	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240		--- OPEN ---	A 4
C241	C 6802-0	.47UF 50V AXIAL CER T/R 474	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELEC T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 4
C246		--- OPEN ---	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELEC T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C273	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C274	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 2
C275	A10579-222KC	2200PF 100 10% POLY FILM T/A	A 2
C276	A10579-222KC	2200PF 100 10% POLY FILM T/A	B 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 9 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2
D135	C 3181-2	DIODE, 1N4148 T/R	K 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 10 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
D235	C 3181-2	DIODE, 1N4148 T/R	G 6
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 11 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, , 14PIN,	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 7458-0	2N4123 30V NPN T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 7458-0	2N4123 30V NPN T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 12 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 7458-0	2N4123 30V NPN T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4
Q210	C 7458-0	2N4123 30V NPN T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 13 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	125931-1	POT, 5KOHM 10% LIN 21 DNT	J 2
R108	A10265-11821	11.8 KOHM 0.25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 14 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R147	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14321	14.3 KOHM 0.25W 1% MF T/R	O 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 15 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R188	A10265-32421	32.4K OHM 0.25W 1% MF T/R	O 4
R189	A10265-19121	19.1K OHM 0.25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	125931-1	POT, 5KOHM 10% LIN 21 DNT	F 2
R208	A10265-11821	11.8K OHM 0.25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 16 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665 OHM 0.25W 1% MF T/R	B 5
R247	A10265-66501	665 OHM 0.25W 1% MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 17 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14321	14.3K OHM 0.25W 1% MF T/R	A 4
R288	A10265-32421	32.4K OHM 0.25W 1% MF T/R	A 4
R289	A10265-19121	19.1K OHM 0.25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14321	14.3K OHM 0.25W 1% MF T/R	P 4
R302	A10265-32421	32.4K OHM 0.25W 1% MF T/R	P 4
R303	A10265-19121	19.1K OHM 0.25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 18 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R332	A10265-10001	100 OHM 0.25W 1% MF T/R	
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-1531	15. KOHM .25W 5% CF T/R	L 6
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R364	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R365	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R366	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R367	A10265-10R01	10 OHM 0.25W 1% MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14321	14.3K OHM 0.25W 1% MF T/R	B 4
R402	A10265-32421	32.4K OHM 0.25W 1% MF T/R	B 4
R403	A10265-19121	19.1K OHM 0.25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 19 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-1531	15. KOHM .25W 5% CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 20 OF 22	REV
PROJ.	MD360D0		125412		D

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R464	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R465	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3
R466	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R467	A10265-10R01	10 OHM 0.25W 1% MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		--- INSTALLED ON NEXT ASSEMBLY ---	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	101651-1	MC33079N QUAD OP AMP SGS ONLY	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	101651-1	MC33079N QUAD OP AMP SGS ONLY	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		--- OPEN ---	O 2
U104		--- OPEN ---	P 2
U202		--- OPEN ---	A 2
U204		--- OPEN ---	B 2
Z1		--- OPEN ---	C 1
Z2		--- OPEN ---	D 1
Z3		--- OPEN ---	D 1
Z4		--- OPEN ---	D 2
Z5		--- OPEN ---	D 2

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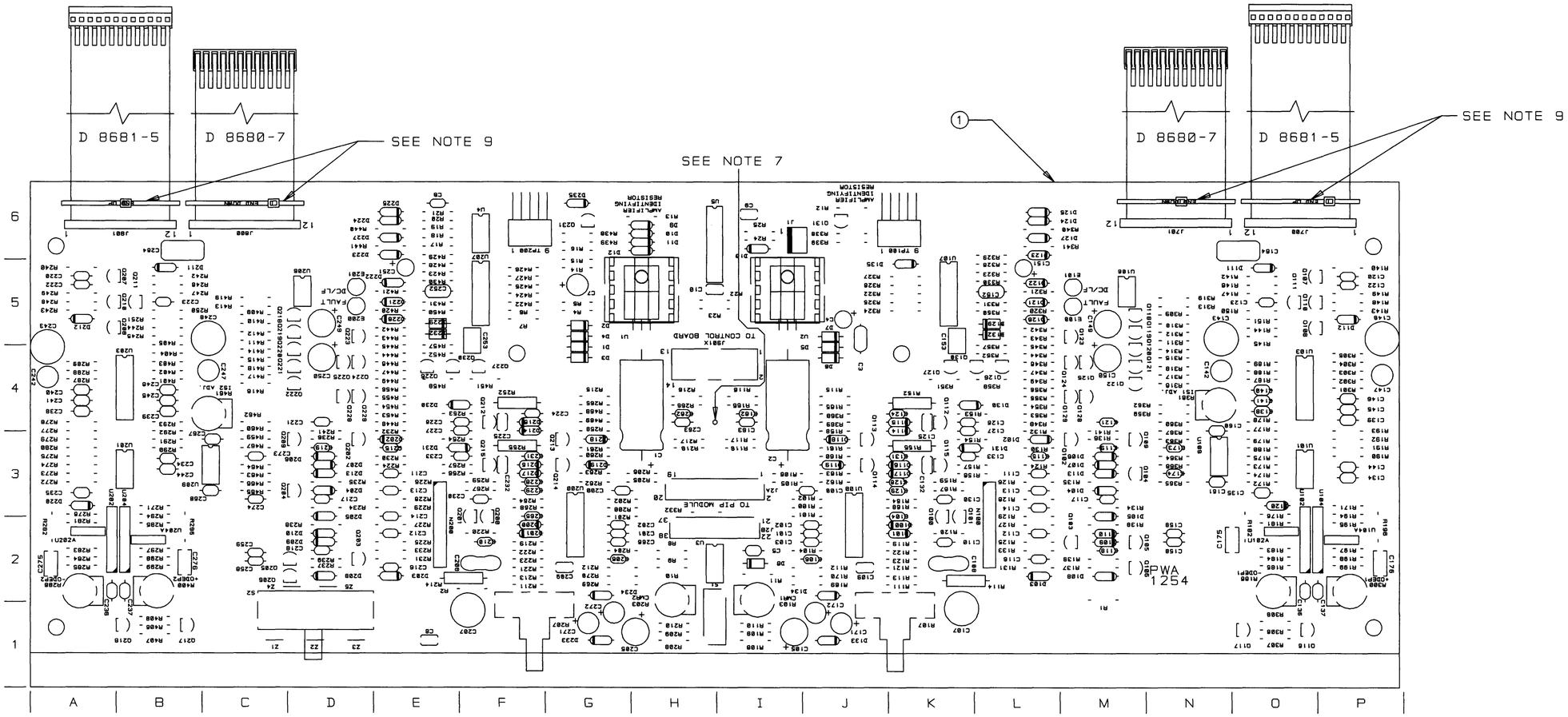
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 21 OF 22	REV
PROJ.	MD360D0		125412		D

COMPONENT MAP

(COMPONENT SIDE VIEW)



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

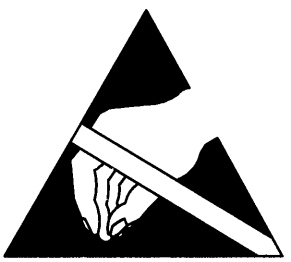
DRAWN	KLW	11-07-97	DWG. NO.	SHEET 22 OF 22	REV
PROJ.	MD360D0		125412		D

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
98E0207		A	PRODUCTION RELEASE(LEVEL 1)	03/30/98	JAW	KW			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125408.
2. PRINTED WIRING BOARD PART NUMBER 125414-3.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125412-3.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS TO: K

PWA; CT810A MAIN

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	JAW	03/30/98	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	03-30-98	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	EB 3-31-98	DWG. NO. SHEET 1 OF 22 / REV
NEXT ASSEMBLY					125412-3 / A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	9	R181,R184,R195,R198,R281,
			R284,R295,R298,R332
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10211	1.02K OHM 0.25W 1% MF T/R	4	R363,R365,R463,R465
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	6	R359,R362,R367,R459,R462,R467
A10265-11821	11.8K OHM 0.25W 1% MF T/R	2	R108,R208
A10265-14321	14.3K OHM 0.25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2K OHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1K OHM 0.25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-32421	32.4K OHM 0.25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665 OHM 0.25W 1% MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,
			R448,R449,R452,R457

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 2 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1531	15. KOHM .25W 5% CF T/R	2	R341,R441
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	4	R351,R358,R451,R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264
A10579-222KC	2200PF 100 10% POLY FILM T/A	4	C175,C176,C275,C276

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 3 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1, D129, D132, D2, D229, D232,
			D3, D4, D5, D6, D7
C 3181-2	DIODE, 1N4148 T/R	59	D10, D100, D101, D102, D103,
			D104, D105, D106, D107, D108,
			D109, D11, D111, D112, D115,
			D116, D118, D119, D12, D121,
			D122, D123, D124, D125, D127,
			D13, D130, D131, D133, D134, D135
			D200, D201, D202, D203, D204,
			D205, D206, D207, D208, D209,
			D211, D212, D215, D216, D218,
			D219, D221, D222, D223, D224,
			D225, D227, D230, D231, D233,
			D234, D235, D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N9668 16V ZENER T/R	2	D128, D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104, Q106, Q130, Q204, Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100, Q101, Q114, Q116, Q118,
			Q120, Q122, Q123, Q124, Q125,
			Q129, Q200, Q201, Q214, Q216,
			Q218, Q220, Q222, Q223, Q224,
			Q225, Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103, Q108, Q111, Q115, Q203,
			Q208, Q211, Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105, Q109, Q127, Q205, Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1, C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107, U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110, D113, D114, D117, D210,
			D213, D214, D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186, R286, R300, R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121, R164, R221, R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107, C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151, C251, C4
C 6048-0	500 OHM PIHER TRIM	2	R361, R461
C 6411-0	H11C2 OPTO SCR	2	U106, U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100, TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	2	C152, C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	24	C3, C5, C134, C135, C136, C137,
			C138, C139, C141, C144, C145,
			C160, C161, C234, C235, C236,
			C237, C238, C239, C241, C244,
			C245, C267, C268

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 4 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	14	C126,C158,C159,C162,C163,
			C173,C174,C226,C258,C259,
			C262,C263,C273,C274
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7417-6	3300PF 100V 10% CAP	4	C122,C123,C222,C223
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	16	Q107,Q110,Q113,Q117,Q119,
			Q121,Q126,Q128,Q207,Q210,
			Q213,Q217,Q219,Q221,Q226,
			Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 7964-7	.22UF 100V AXIAL CER CAP T/R	4	C140,C146,C240,C246
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8803-6	.047UF 50V 10%X7R AXL CER T/	4	C141,C145,C241,C245
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM 0.50W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9615-3	680PF 100V 5% AXL CER NPO T/	1	C8
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 5 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELEC	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OP AMP SGS ONL	4	U100,U103,U200,U203
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
125414-3	PWB, CT'10A MAIN	1	1
125931-1	POT, 5KOHM 10% LNR 21 DNT	2	R107,R207

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 6 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125414-3	PWB, CT'10A MAIN, , ,	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 9615-3	680PF 100V 5% AXL CER NPO T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 7417-6	3300PF 100V 10% CAP	P 5
C123	C 7417-6	3300PF 100V 10% CAP	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 7 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140	C 7964-7	.22UF 100V AXIAL CER CAP T/R	O 4
C141	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C146	C 7964-7	.22UF 100V AXIAL CER CAP T/R	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELEC T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C173	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C174	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C175	A10579-222KC	2200PF 100 10% POLY FILM T/A	N 2
C176	A10579-222KC	2200PF 100 10% POLY FILM T/A	P 2
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 8 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 7417-6	3300PF 100V 10% CAP	A 5
C223	C 7417-6	3300PF 100V 10% CAP	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240	C 7964-7	.22UF 100V AXIAL CER CAP T/R	A 4
C241	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELEC T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C246	C 7964-7	.22UF 100V AXIAL CER CAP T/R	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELEC T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C273	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C274	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 2
C275	A10579-222KC	2200PF 100 10% POLY FILM T/A	A 2
C276	A10579-222KC	2200PF 100 10% POLY FILM T/A	B 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 9 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2
D135	C 3181-2	DIODE, 1N4148 T/R	K 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 10 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
D235	C 3181-2	DIODE, 1N4148 T/R	G 6
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 11 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, , 14PIN,	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 7458-0	2N4123 30V NPN T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 7458-0	2N4123 30V NPN T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 12 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 7458-0	2N4123 30V NPN T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4
Q210	C 7458-0	2N4123 30V NPN T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 13 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	125931-1	POT, 5KOHM 10% LIN 21 DNT	J 2
R108	A10265-11821	11.8 KOHM 0.25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 14 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R147	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14321	14.3 KOHM 0.25W 1% MF T/R	O 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 15 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R188	A10265-32421	32.4K OHM 0.25W 1% MF T/R	O 4
R189	A10265-19121	19.1K OHM 0.25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	125931-1	POT, 5KOHM 10% LIN 21 DNT	F 2
R208	A10265-11821	11.8K OHM 0.25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 16 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665 OHM 0.25W 1% MF T/R	B 5
R247	A10265-66501	665 OHM 0.25W 1% MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 17 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14321	14.3K OHM 0.25W 1% MF T/R	A 4
R288	A10265-32421	32.4K OHM 0.25W 1% MF T/R	A 4
R289	A10265-19121	19.1K OHM 0.25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14321	14.3K OHM 0.25W 1% MF T/R	P 4
R302	A10265-32421	32.4K OHM 0.25W 1% MF T/R	P 4
R303	A10265-19121	19.1K OHM 0.25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5

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DRAWN	JAW	03/30/98	DWG. NO.	SHEET 18 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R332	A10265-10001	100 OHM 0.25W 1% MF T/R	
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-1531	15. KOHM .25W 5% CF T/R	L 6
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R364	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R365	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R366	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R367	A10265-10R01	10 OHM 0.25W 1% MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14321	14.3K OHM 0.25W 1% MF T/R	B 4
R402	A10265-32421	32.4K OHM 0.25W 1% MF T/R	B 4
R403	A10265-19121	19.1K OHM 0.25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5

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DRAWN	JAW	03/30/98	DWG. NO.	SHEET 19 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-1531	15. KOHM .25W 5% CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	03/30/98	DWG. NO.	SHEET 20 OF 22	REV
PROJ.	MD360D0		125412-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R464	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R465	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3
R466	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R467	A10265-10R01	10 OHM 0.25W 1% MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		--- INSTALLED ON NEXT ASSEMBLY ---	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	101651-1	MC33079N QUAD OP AMP SGS ONLY	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	101651-1	MC33079N QUAD OP AMP SGS ONLY	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		--- OPEN ---	O 2
U104		--- OPEN ---	P 2
U202		--- OPEN ---	A 2
U204		--- OPEN ---	B 2
Z1		--- OPEN ---	C 1
Z2		--- OPEN ---	D 1
Z3		--- OPEN ---	D 1
Z4		--- OPEN ---	D 2
Z5		--- OPEN ---	D 2

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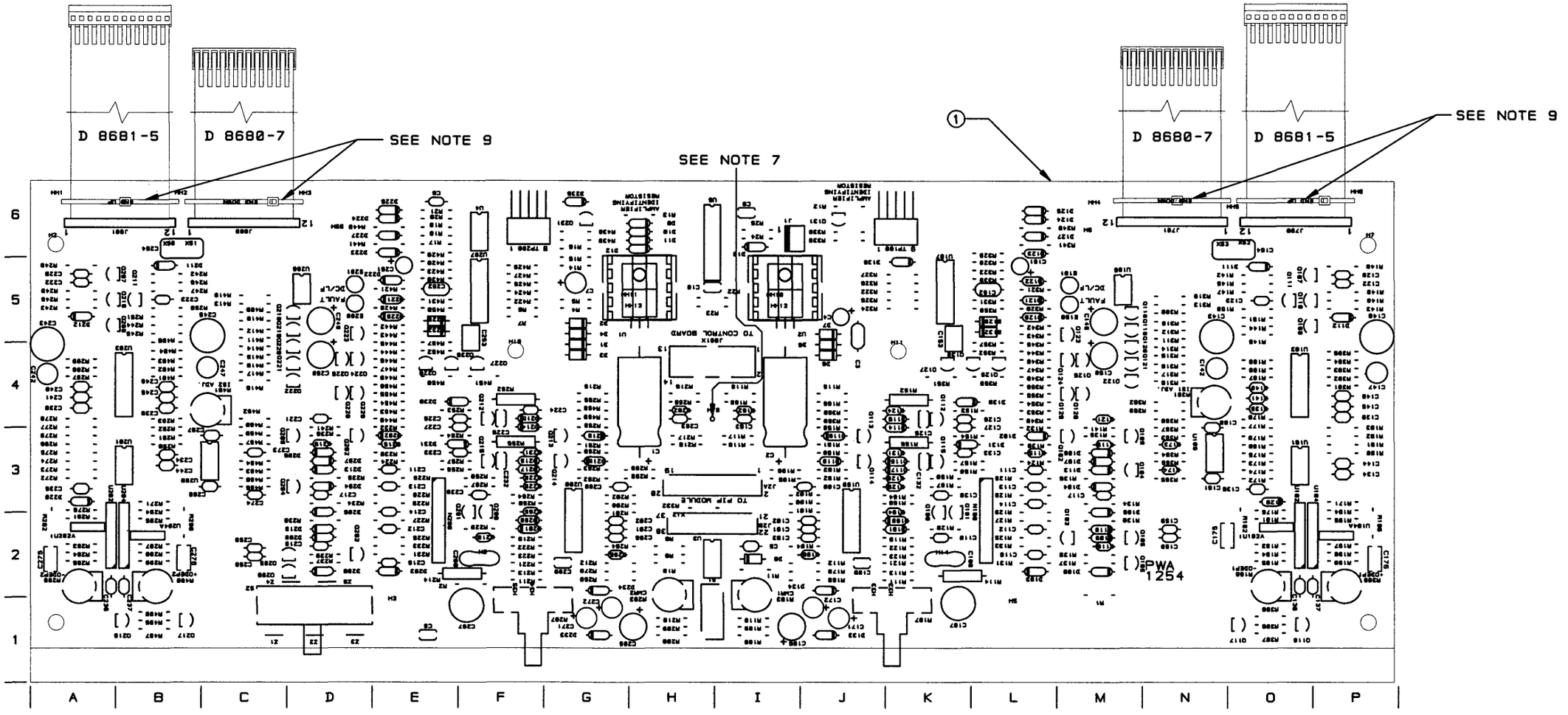
DRAWN	JAW	03/30/98	DWG. NO.	SHEET 21 OF 22	REV
PROJ.	MD360D0		125412-3		A

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	JAW	03/30/98	DWG. NO.	SHEET 22 OF 22	REV
PROJ.	MD360D0		125412-3		A

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	INITIAL RELEASE	11-04-97	KLW	TLM			EB
		B	C115, 215, 116, 216 WERE 0.022UF. ADDED C175, C176, C275, & C276.	12-09-97	TLM	KW			

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

THE PIN NUMBERS WITHIN " () " REPRESENT THE PIP2 STANDARD PINOUT.

CT810 AMPLIFIER IDENTIFIER RESISTOR

LOW-SIDE ERROR AMP

TO OUTPUT BOARD CH1

TO OUTPUT BOARD CH1

TO DISPLAY BOARD

ODEP

ENERGY SAVING CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

PRE-DRIVER

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PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
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SCH, MAIN CT810A

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	TLM	11-11-97	ME		SUPERSEDES 125408 REV.A
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE	EB 11-11-97	DWG. NO. 125408 SHEET 1 OF 2 REV (B)
FILENAME:	12540818.SCM		NEXT ASSEMBLY:		

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE LEVEL

LAST VOLTAGE AMP

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

LOW-SIDE ERROR AMP

CT810 AMPLIFIER IDENTIFIER RESISTOR

TO OUTPUT BOARD CH2

TO TRANSFORMER MOTOR

COMMON POWER SUPPLY

ODEP

FAULT CIRCUIT

DC/LF PROTECT

PRE-DRIVER

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND JB00 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.

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SCH, MAIN CT810A

PRINTS TO							
G							

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE		DWG. NO. SHEET 2 OF 2
FILENAME:	1254082B.SCM		NEXT ASSEMBLY:		125408 (B)

CT810A Main Module 102755 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	06/09/97	TLM	KW		PW	TS
		B	CHG. WATT. ON R327,R427 FROM 1W TO .25W.	08/04/97	DWW	JLM			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102768.
2. PWB PART NUMBER 102756-1.
3. PWA PART NUMBER 102755-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-8) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9484-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102, U104, U202 AND U204 ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PWA; CT810A MAIN

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	TLM	06/09/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	06/10/97	ME		SUPERSEDES
SCALE	NONE		EE	PW 06/11/97	E.C.N.
PROJ #	MD360D0		PE	TS 06/12/97	DWG. NO. 102755 SHEET 1 CONT. ON SHEET 2 REV B
NEXT ASSEMBLY					

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467,
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-11821	11.8 KOHM .25W 1% MF T/R	2	R108,R208
A10265-14321	14.3 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-32421	32.4KOHM .25 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 2 CONT. ON SHEET 3	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			R448,R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 3 CONT. ON SHEET 4	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	57	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	6	C141,C145,C152,C241,C245,
			C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	20	C134,C135,C136,C137,C138,
			C139,C144,C160,C161,C234,

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 4 CONT. ON SHEET 5	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C235,C236,C237,C238,C239,
			C244,C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	11	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
			C8
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101051-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
102756-1	PWB, CT'10A MAIN, , ,	1	1

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DRAWN	TLM	08-09-97	DWG. NO. 102755	SHEET 6 CONT. ON SHEET 7	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102756-1	PWB, CT'10A MAIN, . .	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 6811-1	100PF 200V 10% NPO AXL CER T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 7 CONT. ON SHEET 8	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140		DO NOT INSTALL	O 4
C141	C 6802-0	.47UF 50V AXIAL CER T/R 474	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6802-0	.47UF 50V AXIAL CER T/R 474	P 4
C146		DO NOT INSTALL	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 8 CONT. ON SHEET 9	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240		DO NOT INSTALL	A 4
C241	C 6802-0	.47UF 50V AXIAL CER T/R 474	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 4
C246		DO NOT INSTALL	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO.	SHEET 9	REV
PROJ.	MD360D0		102755	CONT. ON SHEET 10	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 10 CONT. ON SHEET 11	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6

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DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 11 CONT. ON SHEET 12	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO.	SHEET 12	REV
PROJ.	MD360D0		102755	CONT. ON SHEET 13	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 13 CONT. ON SHEET 14	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	101051-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-11821	11.8 KOHM .25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 14 CONT. ON SHEET 15	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14321	14.3 KOHM .25W 1% MF T/R	O 4
R188	A10265-32421	32.4KOHM .25 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 15 CONT. ON SHEET 16	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	101051-1	5K, , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-11821	11.8 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 16 CONT. ON SHEET 17	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14321	14.3 KOHM .25W 1% MF T/R	A 4
R288	A10265-32421	32.4KOHM .25 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO.	SHEET 17	REV
PROJ.	MD360D0		102755	CONT. ON SHEET 18	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14321	14.3 KOHM .25W 1% MF T/R	P 4
R302	A10265-32421	32.4KOHM .25 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 18 CONT. ON SHEET 19	REV B
PROJ.	MD360D8				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14321	14.3 KOHM .25W 1% MF T/R	B 4
R402	A10265-32421	32.4KOHM .25 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 19 CONT. ON SHEET 20	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 20 CONT. ON SHEET 21	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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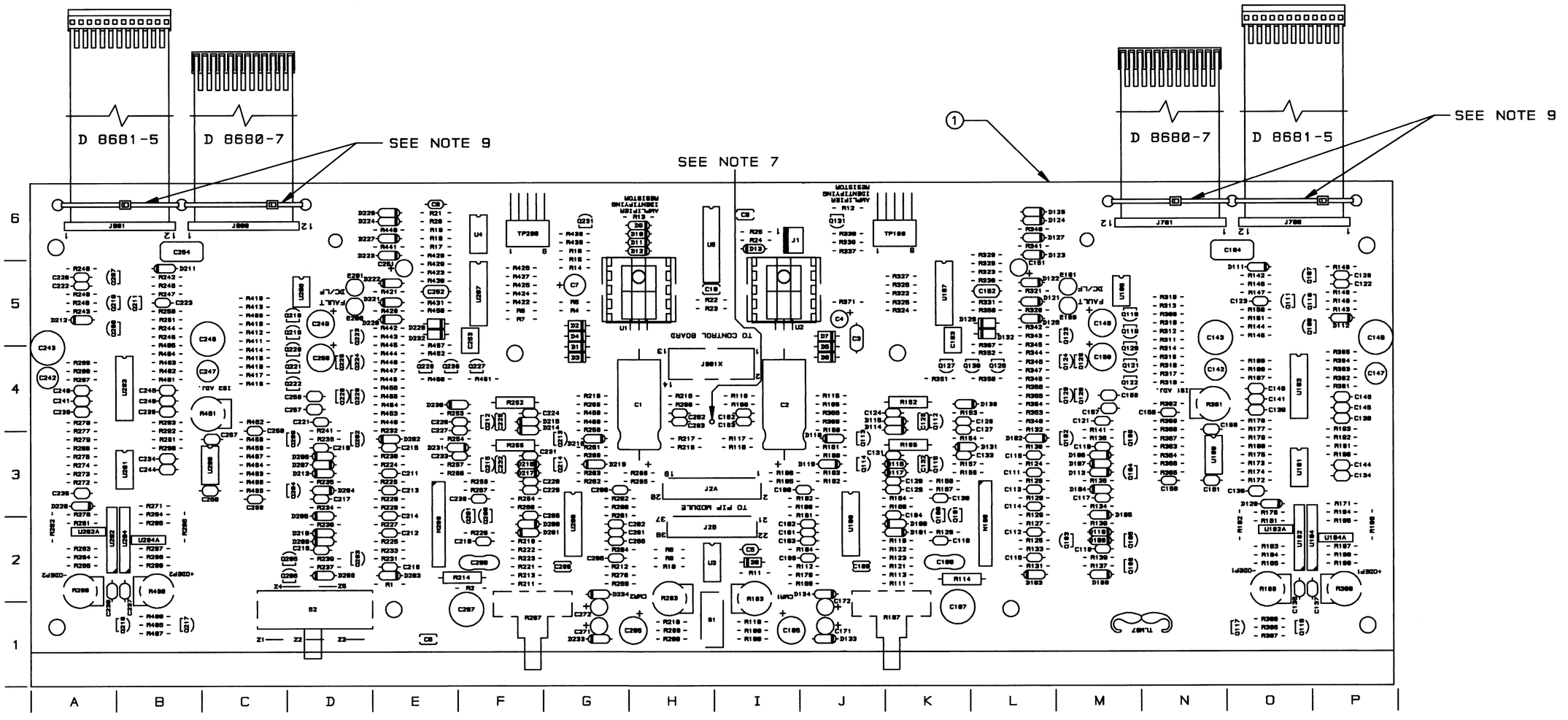
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 21 CONT. ON SHEET 22	REV B
PROJ.	MD360D0				

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	TLM	06-09-97	DWG. NO. 102755	SHEET 22 CONT. ON SHEET -	REV B
PROJ.	MD360D0				

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS
		A	INITIAL RELEASE	07/30/96	TLM	

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

THE PIN NUMBERS WITHIN " ( ) " REPRESENT THE PIP2 STANDARD PINOUT.

CT810 AMPLIFIER IDENTIFIER RESISTOR

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

LOW-SIDE ERROR AMP

TO OUTPUT BOARD CH1

TO OUTPUT BOARD CH1

TO DISPLAY BOARD J801X

ENERGY SAVING CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

PRE-DRIVER

INACTIVE
For Reference Use Only

PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT810A MAIN

DRAWN	TLM	08/03/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	[illegible]	6/19/97	ME		SUPERSEDES
SCALE	NONE		EE	[illegible] 6/14/97	E.C.
PROJ #	MD3800		PE	[illegible] 6/21/97	DWG. NO. 102768 SHEET 1 OF 2 REV A
FILENAME:	1027680A.SCH		NEXT ASSEMBLY:		

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE LEVEL

R207 5K LINEAR W/21 DETENT

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

ODEP

LAST VOLTAGE AMP

CT810 AMPLIFIER IDENTIFIER RESISTOR

PRE-DRIVER

LOW-SIDE ERROR AMP

TO OUTPUT BOARD CH2

TO OUTPUT BOARD CH2

TO TRANSFORMER MOTOR

COMMON POWER SUPPLY

FAULT CIRCUIT

DC/LF PROTECT

PRE-DRIVER

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND J800 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.

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SCHEMATIC; CT810A MAIN

DRAWN	TLM	06/03/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	[signature]	6/19/97	ME		SUPERSEDES
SCALE	NONE		EE	[signature] 6/19/97	E.C.
PROJ #	MD360D0		PE	[signature] 6/21/97	DWG. NO. SHEET 2 OF 2
FILENAME:	1027680A.SCH		NEXT ASSEMBLY:		102768 REV (A)

PRINTS TO
G

CT810A Main Module (Dual Pot) Information On Following Pages
Documentation, Component Map

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	09/25/97	DWW	JLM			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102768.
2. PWB PART NUMBER 125266-1.
3. PWA PART NUMBER 125274-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102, U104, U202 AND U204 ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS TO: K

PWA; CT810A MAIN (DUAL POT)

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	DWW	09/25/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JLM	9/25/97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	9-25-97	DWG. NO. 125274 SHEET 1 CONT. ON SHEET 2 REV (A)
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467,
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-11821	11.8 KOHM .25W 1% MF T/R	2	R108,R208
A10265-14321	14.3 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-32421	32.4KOHM .25 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 2 CONT. ON SHEET 3	REV (A)
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			R448,R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	57	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	6	C141,C145,C152,C241,C245,
			C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	20	C134,C135,C136,C137,C138,
			C139,C144,C160,C161,C234,

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C235,C236,C237,C238,C239,
			C244,C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	11	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
			C8
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 5 CONT. ON SHEET 6	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
125263-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
125266-1	PWB, CT'10A MAIN (DUAL POT)	1	1

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 6 CONT. ON SHEET 7	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125266-1	PWB, CT'10A MAIN (DUAL POT)	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 6811-1	100PF 200V 10% NPO AXL CER T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 7 CONT. ON SHEET 8	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140		DO NOT INSTALL	O 4
C141	C 6802-0	.47UF 50V AXIAL CER T/R 474	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6802-0	.47UF 50V AXIAL CER T/R 474	P 4
C146		DO NOT INSTALL	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 8 CONT. ON SHEET 9	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240		DO NOT INSTALL	A 4
C241	C 6802-0	.47UF 50V AXIAL CER T/R 474	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 4
C246		DO NOT INSTALL	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 9 CONT. ON SHEET 10	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 10 CONT. ON SHEET 11	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6

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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 11 CONT. ON SHEET 12	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 12 CONT. ON SHEET 13	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 13 CONT. ON SHEET 14	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	125263-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-11821	11.8 KOHM .25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 14 CONT. ON SHEET 15	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14321	14.3 KOHM .25W 1% MF T/R	O 4
R188	A10265-32421	32.4KOHM .25 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 15 CONT. ON SHEET 16	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	125263-1	5K, , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-11821	11.8 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 16 CONT. ON SHEET 17	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14321	14.3 KOHM .25W 1% MF T/R	A 4
R288	A10265-32421	32.4KOHM .25 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 17 CONT. ON SHEET 18	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14321	14.3 KOHM .25W 1% MF T/R	P 4
R302	A10265-32421	32.4KOHM .25 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 18 CONT. ON SHEET 19	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14321	14.3 KOHM .25W 1% MF T/R	B 4
R402	A10265-32421	32.4KOHM .25 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 19 CONT. ON SHEET 20	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 20 CONT. ON SHEET 21	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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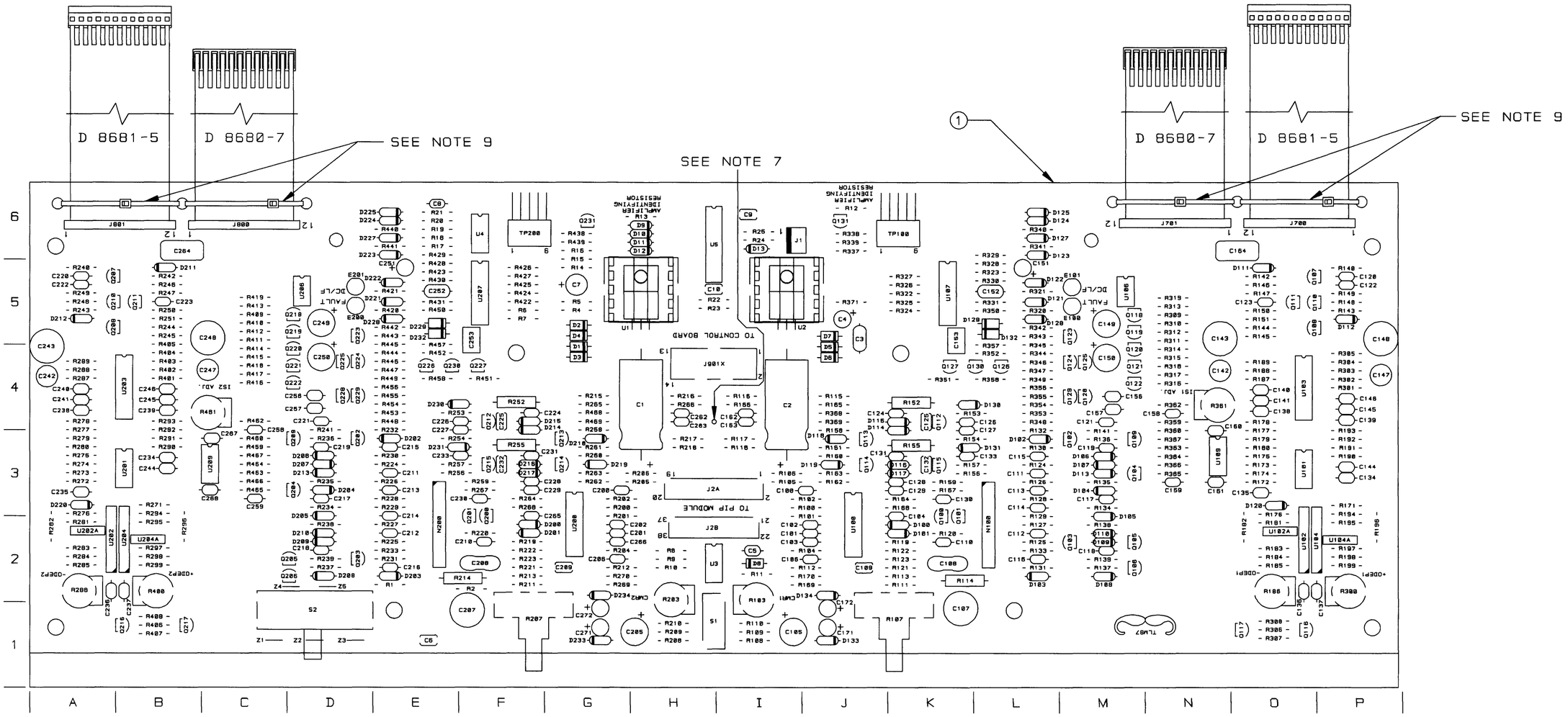
DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 21 CONT. ON SHEET 22	REV A
PROJ.	MD360D0				

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	DWW	09/25/97	DWG. NO. 125274	SHEET 22	REV (A)
PROJ.	MD360D0			CONT. ON SHEET -	

CT1610 Main Module Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL **INACTIVE** For Reference Use Only

100298

REVISION	C	TITLE: PWA; CT1610 MAIN		PRINTS	K
MADE BY	TOM SZERENCSE			SHEET NO.	1
DATE	02-24-97			CONT. ON SH	2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES		DRAWN	TLM

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨			EAI# 96-272								
DATE ⇨	08-09-96	11-11-96	02-24-97								
SHEET NO. ⇩											
3	A	B	C								
4	A	B	C								
5	A	A	B								
6	A	A	B								
7	A	A	B								
8	A	B	C								
9	A	A	B								
10	A	A	B								
11	A	A	B								
12	A	A	B								
13	A	A	B								
14	A	A	B								
15	A	B	C								
16	A	A	B								
17	A	B	C								
18	A	A	B								
19	A	A	B								
20	A	A	B								
21	A	A	B								
22	A	A	B								
23	A	A	B								
24	A	A	B								

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APPROVALS	NAME	DATE
EE		
PE		2-24-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

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100298

REVISION	C	TITLE: PWA; CT1610 MAIN	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	02-24-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	TLM

REVISION CONTROL INFORMATION

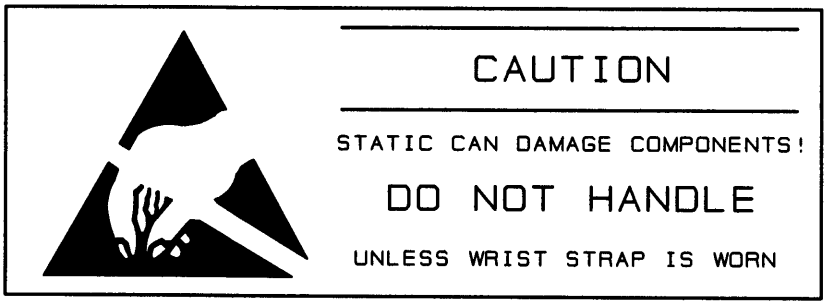
NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-24	A	INITIAL RELEASE
TOM SZERENCSE	1-4, 8, 15, 17	B	INITIAL RELEASE OF 100298-2. RESORTED PART NUMBERS TO MATCH AS400 BILL. R107 AND R207 WERE C 9785-4.
TOM SZERENCSE	1-24	C	INITIAL RELEASE OF 100298-3. C155 & C255 WERE 22MF 50V. R115 & R215 WERE 274K, R116 & R216 WERE 9.53K, R333 & R433 WERE 665, R335 & R435 WERE 1MOHM, C1 WAS C 3913-8, R336 & R436 WERE 220, J800 WAS D 8681-5, J801 WAS D8680-7, C170 & C270 WERE 0.0047, C155 & C255 WERE 4.7 63V LYTIC, U100 & U200 WERE C 7558-7. ADDED C171, C172, C271, C272 100MFD 25V ELECTROLYTICS. ADDED C173 AND C273 10MFD 16V ELECTROLYTICS. ADDED R371 & R471 10KOHM 1/4W. ADDED D135 & D235 1N961B. ADDED D133, D134, D233 AND D234 1N4148.

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 100299.
2. PWB PART NUMBER 100291-2.
3. PWA PART NUMBER 100298-3.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102A, U104A, U202A AND U204A ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.



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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 3 CONT. ON SHEET 4	REV
PROJ.	D360		100298		C

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	6	R159,R259,R336,R367,R436,
			R467
A10265-10021	10. KOHM .25W 1 MF T/R	20	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291,R337,R371,R437,R471,
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-14721	14.7 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-28701	287. OHM .25W 1% MF T/R	2	R333,R433
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-30921	30.9 KOHM .25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-49931	499KOHM .25W 1% MF T/R	2	R332,R432
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-76811	7.68 KOHM .25W 1% MF T/R	2	R108,R208
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270

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DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 4 CONT. ON SHEET 5	REV ©
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	52	D100,D101,D102,D103,D104,
			D105,D106,D107,D108,D109,
			D111,D112,D115,D116,D118,
			D119,D121,D122,D123,D124,
			D125,D127,D130,D131,D133,
			D134,D200,D201,D202,D203,
			D204,D205,D206,D207,D208,
			D209,D211,D212,D215,D216,
			D218,D219,D221,D222,D223,
			D224,D225,D227,D230,D231,
			D233,D234
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3549-0	DIODE, 1N961B 10V ZENER T/R	2	D135,D235
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4019-3	4.7UF 35V 10% TANT CAP	2	C155,C255
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	6	C152,C154,C169,C252,C254,

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 6	REV
PROJ.	D360		100298	CONT. ON SHEET 7	B

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10266-1031	10. KOHM .25W 5% CF T/R	18	R153,R156,R253,R256,R343,
			R345,R347,R348,R349,R352,
			R357,R443,R445,R447,R448,
			R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	10	R148,R151,R248,R251,R308,
			R325,R338,R408,R425,R438,
A10266-1051	1.0 MOHM .25W 5 CF T/R	3	R10,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-1831	18. KOHM .25W 5% CF T/R	4	R334,R370,R434,R470
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	4	R322,R335,R422,R435
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	2	R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C269
C 6804-6	.1UF 50V AXIAL CER T/R 104	24	C134,C135,C136,C137,C138,
			C139,C141,C144,C145,C160,
			C161,C234,C235,C236,C237,
			C238,C239,C241,C244,C245,
			C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	10	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	2	U104,U204
C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	2	U102,U202
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	4	U101,U108,U201,U208
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	2	U109,U209
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 7964-7	.22UF 100V AXIAL CER CAP T/R	4	C140,C146,C240,C246
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8750-9	10UF 16V NP ELECTROLYTIC	2	C173,C273
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	9	C109,C125,C132,C153,C209,
			C225,C232,C253,C6
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9238-4	.0027UF 100V AXIAL CER T/R	2	C170,C270
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 7 CONT. ON SHEET 8	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	4	C171,C172,C271,C272
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100291-2	PWB, CT10 MAIN, , ,	1	1
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101051-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200

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DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 8 CONT. ON SHEET 9	REV ©
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100291-2	PWB; CT10 MAIN, , ,	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 9	REV
PROJ.	D360		100298	CONT. ON SHEET 10	B

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C140	C 7964-7	.22UF 100V AXIAL CER CAP T/R	O 4
C141	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C146	C 7964-7	.22UF 100V AXIAL CER CAP T/R	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C154	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 6
C155	C 4019-3	4.7UF 35V 10% TANT CAP	J 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C169	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 6
C170	C 9238-4	.0027UF 100V AXIAL CER T/R	L 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C173	C 8750-9	10UF 16V NP ELECTROLYTIC	J 5
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 10	REV
PROJ.	D360		100298	CONT. ON SHEET 11	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240	C 7964-7	.22UF 100V AXIAL CER CAP T/R	A 4
C241	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C246	C 7964-7	.22UF 100V AXIAL CER CAP T/R	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C254	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 6
C255	C 4019-3	4.7UF 35V 10% TANT CAP	G 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3

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DRAWN	TLM	02-24-97	DWG. NO.	SHEET 11	REV
PROJ.	D360		100298	CONT. ON SHEET 12	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C269	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 6
C270	C 9238-4	.0027UF 100V AXIAL CER T/R	E 6
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C273	C 8750-9	10UF 16V NP ELECTROLYTIC	G 6
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 12 CONT. ON SHEET 13	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D134	C 3181-2	DIODE, 1N4148 T/R	J 2
D135	C 3549-0	DIODE, 1N961B 10V ZENER T/R	J 5
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
D235	C 3549-0	DIODE, 1N961B 10V ZENER T/R	G 5
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 13 CONT. ON SHEET 14	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6
J800	D 8680-7	CABLE, 10 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 6 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 14 CONT. ON SHEET 15	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	101051-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-76811	7.68 KOHM .25W 1% MF T/R	I 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 15	REV
PROJ.	D360		100298	CONT. ON SHEET 16	C

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO.	SHEET 16	REV
PROJ.	D360		100298	CONT. ON SHEET 17	B

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14721	14.7 KOHM .25W 1% MF T/R	O 4
R188	A10265-30921	30.9 KOHM .25W 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 17 CONT. ON SHEET 18	REV ©
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	101051-1	5K. , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-76811	7.68 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 18 CONT. ON SHEET 19	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14721	14.7 KOHM .25W 1% MF T/R	A 4
R288	A10265-30921	30.9 KOHM .25W 1% MF T/R	A 4
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 19 CONT. ON SHEET 20	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14721	14.7 KOHM .25W 1% MF T/R	P 4
R302	A10265-30921	30.9 KOHM .25W 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R332	A10265-49931	499KOHM .25W 1% MF T/R	L 6
R333	A10265-28701	287. OHM .25W 1% MF T/R	L 6
R334	A10266-1831	18. KOHM .25W 5% CF T/R	L 6
R335	A10266-2051	2.0 MOHM .25W 5 CF T/R	J 6
R336	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 6
R337	A10265-10021	10. KOHM .25W 1 MF T/R	J 6
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 20 CONT. ON SHEET 21	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R370	A10266-1831	18. KOHM .25W 5% CF T/R	L 6
R371	A10265-10021	10. KOHM .25W 1 MF T/R	J 5
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14721	14.7 KOHM .25W 1% MF T/R	B 4
R402	A10265-30921	30.9 KOHM .25W 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 21 CONT. ON SHEET 22	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R432	A10265-49931	499KOHM .25W 1% MF T/R	E 6
R433	A10265-28701	287. OHM .25W 1% MF T/R	E 6
R434	A10266-1831	18. KOHM .25W 5% CF T/R	E 6
R435	A10266-2051	2.0 MOHM .25W 5 CF T/R	G 6
R436	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 6
R437	A10265-10021	10. KOHM .25W 1 MF T/R	G 6
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 22 CONT. ON SHEET 23	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R470	A10266-1831	18. KOHM .25W 5% CF T/R	E 6
R471	A10265-10021	10. KOHM .25W 1 MF T/R	H 6
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U108	C 7444-0	LM393 DUAL COMPARATOR	K 6
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	C 6911-9	UPA75HA/UPA77HA DUAL XSISTOR	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	C 6910-1	UPA74HA/UPA76HA NPN XSISTOR	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U208	C 7444-0	LM393 DUAL COMPARATOR	F 6
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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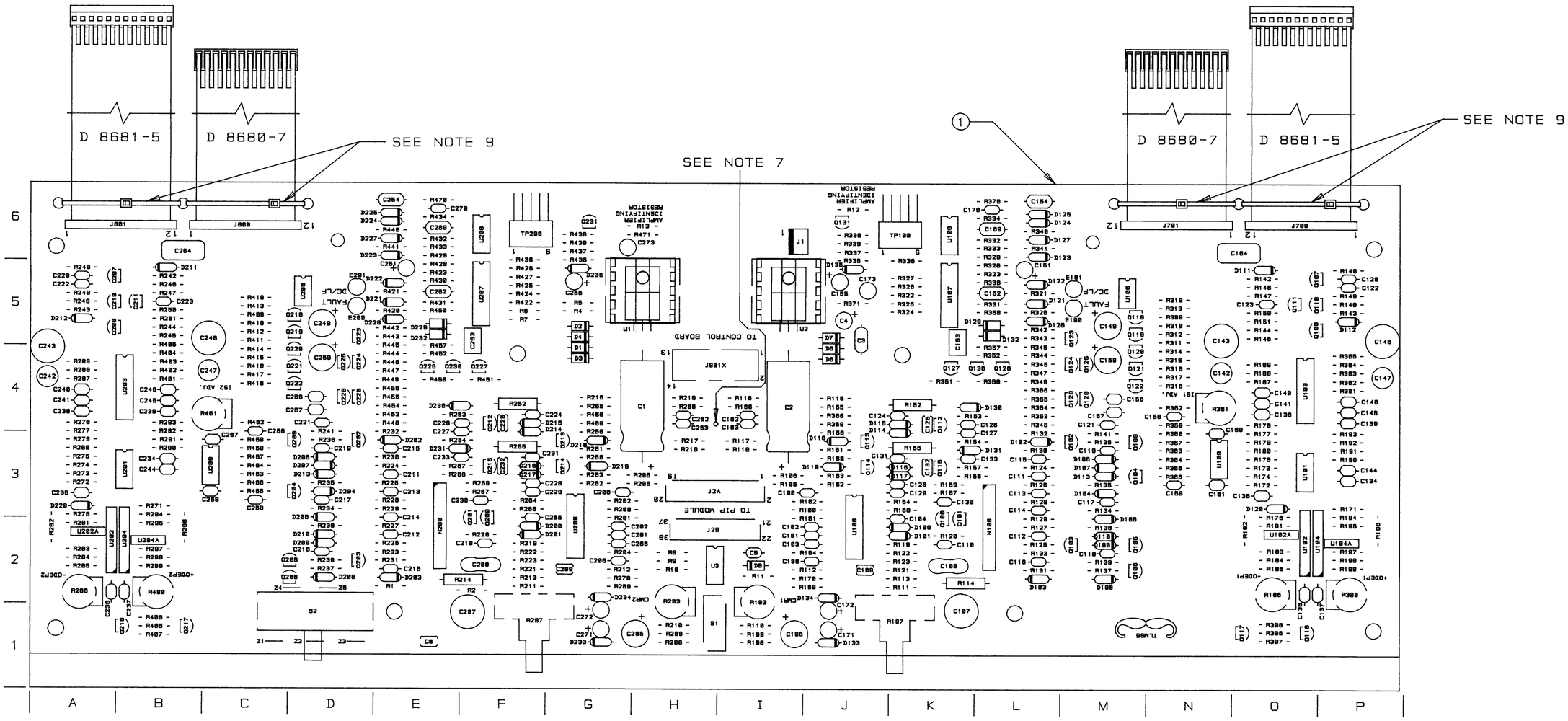
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 23 CONT. ON SHEET 24	REV B
PROJ.	D360				

DWG. NO. 100298 REV B

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	TLM	02-24-97	DWG. NO. 100298	SHEET 24 CONT. ON SHEET -	REV B
PROJ.	D360				

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE	PM	TS
		A	INITIAL RELEASE	07/30/96	TLM						
		B	R107 AND R207 WERE C 9788-4	11/08/96	TLM						
EAT# 96-272		C	C106 & C206 WERE 22pF. R115 & R215 WERE 274K. R116 & R216 WERE 9.53K. R333 & R433 WERE 665. R335 & R435 WERE 1M. R336 & R436 WERE 220 J800 WAS D 8681-5. J801 WAS D 8680-7. C170, C970 WERE .0047. U100,U200 WERE C 7656-7. C155 & C855 WERE 4.7 @35V LYTIC. C1 WAS C 3913-8. ADDED C171, 172, 271, 272 100MF 25V. ADDED C173 & C273 10MF 16V. ADDED R371 & R471 10K. ADDED D133, 134, 233, 234 1N4148. ADDED D135, 235 1N961B. DELETED R3 & NOTE 4. RENUMBERED NOTES 5 & 6.	02/24/97	TLM						

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

PRE-DRIVER

THE PIN NUMBERS WITHIN " ( ) " REPRESENT THE PIP2 STANDARD PINOUT.

CT1610 AMPLIFIER IDENTIFIER RESISTOR

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

TO OUTPUT BOARD CH1

LOW-SIDE ERROR AMP

ODEP

AUTO-STANDBY CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

TO DISPLAY BOARD J801X

INACTIVE
For Reference Use Only

PRINTS TO: G

DRAWN	TLM	08/06/96	APPROVED BY :		DO NOT SCALE PRINT	
CHECKED			ME		SUPERSEDES 100299 REV.B	
SCALE	NONE		EE	PW	08/30/96	E.C. EAT# 96-272
PROJ #	D360		PE	TS	08/30/96	DWG. NO. 100299 SHEET 1 OF 2 REV C
FILENAME:	1002990C.SCM		NEXT ASSEMBLY:			

CROWN INTERNATIONAL, INC.
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BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE LEVEL

LAST VOLTAGE AMP

PRE-DRIVER

UNUSED ELEMENTS

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

LOW-SIDE ERROR AMP

ODEP

AUTO-STANDBY CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

CT1610 AMPLIFIER IDENTIFIER RESISTOR

TO OUTPUT BOARD CH2

TO TRANSFORMER MOTOR

COMMON POWER SUPPLY

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND J800 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.

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SCHEMATIC; CT1610 MAIN

DRAWN	TLM	08/09/96	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100299 REV.B
SCALE	NONE		EE	PW 08/30/96	E.C. EAT# 96-272
PROJ #	D360		PE	TS 08/30/96	DWG. NO. 100299 SHEET 2 OF 2 REV C
FILENAME:	1002990C.SCH		NEXT ASSEMBLY:		

PRINTS TO: G

CT1610A Main Module 125413 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE 125413-1.	11-07-97	KLW	TLM			EB
		B	NOTE 2 WAS 125414-1. NOTE 3 WAS 125413-1 ADDED C175,C176,C275 AND C276. C122,C123,C222 AND C223 WERE 0.001UF.	12-16-97	JAW	KW			EB
EAD3922		C	REMOVED NOTE 9. RE-NUMBERED NOTES.	01-12-98	JAW	KW			EB
		D	CORRECTED CPN FOR C241 & C245 ON SH. 9.	01-26-98	JAW	KW			EB
		E	CORRECTED CPN FOR C240 & C246 ON SH. 9.	02-02-98	JAW	KW			EB
98E0129		F	R107 AND R207 WERE P/N 101051-1.	03-04-98	KLW	TLM			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125409.
2. PRINTED WIRING BOARD PART NUMBER 125414-3.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125413-2.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS TO: K

PWA; CT1610A MAIN

TOL. UNLESS SPECIFIED
X.XX - ± 0.020
X.XXX - ± 0.010
DRILLS - ± 0.003

DRAWN	KLW	11-07-97	APPROVED BY:			DO NOT SCALE PRINT
CHECKED	TLM	11-11-97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.N.
PROJ #	MD360D0		PE	EB	11-11-97	DWG. NO. SHEET 1 OF 22
NEXT ASSEMBLY						125413

REV (F)

INACTIVE
For Reference Use Only

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	9	R181,R184,R195,R198,R281,
			R284,R295,R298,R332
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10211	1.02K OHM 0.25W 1% MF T/R	4	R363,R365,R463,R465
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	6	R359,R362,R367,R459,R462,R467
A10265-14721	14.7K OHM 0.25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2K OHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1K OHM 0.25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-30921	30.9K OHM 0.25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665 OHM 0.25W 1% MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-76811	7.68K OHM 0.25W 1% MF T/R	2	R108,R208
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,
			R448,R449,R452,R457

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DRAWN	KLW	11-07-97	DWG. NO.	SHEET 2 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1531	15. KOHM .25W 5% CF T/R	2	R341,R441
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	4	R351,R358,R451,R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264
A10579-222KC	2200PF 100 10% POLY FILM T/A	4	C175,C176,C275,C276

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DRAWN	KLW	11-07-97	DWG. NO.	SHEET 3 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	59	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,D135
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D235,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	2	C152,C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	24	C134,C135,C136,C137,C138,
			C139,C141,C144,C145,C160,
			C161,C234,C235,C236,C237,
			C238,C239,C241,C244,C245,
			C267,C268,C3,C5

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DRAWN	KLW	11-07-97	DWG. NO.	SHEET 4 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	14	C126,C158,C159,C162,C163,
			C173,C174,C226,C258,C259,
			C262,C263,C273,C274
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7417-6	3300PF 100V 10% CAP	4	C122,C123,C222,C223
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	16	Q107,Q110,Q113,Q117,Q119,
			Q121,Q126,Q128,Q207,Q210,
			Q213,Q217,Q219,Q221,Q226,
			Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 7964-7	.22UF 100V AXIAL CER CAP T/R	4	C140,C146,C240,C246
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8803-6	.047UF 50V 10%X7R AXL CER T/	4	C141,C145,C241,C245
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM 0.50W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9615-3	680PF 100V 5% AXL CER NPO T/	1	C8
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 5 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELEC	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OP AMP SGS ONL	4	U100,U103,U200,U203
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
125414-3	PWB, CT'10A MAIN, , ,	1	1
125931-1	POT, 5KOHM 10% LNR 21 DNT	2	R107,R207

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 6 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125414-3	PWB, CT'10A MAIN, , ,	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 9615-3	680PF 100V 5% AXL CER NPO T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 7417-6	3300PF 100V 10% CAP	P 5
C123	C 7417-6	3300PF 100V 10% CAP	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 7 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140	C 7964-7	.22UF 100V AXIAL CER CAP T/R	O 4
C141	C 6804-6	.1 UF 50V AXIAL CER T/R 104	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6804-6	.1 UF 50V AXIAL CER T/R 104	P 4
C146	C 7964-7	.22UF 100V AXIAL CER CAP T/R	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELEC T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C173	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C174	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C175	A10579-222KC	2200PF 100 10% POLY FILM T/A	N 2
C176	A10579-222KC	2200PF 100 10% POLY FILM T/A	P 2
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 8 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 7417-6	3300PF 100V 10% CAP	A 5
C223	C 7417-6	3300PF 100V 10% CAP	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240	C 7964-7	.22UF 100V AXIAL CER CAP T/R	A 4
C241	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELEC T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C246	C 7964-7	.22UF 100V AXIAL CER CAP T/R	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELEC T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C273	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C274	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 2
C275	A10579-222KC	2200PF 100 10% POLY FILM T/A	A 2
C276	A10579-222KC	2200PF 100 10% POLY FILM T/A	B 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 9 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2
D135	C 3181-2	DIODE, 1N4148 T/R	K 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 10 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
D235	C 3181-2	DIODE, 1N4148 T/R	G 6
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 11 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, , 14PIN,	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 7458-0	2N4123 30V NPN T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 7458-0	2N4123 30V NPN T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 12 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 7458-0	2N4123 30V NPN T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4
Q210	C 7458-0	2N4123 30V NPN T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 13 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	125931-1	POT, 5KOHM 10% LIN 21 DNT	J 2
R108	A10265-76811	7.68 KOHM 0.25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 14 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R147	A10265-66501	665 OHM 0.25W 1% MF T/R	O 5
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14721	14.7 KOHM 0.25W 1% MF T/R	O 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 15 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R188	A10265-30921	30.9K OHM 0.25W 1% MF T/R	O 4
R189	A10265-19121	19.1K OHM 0.25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	125931-1	POT. 5KOHM 10% LIN 21 DNT	F 2
R208	A10265-76811	7.68K OHM 0.25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 16 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665 OHM 0.25W 1% MF T/R	B 5
R247	A10265-66501	665. OHM 0.25W 1% MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM 0.50W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 17 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14721	14.7K OHM 0.25W 1% MF T/R	A 4
R288	A10265-30921	30.9K OHM 0.25W 1% MF T/R	A 4
R289	A10265-19121	19.1K OHM 0.25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14721	14.7K OHM 0.25W 1% MF T/R	P 4
R302	A10265-30921	30.9K OHM 0.25W 1% MF T/R	P 4
R303	A10265-19121	19.1K OHM 0.25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 18 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R332	A10265-10001	100 OHM 0.25W 1% MF T/R	
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-1531	15. KOHM .25W 5% CF T/R	L 6
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R364	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R365	A10265-10211	1.02K OHM 0.25W 1% MF T/R	N 3
R366	A10265-18221	18.2K OHM 0.25W 1% MF T/R	N 3
R367	A10265-10R01	10 OHM 0.25W 1% MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14721	14.7K OHM 0.25W 1% MF T/R	B 4
R402	A10265-30921	30.9K OHM 0.25W 1% MF T/R	B 4
R403	A10265-19121	19.1K OHM 0.25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 19 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-1531	15. KOHM .25W 5% CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 20 OF 22	REV
PROJ.	MD360D0		125413		F

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R464	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R465	A10265-10211	1.02K OHM 0.25W 1% MF T/R	C 3
R466	A10265-18221	18.2K OHM 0.25W 1% MF T/R	C 3
R467	A10265-10R01	10 OHM 0.25W 1% MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		--- INSTALLED ON NEXT ASSEMBLY ---	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	101651-1	MC33079N QUAD OP AMP SGS ONLY	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	101651-1	MC33079N QUAD OP AMP SGS ONLY	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		--- OPEN ---	O 2
U104		--- OPEN ---	P 2
U202		--- OPEN ---	A 2
U204		--- OPEN ---	B 2
Z1		--- OPEN ---	C 1
Z2		--- OPEN ---	D 1
Z3		--- OPEN ---	D 1
Z4		--- OPEN ---	D 2
Z5		--- OPEN ---	D 2

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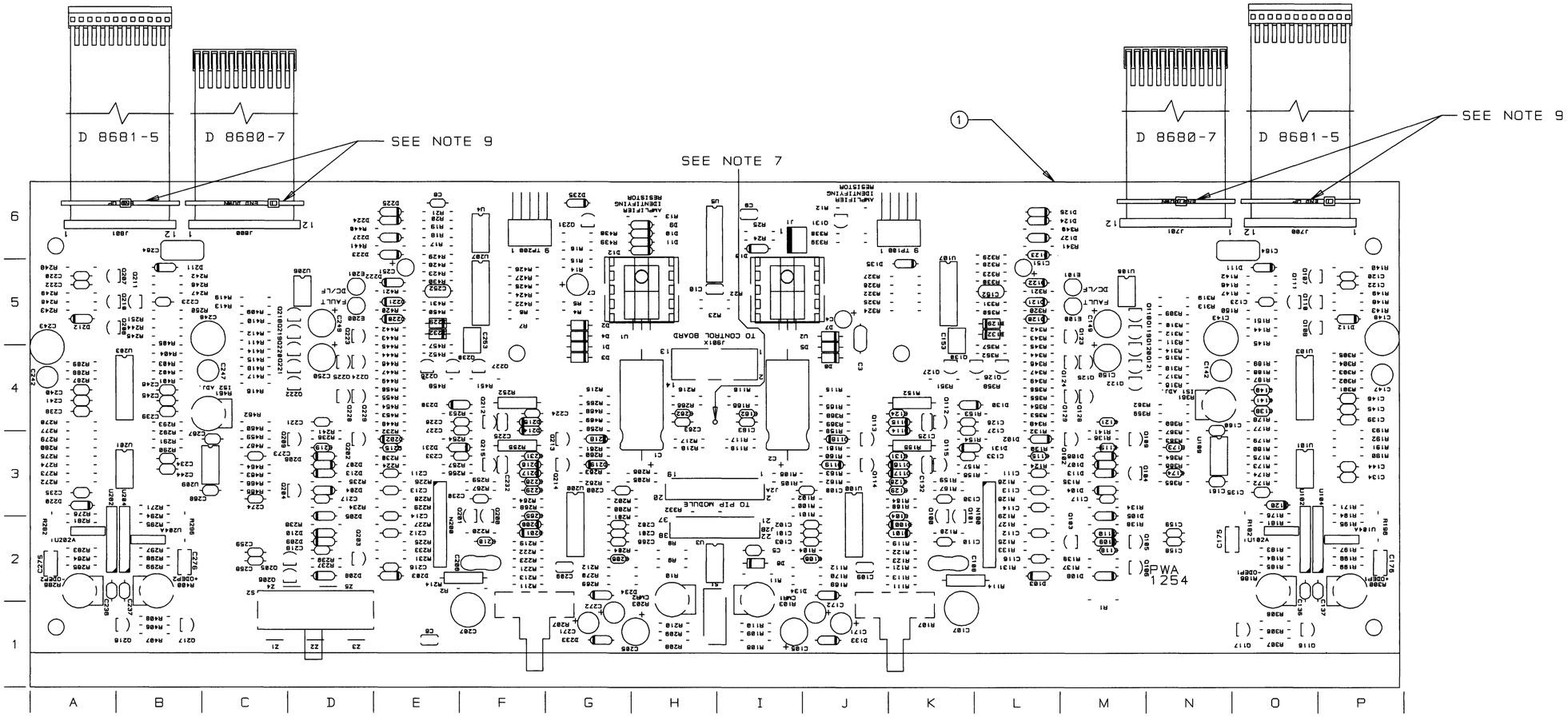
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO.	SHEET 21 OF 22	REV
PROJ.	MD360D0		125413		F

COMPONENT MAP

(COMPONENT SIDE VIEW)



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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-07-97	DWG. NO. 125413	SHEET 22 OF 22
PROJ.	MD360D0			REV F

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	INITIAL RELEASE	11-04-97	KLW	TLM			EB
		B	C115, 215, 116, 216 WERE 0.022UF. ADDED C175, C176, C275, & C276.	12-09-97	TLM	KW			

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

THE PIN NUMBERS WITHIN "()" REPRESENT THE PIP2 STANDARD PINOUT.

CT810 AMPLIFIER IDENTIFIER RESISTOR

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

LOW-SIDE ERROR AMP

TO OUTPUT BOARD CH1

TO OUTPUT BOARD CH1

TO DISPLAY BOARD

ODEP

ENERGY SAVING CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

INACTIVE
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PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, MAIN CT1610A

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	TLM	11-11-97	ME		SUPERSEDES 125409 REV.A
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE	EB 11-11-97	DWG. NO. 125409 SHEET 1 OF 2 REV (B)
FILENAME:	1254091B.SCM		NEXT ASSEMBLY:		

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE LEVEL

LAST VOLTAGE AMP

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

LOW-SIDE ERROR AMP

CT810 AMPLIFIER IDENTIFIER RESISTOR

TO OUTPUT BOARD CH2

TO OUTPUT BOARD CH2

TO TRANSFORMER MOTOR

ODEP

FAULT CIRCUIT

DC/LF PROTECT

PRE-DRIVER

COMMON POWER SUPPLY

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND J800 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.

PRINTS TO

G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, MAIN CT1610A

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE		DWG. NO. 125409 SHEET 2 OF 2 REV B
FILENAME:	1254092B.SCM		NEXT ASSEMBLY:		

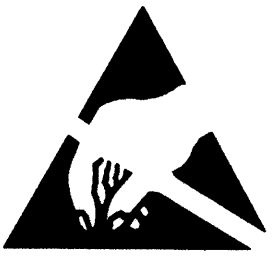
CT1610A Main Module 102789 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	06/09/97	TLM	KW		PW	TS
		B	CHG. WATT. ON R327,R427 FROM 1W TO .25W.	08/04/97	DWW				

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102769.
2. PWB PART NUMBER 102756-1.
3. PWA PART NUMBER 102789-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD. THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102, U104, U202 AND U204 ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS TO: K

PWA; CT1610A MAIN

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	TLM	06/09/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	06/10/97	ME		SUPERSEDES
SCALE	NONE		EE	PW 06/11/97	E.C.N.
PROJ #	MD360D0		PE	TS 06/12/97	DWG. NO. 102789 SHEET 1 CONT. ON SHEET 2 REV B
NEXT ASSEMBLY					

INACTIVE
For Reference Use Only

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467,
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-14721	14.7 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-30921	30.9 KOHM .25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-76811	7.68 KOHM .25W 1% MF T/R	2	R108,R208
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,

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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 2 CONT. ON SHEET 3	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			R448,R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264

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DRAWN	TLM	08-09-97	DWG. NO. 102789	SHEET 3 CONT. ON SHEET 4	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	57	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	2	C152,C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	24	C134,C135,C136,C137,C138,
			C139,C141,C144,C145,C160,
			C161,C234,C235,C236,C237,

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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 4 CONT. ON SHEET 5	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C238,C239,C241,C244,C245,
			C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	11	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
			C8
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 7964-7	.22UF 100V AXIAL CER CAP T/R	4	C140,C146,C240,C246
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101051-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
102756-1	PWB, CT'10A MAIN, , ,	1	1

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DRAWN	TLM	08-09-97	DWG. NO. 102789	SHEET 6 CONT. ON SHEET 7	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102756-1	PWB; CT'10A MAIN. . .	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 6811-1	100PF 200V 10% NPO AXL CER T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 7 CONT. ON SHEET 8	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140	C 7964-7	.22UF 100V AXIAL CER CAP T/R	O 4
C141	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C146	C 7964-7	.22UF 100V AXIAL CER CAP T/R	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO.	SHEET 8	REV
PROJ.	MD360D0		102789	CONT. ON SHEET 9	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240	C 7964-7	.22UF 100V AXIAL CER CAP T/R	A 4
C241	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C246	C 7964-7	.22UF 100V AXIAL CER CAP T/R	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 9 CONT. ON SHEET 10	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2

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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 10 CONT. ON SHEET 11	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6

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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 11 CONT. ON SHEET 12	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 12 CONT. ON SHEET 13	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 13 CONT. ON SHEET 14	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	101051-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-76811	7.68 KOHM .25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 14 CONT. ON SHEET 15	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14721	14.7 KOHM .25W 1% MF T/R	O 4
R188	A10265-30921	30.9 KOHM .25W 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 15 CONT. ON SHEET 16	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	101051-1	5K. , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-76811	7.68 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 16 CONT. ON SHEET 17	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14721	14.7 KOHM .25W 1% MF T/R	A 4
R288	A10265-30921	30.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-09-97	DWG. NO. 102789	SHEET 17 CONT. ON SHEET 18	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14721	14.7 KOHM .25W 1% MF T/R	P 4
R302	A10265-30921	30.9 KOHM .25W 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 18 CONT. ON SHEET 19	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14721	14.7 KOHM .25W 1% MF T/R	B 4
R402	A10265-30921	30.9 KOHM .25W 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 19 CONT. ON SHEET 20	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1

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DRAWN	TLM	08-09-97	DWG. NO. 102789	SHEET 20 CONT. ON SHEET 21	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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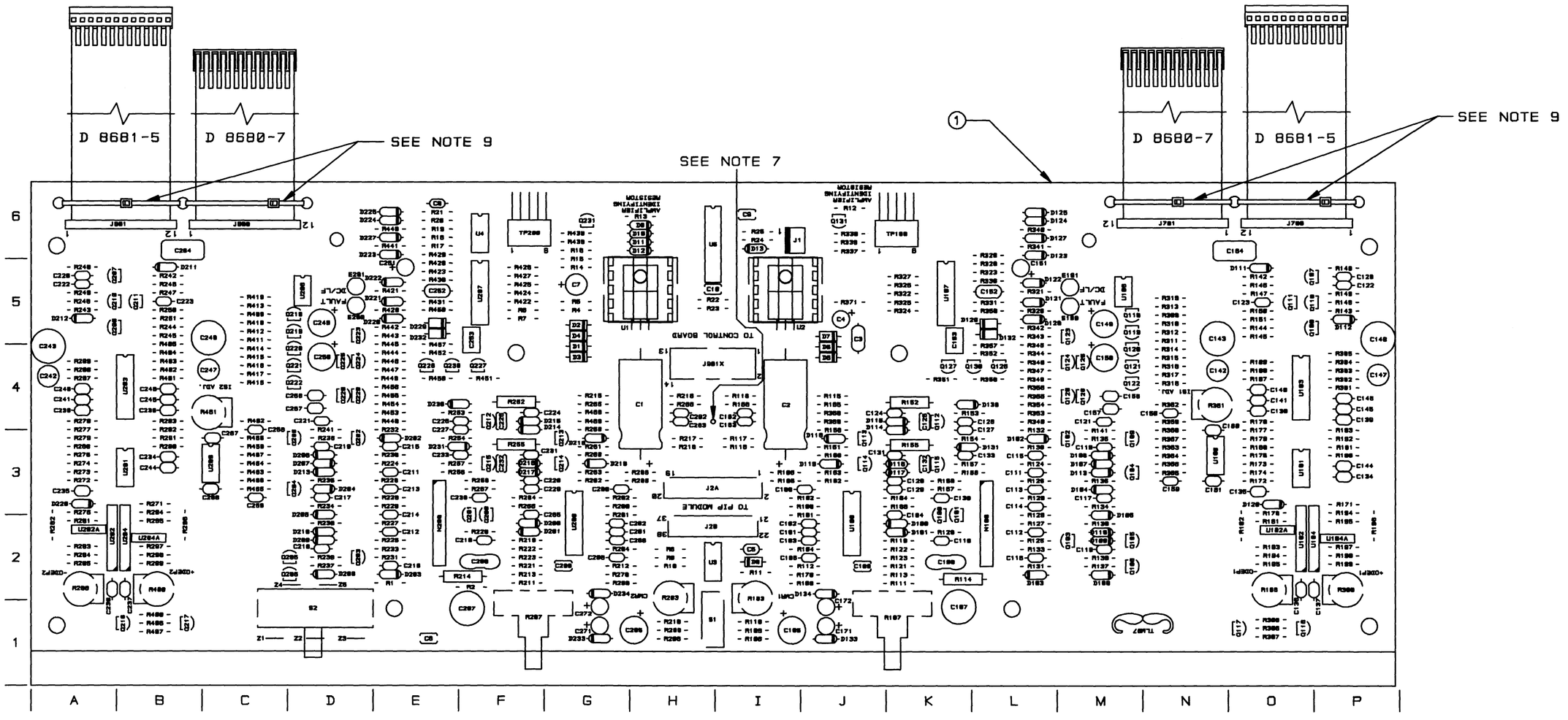
DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 21 CONT. ON SHEET 22	REV B
PROJ.	MD360D0				

DWG. NO. 102789 REV B

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	TLM	06-09-97	DWG. NO. 102789	SHEET 22	REV B
PROJ.	MD360D0			CONT. ON SHEET -	

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS
		A	INITIAL RELEASE	06/04/97	TLM	DK ME EE PE

BALANCED TO UNBALANCED INPUT STAGE

GAIN STAGE

LEVEL

LAST VOLTAGE AMP

TO PIP ADAPTER MODULE

THE PIN NUMBERS WITHIN "()" REPRESENT THE PIP2 STANDARD PINOUT.

CT1610 AMPLIFIER IDENTIFIER RESISTOR

PRE-DRIVER

HIGH-SIDE ERROR AMP

VOLTAGE TRANSLATOR STAGE

DIRTY GROUND

TO OUTPUT BOARD CH1

LOW-SIDE ERROR AMP

ODEP

ENERGY SAVING CIRCUIT

FAULT CIRCUIT

DC/LF PROTECT

TO DISPLAY BOARD J901X

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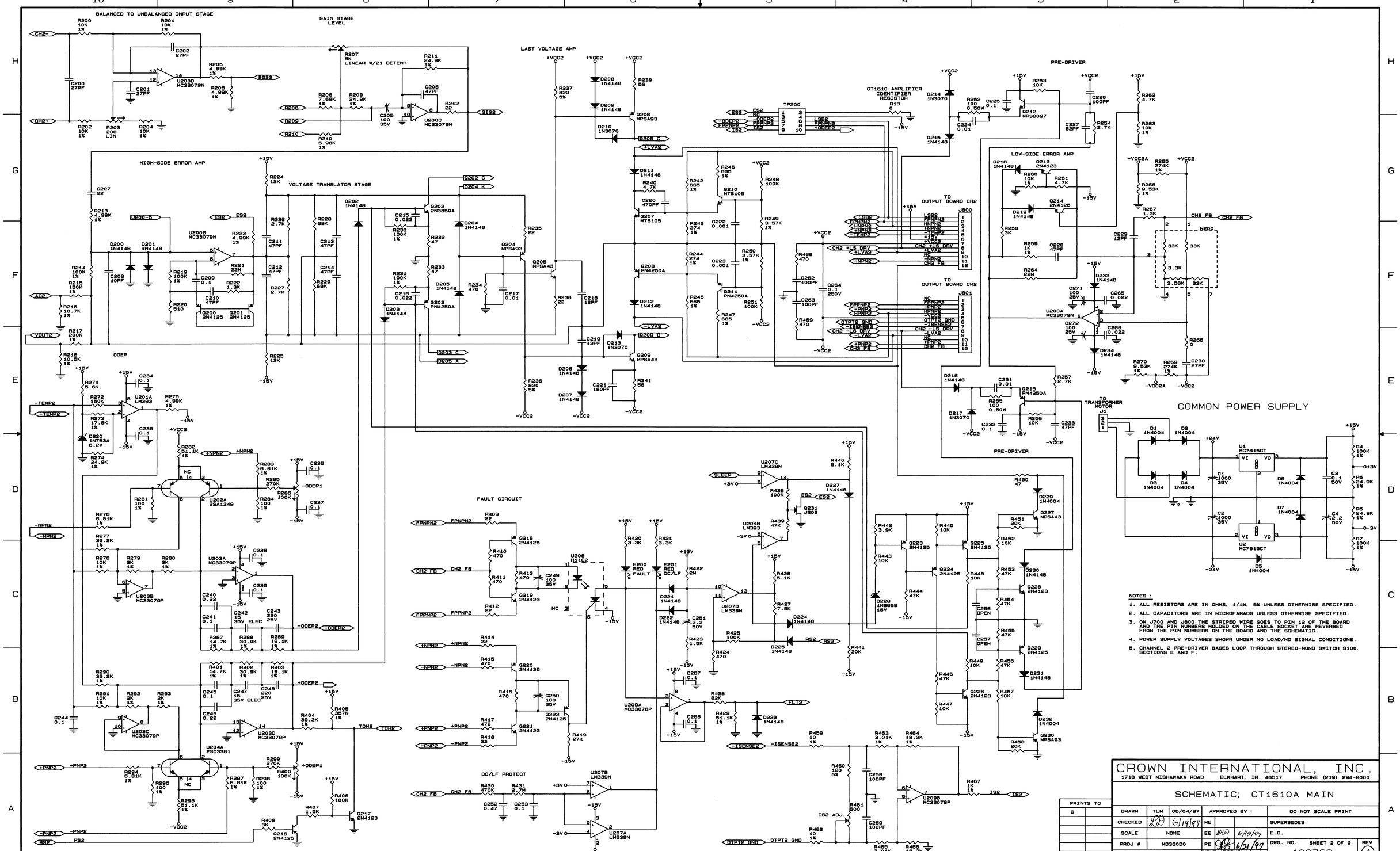
SCHEMATIC; CT1610A MAIN

DRAWN	TLM	06/04/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	DK	6/19/97	ME		SUPERSEDES
SCALE	NONE		EE	6/19/97	E.C.
PROJ #	MD360D0		PE	6/21/97	DWG. NO. 102769
FILENAME:	1027690A.SCM		NEXT ASSEMBLY:		SHEET 1 OF 2 REV A


BALANCED TO UNBALANCED INPUT STAGE
GAIN STAGE LEVEL
LAST VOLTAGE AMP
PRE-DRIVER
HIGH-SIDE ERROR AMP
VOLTAGE TRANSLATOR STAGE
LOW-SIDE ERROR AMP
CT1610 AMPLIFIER IDENTIFIER RESISTOR
TO OUTPUT BOARD CH2
TO TRANSFORMER MOTOR
ODEP
FAULT CIRCUIT
DC/LF PROTECT
COMMON POWER SUPPLY
CH2+
CH2-
VOUT2
AO2
-TEMP2
+TEMP2
-NPN2
+NPN2
-PNP2
+PNP2
RS2
IS2
TDH2
CH2 FB
FLT2
-ISENSE2
OTPT2 GND
IS2 ADJ.
U200D MC33079N
U200B MC33079N
U200A MC33079N
U201A LM393
U202A 2SA1349
U203A MC33079P
U203B MC33079P
U203C MC33079P
U203D MC33079P
U204A 2SC3381
U205 H11C2
U207A LM339N
U207B LM339N
U207C LM339N
U208A LM393
U209A MC33078P
U209B MC33078P
U200C MC33079N
TP200
J800
J801
J1
U1 MC7815CT
U2 MC7915CT
Q200 2N4125
Q201 2N4125
Q202 2N3859A
Q203 PN4250A
Q204 MPSA93
Q205 MPSA43
Q206 MPSA93
Q207 MTS105
Q208 PN4250A
Q209 MPSA43
Q210 MTS105
Q211 PN4250A
Q212 MPSA93
Q213 2N4123
Q214 2N4125
Q215 PN4250A
Q216 2N4125
Q217 2N4123
Q218 2N4123
Q219 2N4123
Q220 2N4125
Q221 2N4123
Q222 2N4125
Q223 2N4125
Q224 2N4125
Q225 2N4125
Q226 2N4123
Q227 MPSA43
Q228 2N4123
Q229 2N4125
Q230 MPSA93
Q231 J202
Q232 2N4004
NOTES :
1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. ON J700 AND J800 THE STRIPED WIRE GOES TO PIN 12 OF THE BOARD AND THE PIN NUMBERS MOLDED ON THE CABLE SOCKET ARE REVERSED FROM THE PIN NUMBERS ON THE BOARD AND THE SCHEMATIC.
4. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD/NO SIGNAL CONDITIONS.
5. CHANNEL 2 PRE-DRIVER BASES LOOP THROUGH STEREO-MONO SWITCH S100, SECTIONS E AND F.
CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000
SCHEMATIC; CT1610A MAIN
PRINTS TO
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DRAWN TLM 06/04/97 APPROVED BY : DO NOT SCALE PRINT
CHECKED 6/19/97 ME SUPERSEDES
SCALE NONE EE 6/19/97 E.C.
PROJ # M03600D0 PE 6/21/97 DWG. NO. SHEET 2 OF 2 REV
FILENAME: 102769A.SCH NEXT ASSEMBLY: 102769 A

CT1610A Main Module (Dual Pot) Information On Following Pages
Documentation, Component Map

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	09/25/97	DWW	JLM			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102769.
2. PWB PART NUMBER 125266-1.
3. PWA PART NUMBER 125275-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. INSERT 8 PIN IC SOCKET (C 3451-9) AT REFERENCE DESIGNATION LOCATION U3. IC IS INSTALLED ON A LATER ASSEMBLY.
7. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON THE COMPONENT MAP.
8. INSTALL HEATSINK (C 9494-3) AT REFERENCE DESIGNATION LOCATIONS U1 AND U2.
9. INSTALL CABLE TIE (C 8812-7) AT REFERENCE DESIGNATION LOCATIONS J700, J701, J800 AND J801.
   9A. USE A 0.25" DIAMETER ROD AS A GAUGE TO CHECK THE TIGHTNESS OF THE CABLES.
   ON THE COMPONENT SIDE PRESS THE CABLE AGAINST THE BOARD, THE GAUGE SHOULD NOT FIT UNDER THE CABLE TIE.
10. U102, U104, U202 AND U204 ARE ALTERNATE COMPONENT PARTS.
11. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE P.C. BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS TO: K

PWA; CT1610A MAIN (DUAL POT)

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	DWW	09/25/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JLM	9/25/97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	9-27-97	DWG. NO. 125275 SHEET 1 CONT. ON SHEET 2 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	8"	R12,R13,R168,R268
A10265-10001	100. OHM .25W 1 MF T/R	8	R181,R184,R195,R198,R281,
			R284,R295,R298
A10265-10011	1.0 KOHM .25W 1 MF T/R	5	R159,R25,R259,R367,R467,
A10265-10021	10. KOHM .25W 1 MF T/R	16	R100,R101,R102,R104,R160,
			R163,R178,R191,R200,R201,
			R202,R204,R260,R263,R278,
			R291
A10265-10031	100. KOHM .25W 1 MF T/R	10	R114,R119,R130,R131,R214,
			R219,R230,R231,R4,R7
A10265-10521	10.5KOHM .25W 1% MF T/R	2	R118,R218
A10265-10721	10.7KOHM .25W 1% MF T/R	2	R116,R216
A10265-10R01	10.0 OHM .25W 1 MF T/R	4	R359,R362,R459,R462
A10265-14721	14.7 KOHM .25W 1% MF T/R	4	R187,R287,R301,R401
A10265-15031	150 KOHM .25 1% MF T/R	2	R115,R215
A10265-17821	17.8KOHM .25W 1% MF T/R	2	R173,R273
A10265-18221	18.2KOHM .25W 1% MF T/R	4	R364,R366,R464,R466
A10265-19121	19.1KOHM .25W 1% MF T/R	4	R189,R289,R303,R403
A10265-20011	2.0 KOHM .25W 1% MF T/R	8	R179,R180,R192,R193,R279,
			R280,R292,R293
A10265-20031	200.KOHM .25W 1 MF T/R	2	R117,R217
A10265-24921	24.9 KOHM .25W 1% MF T/R	8	R109,R111,R174,R209,R211,
			R274,R5,R6
A10265-27401	274. OHM .25W 1% MF T/R	4	R143,R144,R243,R244
A10265-27431	274.KOHM .25W 1% MF T/R	4	R165,R169,R265,R269
A10265-30111	3.01KOHM .25W 1 MF T/R	4	R363,R365,R463,R465
A10265-30921	30.9 KOHM .25W 1% MF T/R	4	R188,R288,R302,R402
A10265-33221	33.2KOHM .25W 1% MF T/R	4	R177,R190,R277,R290
A10265-35711	3.57KOHM .25W 1 MF T/R	4	R149,R150,R249,R250
A10265-35731	357.KOHM .25W 1 MF T/R	2	R305,R405
A10265-39221	39.2KOHM .25W 1% MF T/R	2	R304,R404
A10265-46421	46.4 KOHM .25W 1% MF T/R	1	R1
A10265-49911	4.99KOHM .25W 1 MF T/R	10	R105,R106,R113,R123,R175,
			R205,R206,R213,R223,R275,
A10265-51121	51.1 KOHM .25W 1% MF T/R	6	R182,R196,R282,R296,R329,
			R429
A10265-53621	53.6 KOHM .25W 1% MF T/R	1	R2
A10265-66501	665. OHM .25W 1 MF T/R	8	R142,R145,R146,R147,R242,
			R245,R246,R247
A10265-68111	6.81KOHM .25W 1% MF T/R	8	R176,R183,R194,R197,R276,
			R283,R294,R297
A10265-69811	6.98 KOHM .25W 1% MF T/R	2	R110,R210
A10265-76811	7.68 KOHM .25W 1% MF T/R	2	R108,R208
A10265-95311	9.53KOHM .25W 1% MF T/R	4	R166,R170,R266,R270
A10266-1031	10. KOHM .25W 5% CF T/R	19	R153,R156,R24,R253,R256,
			R343,R345,R347,R348,R349,
			R352,R357,R443,R445,R447,

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 2 CONT. ON SHEET 3	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			R448,R449,R452,R457
A10266-1041	100. KOHM .25W 5% CF25 T/R	12	R148,R151,R20,R21,R248,
			R251,R308,R325,R338,R408,
			R425,R438
A10266-1051	1.0 MOHM .25W 5 CF T/R	5	R10,R17,R22,R8,R9
A10266-1211	120. OHM .25W 5 CF T/R	2	R360,R460
A10266-1231	12.KOHM .25W 5% CF T/R	4	R124,R125,R224,R225
A10266-1321	1.3 KOHM .25W 5 CF T/R	4	R122,R167,R222,R267
A10266-1521	1.5 KOHM .25W 5% CF T/R	4	R307,R323,R407,R423
A10266-1541	150. KOHM .25W 5% CF T/R	2	R172,R272
A10266-2031	20. KOHM .25W 5 CF T/R	6	R341,R351,R358,R441,R451,
			R458
A10266-2051	2.0 MOHM .25W 5 CF T/R	3	R23,R322,R422
A10266-2201	22.0 OHM .25W 5 CF T/R	6	R112,R135,R138,R212,R235,
			R238
A10266-2421	2.4 KOHM .25W 5 CF T/R	2	R18,R19
A10266-2721	2.7 KOHM .25W 5 CF T/R	8	R126,R127,R154,R157,R226,
			R227,R254,R257
A10266-2731	27. KOHM .25W 5 CF T/R	2	R319,R419
A10266-2741	270. KOHM .25W 5% CF25 T/R	4	R185,R199,R285,R299
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R331,R431
A10266-3021	3.0 KOHM .25W 5 CF T/R	4	R158,R258,R306,R406
A10266-3321	3.3 KOHM .25W 5% CF T/R	4	R320,R321,R420,R421
A10266-3921	3.9 KOHM .25W 5% CF T/R	4	R14,R15,R342,R442
A10266-4701	47.0 OHM .25W 5 CF T/R	6	R132,R133,R232,R233,R350,
			R450
A10266-4711	470. OHM .25W 5% CF T/R	20	R134,R234,R310,R311,R313,
			R315,R316,R317,R324,R368,
			R369,R410,R411,R413,R415,
			R416,R417,R424,R468,R469,
A10266-4721	4.7 KOHM .25W 5% CF T/R	6	R140,R161,R162,R240,R261,
			R262
A10266-4731	47. KOHM .25W 5% CF25 T/R	14	R339,R344,R346,R353,R354,
			R355,R356,R439,R444,R446,
			R453,R454,R455,R456
A10266-4741	470. KOHM .25W 5% CF T/R	2	R330,R430
A10266-5111	510. OHM .25W 5 CF T/R	2	R120,R220
A10266-5121	5.1 KOHM .25W 5 CF T/R	4	R326,R340,R426,R440
A10266-5601	56.0 OHM .25W 5% CF T/R	4	R139,R141,R239,R241
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R171,R271
A10266-5641	560. KOHM .25W 5% CF T/R	1	R16
A10266-6831	68. KOHM .25W 5% CF T/R	4	R128,R129,R228,R229
A10266-7521	7.5 KOHM .25W 5% CF T/R	2	R327,R427
A10266-8211	820. OHM .25W 5% CF T/R	4	R136,R137,R236,R237
A10266-8231	82. KOHM .25W 5% CF T/R	2	R328,R428
A10266-9111	910. OHM .25W 5 CF T/R	1	R11
A10434-104JD	.1UF 250V 5% MTL POLY FILM T	2	C164,C264

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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C 2851-1	RECTIFIER, 1N4004 SILICON T/	11	D1,D129,D132,D2,D229,D232,
			D3,D4,D5,D6,D7
C 3181-2	DIODE, 1N4148 T/R	57	D10,D100,D101,D102,D103,
			D104,D105,D106,D107,D108,
			D109,D11,D111,D112,D115,
			D116,D118,D119,D12,D121,
			D122,D123,D124,D125,D127,
			D13,D130,D131,D133,D134,
			D200,D201,D202,D203,D204,
			D205,D206,D207,D208,D209,
			D211,D212,D215,D216,D218,
			D219,D221,D222,D223,D224,
			D225,D227,D230,D231,D233,
			D234,D9
C 3451-9	IC SOCKET, 8PIN DIP 2-640463	1	U3X
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D128,D228
C 3578-9	MPSA93 200V PNP T/R	6	Q104,Q106,Q130,Q204,Q206,
			Q230
C 3625-8	2N4125 30V PNP T/R	22	Q100,Q101,Q114,Q116,Q118,
			Q120,Q122,Q123,Q124,Q125,
			Q129,Q200,Q201,Q214,Q216,
			Q218,Q220,Q222,Q223,Q224,
			Q225,Q229
C 3786-8	MPS4250A 40V PNP T/R	8	Q103,Q108,Q111,Q115,Q203,
			Q208,Q211,Q215
C 3810-6	MPSA42 300V NPN T/R	6	Q105,Q109,Q127,Q205,Q209,
			Q227
C 4303-1	1000UF 35V AXIAL CAP	2	C1,C2
C 4345-2	LM339N VOLT COMPARATOR	2	U107,U207
C 5061-4	DIODE, 1N3070 10K/T&R	8	D110,D113,D114,D117,D210,
			D213,D214,D217
C 5062-2	100KOHM LINEAR TRIMPOT	4	R186,R286,R300,R400
C 5082-0	DIODE, 1N4733A 5.1V ZENER T	1	D8
C 5095-2	MC7815CT +15V. REG	1	U1
C 5096-0	MC7915CT -15V. REG	1	U2
C 5215-6	22. MOHM .25W 5 THICK FILM T	4	R121,R164,R221,R264
C 5311-3	22UF 50V 20% NP VERT T/A	2	C107,C207
C 5362-6	2.2UF 50V VERT ELECT T/A	3	C151,C251,C4
C 5891-4	MTS105 THERMAL SENSE T/R	4	Q107,Q110,Q207,Q210
C 6048-0	500 OHM PIHER TRIM	2	R361,R461
C 6411-0	H11C2 OPTO SCR	2	U106,U206
C 6564-6	10P DBLROW UNSHRD HDR 87230-	2	TP100,TP200
C 6781-6	6P3T MONO/STEREO SWITCH	1	S2
C 6802-0	.47UF 50V AXIAL CER T/R 474	2	C152,C252
C 6804-6	.1UF 50V AXIAL CER T/R 104	24	C134,C135,C136,C137,C138,
			C139,C141,C144,C145,C160,
			C161,C234,C235,C236,C237,

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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
			C238,C239,C241,C244,C245,
			C267,C268,C3,C5
C 6805-3	.022UF 100V AXIALCER T/R 223	8	C103,C104,C115,C116,C215,
			C216,C265,C266
C 6806-1	.01UF 100V AXIAL CER T/R 103	6	C117,C124,C131,C217,C224,
			C231
C 6807-9	.001UF 100V 10% AXL CER T/R	4	C122,C123,C222,C223
C 6808-7	470.PF 100V 5% NPO AXL CER T	2	C120,C220
C 6810-3	180PF 100V AXIAL CER T/R 181	2	C121,C221
C 6811-1	100PF 200V 10% NPO AXL CER T	11	C126,C158,C159,C162,C163,
			C226,C258,C259,C262,C263,
			C8
C 6812-9	47PF 200V 10% NPO AXL CER	16	C106,C110,C111,C112,C113,
			C114,C128,C133,C206,C210,
			C211,C212,C213,C214,C228,
			C233
C 6813-7	27PF 200V 10% NPO AXIAL CER	8	C100,C101,C102,C130,C200,
			C201,C202,C230
C 6814-5	12PF 200V AXIAL CER T/R 120	6	C118,C119,C129,C218,C219,
			C229
C 6950-7	82PF 200V 5% NPO AXIAL CER T	2	C127,C227
C 7444-0	LM393 DUAL COMPARATOR	2	U101,U201
C 7458-0	2N4123 30V NPN T/R	12	Q113,Q117,Q119,Q121,Q126,
			Q128,Q213,Q217,Q219,Q221,
			Q226,Q228
C 7526-4	3POS .1 CENTER MTA HEADER	1	J1
C 7558-7	MC33079P QUAD LOW NOISE OP A	2	U103,U203
C 7597-5	J202 N-CHANNEL JFET	2	Q131,Q231
C 7636-1	MC33078P DUAL LOW NOISE OP A	3	U109,U209,U4
C 7779-9	22. OHM .25W 5% FU/FP T/R	8	R309,R312,R314,R318,R409,
			R412,R414,R418
C 7960-5	DPDT 3POS PC SLIDE SWITCH	1	S1
C 7964-7	.22UF 100V AXIAL CER CAP T/R	4	C140,C146,C240,C246
C 8182-5	1N753A 6.2V .5W ZENER DIODE	2	D120,D220
C 8576-8	100UF 35V 10% ALUM ELECT T/A	6	C105,C149,C150,C205,C249,
			C250
C 8812-7	5.5" CABLE TIE	4	HW10,HW7,HW8,HW9
C 8836-6	100 OHM .5W 5% FU/FP T/R	4	R152,R155,R252,R255
C 8897-8	.1UF 100V 20% Z5U RAD CER T/	11	C10,C109,C125,C132,C153,
			C209,C225,C232,C253,C6,
			C9
C 9079-2	200.OHM TOP ADJ CERMET TRIMM	2	R103,R203
C 9464-6	10PF 100V 5% NPO RAD CER T/R	2	C108,C208
C 9494-3	HEATSINK, T0220 PLUG IN	2	U1X,U2X
C 9857-1	LED, RED T1 .1 LEAD SPACE T/	4	E100,E101,E200,E201
C10208-4	100.UF 25V 20% RAD ELECT T/R	5	C171,C172,C271,C272,C7,
C10570-7	20 PIN HDR PICOFLEX TIN	1	J2A

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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 5 CONT. ON SHEET 6	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
C10571-5	18 PIN HDR PICOFLEX TIN	1	J2B
C10587-1	220UF 25V 20% NP RAD ELECT T	4	C143,C148,C243,C248
C10588-9	15UF 35V 20% NP RAD ELECT T/	4	C142,C147,C242,C247
D 2961-7	SPS8010 60V NPN T/R	2	Q102,Q202
D 2962-5	MPSA18 45V NPN T/R	2	Q112,Q212
D 6082-8	RESISTOR NETWORK-C	2	N100,N200
D 8680-7	CABLE, 6 INCH 12 PIN MTA	2	J701,J800
D 8681-5	CABLE, 10 INCH 12 PIN MTA	2	J700,J801
100375-1	HDR, 14PIN, VERT, DOUBLE	1	J901X
101374-1	2SA1349 DUAL PNP 80V SIP	2	U102A,U202A
101375-1	2SC3381 DUAL NPN 80V SIP	2	U104A,U204A
101651-1	MC33079N QUAD OPAMP SGS ONLY	2	U100,U200
102754-1	CD4060 14 STAGE BIN CNTR/OSC	1	U5
125263-1	5KOHM 10% LNR 21 DNT POT .1	2	R107,R207
125266-1	PWB, CT'10A MAIN (DUAL POT)	1	1

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DRAWN	DWW	09/25/97
PROJ.	MD360D0	

DWG. NO. 125275

SHEET 6 CONT. ON SHEET 7

REV A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125266-1	PWB: CT'10A MAIN (DUAL POT)	
C1	C 4303-1	1000UF 35V AXIAL CAP	H 4
C2	C 4303-1	1000UF 35V AXIAL CAP	I 4
C3	C 6804-6	.1UF 50V AXIAL CER T/R 104	J 5
C4	C 5362-6	2.2UF 50V VERT ELECT T/A	J 5
C5	C 6804-6	.1UF 50V AXIAL CER T/R 104	I 2
C6	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	E 1
C7	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 5
C8	C 6811-1	100PF 200V 10% NPO AXL CER T/R	E 6
C9	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	I 6
C10	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	H 5
C100	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 3
C101	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C102	C 6813-7	27PF 200V 10% NPO AXIAL CER	J 2
C103	C 6805-3	.022UF 100V AXIALCER T/R 223	J 2
C104	C 6805-3	.022UF 100V AXIALCER T/R 223	K 3
C105	C 8576-8	100UF 35V 10% ALUM ELECT T/A	I 1
C106	C 6812-9	47PF 200V 10% NPO AXL CER	J 2
C107	C 5311-3	22UF 50V 20% NP VERT T/A	K 1
C108	C 9464-6	10PF 100V 5% NPO RAD CER T/R	K 2
C109	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	J 2
C110	C 6812-9	47PF 200V 10% NPO AXL CER	K 2
C111	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C112	C 6812-9	47PF 200V 10% NPO AXL CER	L 2
C113	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C114	C 6812-9	47PF 200V 10% NPO AXL CER	L 3
C115	C 6805-3	.022UF 100V AXIALCER T/R 223	L 3
C116	C 6805-3	.022UF 100V AXIALCER T/R 223	L 2
C117	C 6806-1	.01UF 100V AXIAL CER T/R 103	M 3
C118	C 6814-5	12PF 200V AXIAL CER T/R 120	M 2
C119	C 6814-5	12PF 200V AXIAL CER T/R 120	M 3
C120	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	P 5
C121	C 6810-3	180PF 100V AXIAL CER T/R 181	M 4
C122	C 6807-9	.001UF 100V 10% AXL CER T/R	P 5
C123	C 6807-9	.001UF 100V 10% AXL CER T/R	O 5
C124	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C125	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 4
C126	C 6811-1	100PF 200V 10% NPO AXL CER T/R	K 4
C127	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	K 4
C128	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C129	C 6814-5	12PF 200V AXIAL CER T/R 120	K 3
C130	C 6813-7	27PF 200V 10% NPO AXIAL CER	K 3
C131	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 3
C132	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 3
C133	C 6812-9	47PF 200V 10% NPO AXL CER	K 3
C134	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C135	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 3

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 7 CONT. ON SHEET 8	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C136	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 2
C137	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 2
C138	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C139	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C140	C 7964-7	.22UF 100V AXIAL CER CAP T/R	O 4
C141	C 6804-6	.1UF 50V AXIAL CER T/R 104	O 4
C142	C10588-9	15UF 35V 20% NP RAD ELECT T/R	N 4
C143	C10587-1	220UF 25V 20% NP RAD ELECT T/R	N 5
C144	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 3
C145	C 6804-6	.1UF 50V AXIAL CER T/R 104	P 4
C146	C 7964-7	.22UF 100V AXIAL CER CAP T/R	P 4
C147	C10588-9	15UF 35V 20% NP RAD ELECT T/R	P 4
C148	C10587-1	220UF 25V 20% NP RAD ELECT T/R	P 5
C149	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 5
C150	C 8576-8	100UF 35V 10% ALUM ELECT T/A	M 4
C151	C 5362-6	2.2UF 50V VERT ELECT T/A	L 5
C152	C 6802-0	.47UF 50V AXIAL CER T/R 474	L 5
C153	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	K 5
C156		DO NOT INSTALL	M 4
C157		DO NOT INSTALL	M 4
C158	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 4
C159	C 6811-1	100PF 200V 10% NPO AXL CER T/R	N 3
C160	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 4
C161	C 6804-6	.1UF 50V AXIAL CER T/R 104	N 3
C162	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C163	C 6811-1	100PF 200V 10% NPO AXL CER T/R	I 4
C164	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	O 6
C171	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C172	C10208-4	100.UF 25V 20% RAD ELECT T/R	J 1
C200	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 3
C201	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C202	C 6813-7	27PF 200V 10% NPO AXIAL CER	G 2
C205	C 8576-8	100UF 35V 10% ALUM ELECT T/A	H 1
C206	C 6812-9	47PF 200V 10% NPO AXL CER	G 2
C207	C 5311-3	22UF 50V 20% NP VERT T/A	F 1
C208	C 9464-6	10PF 100V 5% NPO RAD CER T/R	F 2
C209	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	G 2
C210	C 6812-9	47PF 200V 10% NPO AXL CER	F 2
C211	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C212	C 6812-9	47PF 200V 10% NPO AXL CER	E 2
C213	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C214	C 6812-9	47PF 200V 10% NPO AXL CER	E 3
C215	C 6805-3	.022UF 100V AXIALCER T/R 223	E 3
C216	C 6805-3	.022UF 100V AXIALCER T/R 223	E 2
C217	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 3
C218	C 6814-5	12PF 200V AXIAL CER T/R 120	D 2
C219	C 6814-5	12PF 200V AXIAL CER T/R 120	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 8 CONT. ON SHEET 9	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C220	C 6808-7	470.PF 100V 5% NPO AXL CER T/R	A 5
C221	C 6810-3	180PF 100V AXIAL CER T/R 181	D 4
C222	C 6807-9	.001UF 100V 10% AXL CER T/R	A 5
C223	C 6807-9	.001UF 100V 10% AXL CER T/R	B 5
C224	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 4
C225	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 4
C226	C 6811-1	100PF 200V 10% NPO AXL CER T/R	F 4
C227	C 6950-7	82PF 200V 5% NPO AXIAL CER T/R	F 4
C228	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C229	C 6814-5	12PF 200V AXIAL CER T/R 120	F 3
C230	C 6813-7	27PF 200V 10% NPO AXIAL CER	F 3
C231	C 6806-1	.01UF 100V AXIAL CER T/R 103	F 3
C232	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 3
C233	C 6812-9	47PF 200V 10% NPO AXL CER	F 3
C234	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C235	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C236	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C237	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C238	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C239	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C240	C 7964-7	.22UF 100V AXIAL CER CAP T/R	A 4
C241	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 4
C242	C10588-9	15UF 35V 20% NP RAD ELECT T/R	A 4
C243	C10587-1	220UF 25V 20% NP RAD ELECT T/R	A 4
C244	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C245	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 4
C246	C 7964-7	.22UF 100V AXIAL CER CAP T/R	B 4
C247	C10588-9	15UF 35V 20% NP RAD ELECT T/R	C 4
C248	C10587-1	220UF 25V 20% NP RAD ELECT T/R	C 5
C249	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 5
C250	C 8576-8	100UF 35V 10% ALUM ELECT T/A	D 4
C251	C 5362-6	2.2UF 50V VERT ELECT T/A	E 5
C252	C 6802-0	.47UF 50V AXIAL CER T/R 474	E 5
C253	C 8897-8	.1UF 100V 20% Z5U RAD CER T/R	F 5
C256		DO NOT INSTALL	D 4
C257		DO NOT INSTALL	D 4
C258	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 4
C259	C 6811-1	100PF 200V 10% NPO AXL CER T/R	C 3
C262	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C263	C 6811-1	100PF 200V 10% NPO AXL CER T/R	H 4
C264	A10434-104JD	.1UF 250V 5% MTL POLY FILM T/A	B 6
C265	C 6805-3	.022UF 100V AXIALCER T/R 223	F 3
C266	C 6805-3	.022UF 100V AXIALCER T/R 223	G 2
C267	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C268	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 3
C271	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1
C272	C10208-4	100.UF 25V 20% RAD ELECT T/R	G 1

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 9 CONT. ON SHEET 10	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D1	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D2	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D3	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D4	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 5
D5	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D6	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 4
D7	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	J 5
D8	C 5082-0	DIODE, 1N4733A 5.1V ZENER T/R	I 2
D9	C 3181-2	DIODE, 1N4148 T/R	H 6
D10	C 3181-2	DIODE, 1N4148 T/R	H 6
D11	C 3181-2	DIODE, 1N4148 T/R	H 6
D12	C 3181-2	DIODE, 1N4148 T/R	H 6
D13	C 3181-2	DIODE, 1N4148 T/R	I 6
D100	C 3181-2	DIODE, 1N4148 T/R	K 2
D101	C 3181-2	DIODE, 1N4148 T/R	K 2
D102	C 3181-2	DIODE, 1N4148 T/R	L 3
D103	C 3181-2	DIODE, 1N4148 T/R	L 2
D104	C 3181-2	DIODE, 1N4148 T/R	M 3
D105	C 3181-2	DIODE, 1N4148 T/R	M 3
D106	C 3181-2	DIODE, 1N4148 T/R	M 3
D107	C 3181-2	DIODE, 1N4148 T/R	M 3
D108	C 3181-2	DIODE, 1N4148 T/R	M 2
D109	C 3181-2	DIODE, 1N4148 T/R	M 2
D110	C 5061-4	DIODE, 1N3070 10K/T&R	M 2
D111	C 3181-2	DIODE, 1N4148 T/R	O 5
D112	C 3181-2	DIODE, 1N4148 T/R	P 5
D113	C 5061-4	DIODE, 1N3070 10K/T&R	M 3
D114	C 5061-4	DIODE, 1N3070 10K/T&R	K 4
D115	C 3181-2	DIODE, 1N4148 T/R	K 4
D116	C 3181-2	DIODE, 1N4148 T/R	K 3
D117	C 5061-4	DIODE, 1N3070 10K/T&R	K 3
D118	C 3181-2	DIODE, 1N4148 T/R	J 3
D119	C 3181-2	DIODE, 1N4148 T/R	J 3
D120	C 8182-5	1N753A 6.2V .5W ZENER DIODE	O 3
D121	C 3181-2	DIODE, 1N4148 T/R	L 5
D122	C 3181-2	DIODE, 1N4148 T/R	L 5
D123	C 3181-2	DIODE, 1N4148 T/R	L 6
D124	C 3181-2	DIODE, 1N4148 T/R	L 6
D125	C 3181-2	DIODE, 1N4148 T/R	L 6
D127	C 3181-2	DIODE, 1N4148 T/R	L 6
D128	C 3533-4	DIODE, 1N966B 16V ZENER T/R	L 5
D129	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D130	C 3181-2	DIODE, 1N4148 T/R	K 4
D131	C 3181-2	DIODE, 1N4148 T/R	K 3
D132	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	L 5
D133	C 3181-2	DIODE, 1N4148 T/R	J 1
D134	C 3181-2	DIODE, 1N4148 T/R	J 2

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 10 CONT. ON SHEET 11	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
D200	C 3181-2	DIODE, 1N4148 T/R	F 2
D201	C 3181-2	DIODE, 1N4148 T/R	F 2
D202	C 3181-2	DIODE, 1N4148 T/R	E 3
D203	C 3181-2	DIODE, 1N4148 T/R	E 2
D204	C 3181-2	DIODE, 1N4148 T/R	D 3
D205	C 3181-2	DIODE, 1N4148 T/R	D 3
D206	C 3181-2	DIODE, 1N4148 T/R	D 3
D207	C 3181-2	DIODE, 1N4148 T/R	D 3
D208	C 3181-2	DIODE, 1N4148 T/R	D 2
D209	C 3181-2	DIODE, 1N4148 T/R	D 2
D210	C 5061-4	DIODE, 1N3070 10K/T&R	D 2
D211	C 3181-2	DIODE, 1N4148 T/R	B 5
D212	C 3181-2	DIODE, 1N4148 T/R	A 5
D213	C 5061-4	DIODE, 1N3070 10K/T&R	D 3
D214	C 5061-4	DIODE, 1N3070 10K/T&R	F 4
D215	C 3181-2	DIODE, 1N4148 T/R	F 4
D216	C 3181-2	DIODE, 1N4148 T/R	F 3
D217	C 5061-4	DIODE, 1N3070 10K/T&R	F 3
D218	C 3181-2	DIODE, 1N4148 T/R	G 3
D219	C 3181-2	DIODE, 1N4148 T/R	G 3
D220	C 8182-5	1N753A 6.2V .5W ZENER DIODE	A 3
D221	C 3181-2	DIODE, 1N4148 T/R	E 5
D222	C 3181-2	DIODE, 1N4148 T/R	E 5
D223	C 3181-2	DIODE, 1N4148 T/R	E 6
D224	C 3181-2	DIODE, 1N4148 T/R	E 6
D225	C 3181-2	DIODE, 1N4148 T/R	E 6
D227	C 3181-2	DIODE, 1N4148 T/R	E 6
D228	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 5
D229	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D230	C 3181-2	DIODE, 1N4148 T/R	F 4
D231	C 3181-2	DIODE, 1N4148 T/R	F 3
D232	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 5
D233	C 3181-2	DIODE, 1N4148 T/R	G 1
D234	C 3181-2	DIODE, 1N4148 T/R	G 2
E100	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E101	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	M 5
E200	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
E201	C 9857-1	LED, RED T1 .1 LEAD SPACE T/R	D 5
HW7	C 8812-7	5.5" CABLE TIE	A 6
HW8	C 8812-7	5.5" CABLE TIE	C 6
HW9	C 8812-7	5.5" CABLE TIE	N 6
HW10	C 8812-7	5.5" CABLE TIE	P 6
J1	C 7526-4	3POS .1 CENTER MTA HEADER	I 6
J2A	C10570-7	20 PIN HDR PICOFLEX TIN	I 3
J2B	C10571-5	18 PIN HDR PICOFLEX TIN	I 2
J700	D 8681-5	CABLE, 10 INCH 12 PIN MTA	P 6
J701	D 8680-7	CABLE, 6 INCH 12 PIN MTA	N 6

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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 11 CONT. ON SHEET 12	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
J800	D 8680-7	CABLE, 6 INCH 12 PIN MTA	B 6
J801	D 8681-5	CABLE, 10 INCH 12 PIN MTA	A 6
J901X	100375-1	HDR, 14PIN, VERT, DOUBLE ROW	H 4
N100	D 6082-8	RESISTOR NETWORK-C	L 3
N200	D 6082-8	RESISTOR NETWORK-C	E 3
Q100	C 3625-8	2N4125 30V PNP T/R	K 2
Q101	C 3625-8	2N4125 30V PNP T/R	K 2
Q102	D 2961-7	SPS8010 60V NPN T/R	M 4
Q103	C 3786-8	MPS4250A 40V PNP T/R	M 2
Q104	C 3578-9	MPSA93 200V PNP T/R	M 3
Q105	C 3810-6	MPSA42 300V NPN T/R	M 2
Q106	C 3578-9	MPSA93 200V PNP T/R	M 2
Q107	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q108	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q109	C 3810-6	MPSA42 300V NPN T/R	M 4
Q110	C 5891-4	MTS105 THERMAL SENSE T/R	O 5
Q111	C 3786-8	MPS4250A 40V PNP T/R	O 5
Q112	D 2962-5	MPSA18 45V NPN T/R	K 4
Q113	C 7458-0	2N4123 30V NPN T/R	J 4
Q114	C 3625-8	2N4125 30V PNP T/R	J 3
Q115	C 3786-8	MPS4250A 40V PNP T/R	K 3
Q116	C 3625-8	2N4125 30V PNP T/R	O 1
Q117	C 7458-0	2N4123 30V NPN T/R	O 1
Q118	C 3625-8	2N4125 30V PNP T/R	M 5
Q119	C 7458-0	2N4123 30V NPN T/R	M 5
Q120	C 3625-8	2N4125 30V PNP T/R	M 4
Q121	C 7458-0	2N4123 30V NPN T/R	M 4
Q122	C 3625-8	2N4125 30V PNP T/R	M 4
Q123	C 3625-8	2N4125 30V PNP T/R	M 5
Q124	C 3625-8	2N4125 30V PNP T/R	M 4
Q125	C 3625-8	2N4125 30V PNP T/R	M 4
Q126	C 7458-0	2N4123 30V NPN T/R	L 4
Q127	C 3810-6	MPSA42 300V NPN T/R	K 4
Q128	C 7458-0	2N4123 30V NPN T/R	M 4
Q129	C 3625-8	2N4125 30V PNP T/R	M 4
Q130	C 3578-9	MPSA93 200V PNP T/R	L 4
Q131	C 7597-5	J202 N-CHANNEL JFET	J 6
Q200	C 3625-8	2N4125 30V PNP T/R	F 2
Q201	C 3625-8	2N4125 30V PNP T/R	F 2
Q202	D 2961-7	SPS8010 60V NPN T/R	D 4
Q203	C 3786-8	MPS4250A 40V PNP T/R	D 2
Q204	C 3578-9	MPSA93 200V PNP T/R	D 3
Q205	C 3810-6	MPSA42 300V NPN T/R	C 2
Q206	C 3578-9	MPSA93 200V PNP T/R	C 2
Q207	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q208	C 3786-8	MPS4250A 40V PNP T/R	A 5
Q209	C 3810-6	MPSA42 300V NPN T/R	D 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 12 CONT. ON SHEET 13	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q210	C 5891-4	MTS105 THERMAL SENSE T/R	A 5
Q211	C 3786-8	MPS4250A 40V PNP T/R	B 5
Q212	D 2962-5	MPSA18 45V NPN T/R	F 4
Q213	C 7458-0	2N4123 30V NPN T/R	G 4
Q214	C 3625-8	2N4125 30V PNP T/R	G 3
Q215	C 3786-8	MPS4250A 40V PNP T/R	F 3
Q216	C 3625-8	2N4125 30V PNP T/R	B 1
Q217	C 7458-0	2N4123 30V NPN T/R	B 1
Q218	C 3625-8	2N4125 30V PNP T/R	C 5
Q219	C 7458-0	2N4123 30V NPN T/R	C 5
Q220	C 3625-8	2N4125 30V PNP T/R	C 4
Q221	C 7458-0	2N4123 30V NPN T/R	C 4
Q222	C 3625-8	2N4125 30V PNP T/R	C 4
Q223	C 3625-8	2N4125 30V PNP T/R	D 5
Q224	C 3625-8	2N4125 30V PNP T/R	D 4
Q225	C 3625-8	2N4125 30V PNP T/R	D 4
Q226	C 7458-0	2N4123 30V NPN T/R	E 4
Q227	C 3810-6	MPSA42 300V NPN T/R	F 4
Q228	C 7458-0	2N4123 30V NPN T/R	D 4
Q229	C 3625-8	2N4125 30V PNP T/R	D 4
Q230	C 3578-9	MPSA93 200V PNP T/R	E 4
Q231	C 7597-5	J202 N-CHANNEL JFET	G 6
R1	A10265-46421	46.4 KOHM .25W 1% MF T/R	E 2
R2	A10265-53621	53.6 KOHM .25W 1% MF T/R	F 2
R4	A10265-10031	100. KOHM .25W 1 MF T/R	G 5
R5	A10265-24921	24.9 KOHM .25W 1% MF T/R	G 5
R6	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 5
R7	A10265-10031	100. KOHM .25W 1 MF T/R	F 5
R8	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R9	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R10	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 2
R11	A10266-9111	910. OHM .25W 5 CF T/R	I 2
R12	A10124-24	WIRE, #24 SOLID BUS	J 6
R13	A10124-24	WIRE, #24 SOLID BUS	H 6
R14	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 5
R15	A10266-3921	3.9 KOHM .25W 5% CF T/R	G 6
R16	A10266-5641	560. KOHM .25W 5% CF T/R	G 6
R17	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 6
R18	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R19	A10266-2421	2.4 KOHM .25W 5 CF T/R	E 6
R20	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R21	A10266-1041	100. KOHM .25W 5% CF25 T/R	E 6
R22	A10266-1051	1.0 MOHM .25W 5 CF T/R	H 5
R23	A10266-2051	2.0 MOHM .25W 5 CF T/R	H 5
R24	A10266-1031	10. KOHM .25W 5% CF T/R	I 6
R25	A10265-10011	1.0 KOHM .25W 1 MF T/R	I 6
R100	A10265-10021	10. KOHM .25W 1 MF T/R	J 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 13 CONT. ON SHEET 14	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R101	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R102	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R103	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	I 2
R104	A10265-10021	10. KOHM .25W 1 MF T/R	J 2
R105	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R106	A10265-49911	4.99KOHM .25W 1 MF T/R	I 3
R107	125263-1	5K, , 10%, LINEAR W/21 DETENT	J 2
R108	A10265-76811	7.68 KOHM .25W 1% MF T/R	I 1
R109	A10265-24921	24.9 KOHM .25W 1% MF T/R	I 1
R110	A10265-69811	6.98 KOHM .25W 1% MF T/R	I 1
R111	A10265-24921	24.9 KOHM .25W 1% MF T/R	K 2
R112	A10266-2201	22.0 OHM .25W 5 CF T/R	J 2
R113	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R114	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R115	A10265-15031	150 KOHM .25 1% MF T/R	J 4
R116	A10265-10721	10.7KOHM .25W 1% MF T/R	I 4
R117	A10265-20031	200.KOHM .25W 1 MF T/R	I 3
R118	A10265-10521	10.5KOHM .25W 1% MF T/R	I 3
R119	A10265-10031	100. KOHM .25W 1 MF T/R	K 2
R120	A10266-5111	510. OHM .25W 5 CF T/R	K 2
R121	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 2
R122	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 2
R123	A10265-49911	4.99KOHM .25W 1 MF T/R	K 2
R124	A10266-1231	12.KOHM .25W 5% CF T/R	L 3
R125	A10266-1231	12.KOHM .25W 5% CF T/R	L 2
R126	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 3
R127	A10266-2721	2.7 KOHM .25W 5 CF T/R	L 2
R128	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R129	A10266-6831	68. KOHM .25W 5% CF T/R	L 3
R130	A10265-10031	100. KOHM .25W 1 MF T/R	L 3
R131	A10265-10031	100. KOHM .25W 1 MF T/R	L 2
R132	A10266-4701	47.0 OHM .25W 5 CF T/R	L 4
R133	A10266-4701	47.0 OHM .25W 5 CF T/R	L 2
R134	A10266-4711	470. OHM .25W 5% CF T/R	M 3
R135	A10266-2201	22.0 OHM .25W 5 CF T/R	M 3
R136	A10266-8211	820. OHM .25W 5% CF T/R	M 3
R137	A10266-8211	820. OHM .25W 5% CF T/R	M 2
R138	A10266-2201	22.0 OHM .25W 5 CF T/R	M 2
R139	A10266-5601	56.0 OHM .25W 5% CF T/R	M 2
R140	A10266-4721	4.7 KOHM .25W 5% CF T/R	P 5
R141	A10266-5601	56.0 OHM .25W 5% CF T/R	M 4
R142	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R143	A10265-27401	274. OHM .25W 1% MF T/R	P 5
R144	A10265-27401	274. OHM .25W 1% MF T/R	O 5
R145	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R146	A10265-66501	665. OHM .25W 1 MF T/R	O 5
R147	A10265-66501	665. OHM .25W 1 MF T/R	O 5

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 14 CONT. ON SHEET 15	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R148	A10266-1041	100. KOHM .25W 5% CF25 T/R	P 5
R149	A10265-35711	3.57KOHM .25W 1 MF T/R	P 5
R150	A10265-35711	3.57KOHM .25W 1 MF T/R	O 5
R151	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 5
R152	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 4
R153	A10266-1031	10. KOHM .25W 5% CF T/R	K 4
R154	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R155	C 8836-6	100 OHM .5W 5% FU/FP T/R	K 3
R156	A10266-1031	10. KOHM .25W 5% CF T/R	K 3
R157	A10266-2721	2.7 KOHM .25W 5 CF T/R	K 3
R158	A10266-3021	3.0 KOHM .25W 5 CF T/R	J 4
R159	A10265-10011	1.0 KOHM .25W 1 MF T/R	K 3
R160	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R161	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R162	A10266-4721	4.7 KOHM .25W 5% CF T/R	J 3
R163	A10265-10021	10. KOHM .25W 1 MF T/R	J 3
R164	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	K 3
R165	A10265-27431	274.KOHM .25W 1% MF T/R	J 4
R166	A10265-95311	9.53KOHM .25W 1% MF T/R	I 4
R167	A10266-1321	1.3 KOHM .25W 5 CF T/R	K 3
R168	A10124-24	WIRE, #24 SOLID BUS	K 3
R169	A10265-27431	274.KOHM .25W 1% MF T/R	J 2
R170	A10265-95311	9.53KOHM .25W 1% MF T/R	J 2
R171	A10266-5621	5.6 KOHM .25W 5% CF T/R	P 3
R172	A10266-1541	150. KOHM .25W 5% CF T/R	O 3
R173	A10265-17821	17.8KOHM .25W 1% MF T/R	O 3
R174	A10265-24921	24.9 KOHM .25W 1% MF T/R	O 3
R175	A10265-49911	4.99KOHM .25W 1 MF T/R	O 3
R176	A10265-68111	6.81KOHM .25W 1% MF T/R	O 3
R177	A10265-33221	33.2KOHM .25W 1% MF T/R	O 4
R178	A10265-10021	10. KOHM .25W 1 MF T/R	O 4
R179	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R180	A10265-20011	2.0 KOHM .25W 1% MF T/R	O 3
R181	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R182	A10265-51121	51.1 KOHM .25W 1% MF T/R	O 2
R183	A10265-68111	6.81KOHM .25W 1% MF T/R	O 2
R184	A10265-10001	100. OHM .25W 1 MF T/R	O 2
R185	A10266-2741	270. KOHM .25W 5% CF25 T/R	O 2
R186	C 5062-2	100KOHM LINEAR TRIMPOT	O 2
R187	A10265-14721	14.7 KOHM .25W 1% MF T/R	O 4
R188	A10265-30921	30.9 KOHM .25W 1% MF T/R	O 4
R189	A10265-19121	19.1KOHM .25W 1% MF T/R	O 4
R190	A10265-33221	33.2KOHM .25W 1% MF T/R	P 3
R191	A10265-10021	10. KOHM .25W 1 MF T/R	P 3
R192	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 3
R193	A10265-20011	2.0 KOHM .25W 1% MF T/R	P 4
R194	A10265-68111	6.81KOHM .25W 1% MF T/R	P 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 15 CONT. ON SHEET 16	REV A
PROJ.	MD360D0				

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R195	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R196	A10265-51121	51.1 KOHM .25W 1% MF T/R	P 2
R197	A10265-68111	6.81KOHM .25W 1% MF T/R	P 2
R198	A10265-10001	100. OHM .25W 1 MF T/R	P 2
R199	A10266-2741	270. KOHM .25W 5% CF25 T/R	P 2
R200	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R201	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R202	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R203	C 9079-2	200.OHM TOP ADJ CERMET TRIMMER	H 1
R204	A10265-10021	10. KOHM .25W 1 MF T/R	G 2
R205	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R206	A10265-49911	4.99KOHM .25W 1 MF T/R	H 3
R207	125263-1	5K, , 10%, LINEAR W/21 DETENT	F 2
R208	A10265-76811	7.68 KOHM .25W 1% MF T/R	H 1
R209	A10265-24921	24.9 KOHM .25W 1% MF T/R	H 1
R210	A10265-69811	6.98 KOHM .25W 1% MF T/R	H 1
R211	A10265-24921	24.9 KOHM .25W 1% MF T/R	F 2
R212	A10266-2201	22.0 OHM .25W 5 CF T/R	G 2
R213	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R214	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R215	A10265-15031	150 KOHM .25 1% MF T/R	G 4
R216	A10265-10721	10.7KOHM .25W 1% MF T/R	H 4
R217	A10265-20031	200.KOHM .25W 1 MF T/R	H 3
R218	A10265-10521	10.5KOHM .25W 1% MF T/R	H 3
R219	A10265-10031	100. KOHM .25W 1 MF T/R	F 2
R220	A10266-5111	510. OHM .25W 5 CF T/R	F 2
R221	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 2
R222	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 2
R223	A10265-49911	4.99KOHM .25W 1 MF T/R	F 2
R224	A10266-1231	12.KOHM .25W 5% CF T/R	E 3
R225	A10266-1231	12.KOHM .25W 5% CF T/R	E 2
R226	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R227	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 2
R228	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R229	A10266-6831	68. KOHM .25W 5% CF T/R	E 3
R230	A10265-10031	100. KOHM .25W 1 MF T/R	E 3
R231	A10265-10031	100. KOHM .25W 1 MF T/R	E 2
R232	A10266-4701	47.0 OHM .25W 5 CF T/R	E 4
R233	A10266-4701	47.0 OHM .25W 5 CF T/R	E 2
R234	A10266-4711	470. OHM .25W 5% CF T/R	D 3
R235	A10266-2201	22.0 OHM .25W 5 CF T/R	D 3
R236	A10266-8211	820. OHM .25W 5% CF T/R	D 3
R237	A10266-8211	820. OHM .25W 5% CF T/R	D 2
R238	A10266-2201	22.0 OHM .25W 5 CF T/R	D 2
R239	A10266-5601	56.0 OHM .25W 5% CF T/R	D 2
R240	A10266-4721	4.7 KOHM .25W 5% CF T/R	A 5
R241	A10266-5601	56.0 OHM .25W 5% CF T/R	D 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 16 CONT. ON SHEET 17	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R242	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R243	A10265-27401	274. OHM .25W 1% MF T/R	A 5
R244	A10265-27401	274. OHM .25W 1% MF T/R	B 5
R245	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R246	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R247	A10265-66501	665. OHM .25W 1 MF T/R	B 5
R248	A10266-1041	100. KOHM .25W 5% CF25 T/R	A 5
R249	A10265-35711	3.57KOHM .25W 1 MF T/R	A 5
R250	A10265-35711	3.57KOHM .25W 1 MF T/R	B 5
R251	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 5
R252	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 4
R253	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R254	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R255	C 8836-6	100 OHM .5W 5% FU/FP T/R	F 3
R256	A10266-1031	10. KOHM .25W 5% CF T/R	E 3
R257	A10266-2721	2.7 KOHM .25W 5 CF T/R	E 3
R258	A10266-3021	3.0 KOHM .25W 5 CF T/R	G 4
R259	A10265-10011	1.0 KOHM .25W 1 MF T/R	F 3
R260	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R261	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R262	A10266-4721	4.7 KOHM .25W 5% CF T/R	G 3
R263	A10265-10021	10. KOHM .25W 1 MF T/R	G 3
R264	C 5215-6	22. MOHM .25W 5 THICK FILM T/R	F 3
R265	A10265-27431	274.KOHM .25W 1% MF T/R	G 4
R266	A10265-95311	9.53KOHM .25W 1% MF T/R	H 4
R267	A10266-1321	1.3 KOHM .25W 5 CF T/R	F 3
R268	A10124-24	WIRE, #24 SOLID BUS	F 3
R269	A10265-27431	274.KOHM .25W 1% MF T/R	G 2
R270	A10265-95311	9.53KOHM .25W 1% MF T/R	G 2
R271	A10266-5621	5.6 KOHM .25W 5% CF T/R	B 3
R272	A10266-1541	150. KOHM .25W 5% CF T/R	A 3
R273	A10265-17821	17.8KOHM .25W 1% MF T/R	A 3
R274	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 3
R275	A10265-49911	4.99KOHM .25W 1 MF T/R	A 3
R276	A10265-68111	6.81KOHM .25W 1% MF T/R	A 3
R277	A10265-33221	33.2KOHM .25W 1% MF T/R	A 4
R278	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R279	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R280	A10265-20011	2.0 KOHM .25W 1% MF T/R	A 3
R281	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R282	A10265-51121	51.1 KOHM .25W 1% MF T/R	A 2
R283	A10265-68111	6.81KOHM .25W 1% MF T/R	A 2
R284	A10265-10001	100. OHM .25W 1 MF T/R	A 2
R285	A10266-2741	270. KOHM .25W 5% CF25 T/R	A 2
R286	C 5062-2	100KOHM LINEAR TRIMPOT	A 2
R287	A10265-14721	14.7 KOHM .25W 1% MF T/R	A 4
R288	A10265-30921	30.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 17 CONT. ON SHEET 18	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R289	A10265-19121	19.1KOHM .25W 1% MF T/R	A 4
R290	A10265-33221	33.2KOHM .25W 1% MF T/R	B 3
R291	A10265-10021	10. KOHM .25W 1 MF T/R	B 3
R292	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R293	A10265-20011	2.0 KOHM .25W 1% MF T/R	B 4
R294	A10265-68111	6.81KOHM .25W 1% MF T/R	B 3
R295	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R296	A10265-51121	51.1 KOHM .25W 1% MF T/R	B 2
R297	A10265-68111	6.81KOHM .25W 1% MF T/R	B 2
R298	A10265-10001	100. OHM .25W 1 MF T/R	B 2
R299	A10266-2741	270. KOHM .25W 5% CF25 T/R	B 2
R300	C 5062-2	100KOHM LINEAR TRIMPOT	P 2
R301	A10265-14721	14.7 KOHM .25W 1% MF T/R	P 4
R302	A10265-30921	30.9 KOHM .25W 1% MF T/R	P 4
R303	A10265-19121	19.1KOHM .25W 1% MF T/R	P 4
R304	A10265-39221	39.2KOHM .25W 1% MF T/R	P 4
R305	A10265-35731	357.KOHM .25W 1 MF T/R	P 4
R306	A10266-3021	3.0 KOHM .25W 5 CF T/R	O 1
R307	A10266-1521	1.5 KOHM .25W 5% CF T/R	O 1
R308	A10266-1041	100. KOHM .25W 5% CF25 T/R	O 1
R309	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R310	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R311	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R312	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 5
R313	A10266-4711	470. OHM .25W 5% CF T/R	N 5
R314	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R315	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R316	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R317	A10266-4711	470. OHM .25W 5% CF T/R	N 4
R318	C 7779-9	22. OHM .25W 5% FU/FP T/R	N 4
R319	A10266-2731	27. KOHM .25W 5 CF T/R	N 5
R320	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R321	A10266-3321	3.3 KOHM .25W 5% CF T/R	L 5
R322	A10266-2051	2.0 MOHM .25W 5 CF T/R	K 5
R323	A10266-1521	1.5 KOHM .25W 5% CF T/R	L 5
R324	A10266-4711	470. OHM .25W 5% CF T/R	K 5
R325	A10266-1041	100. KOHM .25W 5% CF25 T/R	K 5
R326	A10266-5121	5.1 KOHM .25W 5 CF T/R	K 5
R327	A10266-7521	7.5 KOHM .25W 5% CF T/R	K 5
R328	A10266-8231	82. KOHM .25W 5% CF T/R	L 5
R329	A10265-51121	51.1 KOHM .25W 1% MF T/R	L 6
R330	A10266-4741	470. KOHM .25W 5% CF T/R	L 5
R331	A10266-2751	2.7 MOHM .25W 5% CF T/R	L 5
R338	A10266-1041	100. KOHM .25W 5% CF25 T/R	J 6
R339	A10266-4731	47. KOHM .25W 5% CF25 T/R	J 6
R340	A10266-5121	5.1 KOHM .25W 5 CF T/R	L 6
R341	A10266-2031	20. KOHM .25W 5 CF T/R	L 6

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 18 CONT. ON SHEET 19	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R342	A10266-3921	3.9 KOHM .25W 5% CF T/R	L 5
R343	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R344	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R345	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R346	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R347	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R348	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R349	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R350	A10266-4701	47.0 OHM .25W 5 CF T/R	L 5
R351	A10266-2031	20. KOHM .25W 5 CF T/R	K 4
R352	A10266-1031	10. KOHM .25W 5% CF T/R	L 4
R353	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R354	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R355	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R356	A10266-4731	47. KOHM .25W 5% CF25 T/R	L 4
R357	A10266-1031	10. KOHM .25W 5% CF T/R	L 5
R358	A10266-2031	20. KOHM .25W 5 CF T/R	L 4
R359	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R360	A10266-1211	120. OHM .25W 5 CF T/R	N 4
R361	C 6048-0	500 OHM PIHER TRIM	N 4
R362	A10265-10R01	10.0 OHM .25W 1 MF T/R	N 4
R363	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R364	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R365	A10265-30111	3.01KOHM .25W 1 MF T/R	N 3
R366	A10265-18221	18.2KOHM .25W 1% MF T/R	N 3
R367	A10265-10011	1.0 KOHM .25W 1 MF T/R	N 3
R368	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R369	A10266-4711	470. OHM .25W 5% CF T/R	J 4
R400	C 5062-2	100KOHM LINEAR TRIMPOT	B 2
R401	A10265-14721	14.7 KOHM .25W 1% MF T/R	B 4
R402	A10265-30921	30.9 KOHM .25W 1% MF T/R	B 4
R403	A10265-19121	19.1KOHM .25W 1% MF T/R	B 4
R404	A10265-39221	39.2KOHM .25W 1% MF T/R	B 4
R405	A10265-35731	357.KOHM .25W 1 MF T/R	B 5
R406	A10266-3021	3.0 KOHM .25W 5 CF T/R	B 1
R407	A10266-1521	1.5 KOHM .25W 5% CF T/R	B 1
R408	A10266-1041	100. KOHM .25W 5% CF25 T/R	B 1
R409	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R410	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R411	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R412	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 5
R413	A10266-4711	470. OHM .25W 5% CF T/R	C 5
R414	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4
R415	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R416	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R417	A10266-4711	470. OHM .25W 5% CF T/R	C 4
R418	C 7779-9	22. OHM .25W 5% FU/FP T/R	C 4

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 19 CONT. ON SHEET 20	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R419	A10266-2731	27. KOHM .25W 5 CF T/R	C 5
R420	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R421	A10266-3321	3.3 KOHM .25W 5% CF T/R	E 5
R422	A10266-2051	2.0 MOHM .25W 5 CF T/R	F 5
R423	A10266-1521	1.5 KOHM .25W 5% CF T/R	E 5
R424	A10266-4711	470. OHM .25W 5% CF T/R	F 5
R425	A10266-1041	100. KOHM .25W 5% CF25 T/R	F 5
R426	A10266-5121	5.1 KOHM .25W 5 CF T/R	F 5
R427	A10266-7521	7.5 KOHM .25W 5% CF T/R	F 5
R428	A10266-8231	82. KOHM .25W 5% CF T/R	E 5
R429	A10265-51121	51.1 KOHM .25W 1% MF T/R	E 6
R430	A10266-4741	470. KOHM .25W 5% CF T/R	E 5
R431	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 5
R438	A10266-1041	100. KOHM .25W 5% CF25 T/R	G 6
R439	A10266-4731	47. KOHM .25W 5% CF25 T/R	G 6
R440	A10266-5121	5.1 KOHM .25W 5 CF T/R	E 6
R441	A10266-2031	20. KOHM .25W 5 CF T/R	E 6
R442	A10266-3921	3.9 KOHM .25W 5% CF T/R	E 5
R443	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R444	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R445	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R446	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R447	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R448	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R449	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R450	A10266-4701	47.0 OHM .25W 5 CF T/R	E 5
R451	A10266-2031	20. KOHM .25W 5 CF T/R	F 4
R452	A10266-1031	10. KOHM .25W 5% CF T/R	E 4
R453	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R454	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R455	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R456	A10266-4731	47. KOHM .25W 5% CF25 T/R	E 4
R457	A10266-1031	10. KOHM .25W 5% CF T/R	E 5
R458	A10266-2031	20. KOHM .25W 5 CF T/R	E 4
R459	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 3
R460	A10266-1211	120. OHM .25W 5 CF T/R	C 3
R461	C 6048-0	500 OHM PIHER TRIM	C 4
R462	A10265-10R01	10.0 OHM .25W 1 MF T/R	C 4
R463	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R464	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R465	A10265-30111	3.01KOHM .25W 1 MF T/R	C 3
R466	A10265-18221	18.2KOHM .25W 1% MF T/R	C 3
R467	A10265-10011	1.0 KOHM .25W 1 MF T/R	C 3
R468	A10266-4711	470. OHM .25W 5% CF T/R	G 4
R469	A10266-4711	470. OHM .25W 5% CF T/R	G 4
S1	C 7960-5	DPDT 3POS PC SLIDE SWITCH	I 1
S2	C 6781-6	6P3T MONO/STEREO SWITCH	C 1

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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 20 CONT. ON SHEET 21	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
TP100	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	K 6
TP200	C 6564-6	10P DBLROW UNSHRD HDR 87230-5	F 6
U1	C 5095-2	MC7815CT +15V. REG	H 5
U1X	C 9494-3	HEATSINK, T0220 PLUG IN	H 5
U2	C 5096-0	MC7915CT -15V. REG	I 5
U2X	C 9494-3	HEATSINK, T0220 PLUG IN	I 5
U3		INSTALLED ON NEXT ASSEMBLY	H 2
U3X	C 3451-9	IC SOCKET, 8PIN DIP 2-640463-3	H 2
U4	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	F 6
U5	102754-1	CD4060 14 STAGE BIN CNTR/OSC	H 6
U100	101651-1	MC33079N QUAD OP AMP SGS ONLY	J 3
U101	C 7444-0	LM393 DUAL COMPARATOR	O 3
U102A	101374-1	2SA1349 DUAL PNP 80V SIP	O 2
U103	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	O 4
U104A	101375-1	2SC3381 DUAL NPN 80V SIP	P 2
U106	C 6411-0	H11C2 OPTO SCR	M 5
U107	C 4345-2	LM339N VOLT COMPARATOR	K 5
U109	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	N 3
U200	101651-1	MC33079N QUAD OP AMP SGS ONLY	G 3
U201	C 7444-0	LM393 DUAL COMPARATOR	A 3
U202A	101374-1	2SA1349 DUAL PNP 80V SIP	A 2
U203	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	A 4
U204A	101375-1	2SC3381 DUAL NPN 80V SIP	B 2
U206	C 6411-0	H11C2 OPTO SCR	D 5
U207	C 4345-2	LM339N VOLT COMPARATOR	F 5
U209	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	B 3
U102		SEE NOTE 10	O 2
U104		SEE NOTE 10	P 2
U202		SEE NOTE 10	A 2
U204		SEE NOTE 10	B 2
Z1		DO NOT INSTALL	C 1
Z2		DO NOT INSTALL	D 1
Z3		DO NOT INSTALL	D 1
Z4		DO NOT INSTALL	D 2
Z5		DO NOT INSTALL	D 2

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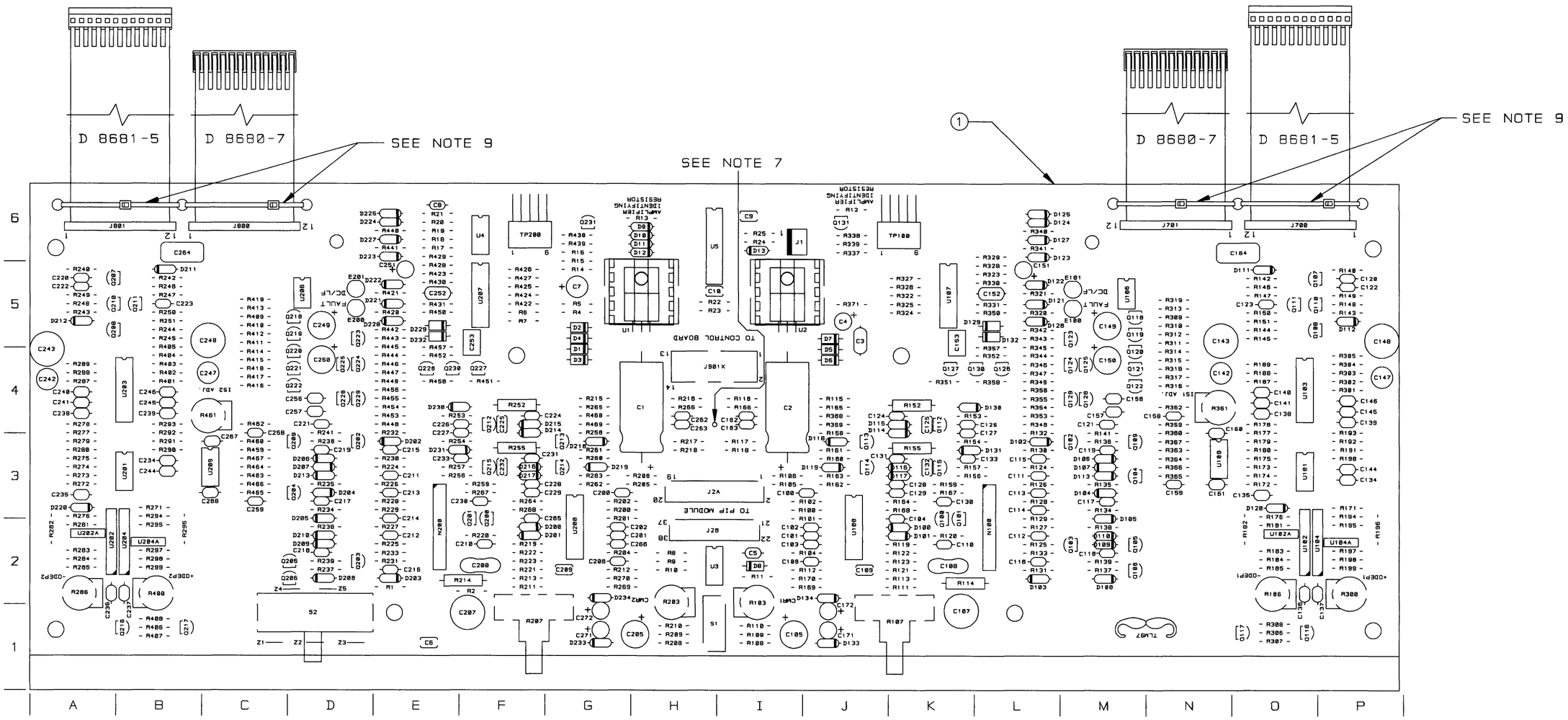
DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 21 CONT. ON SHEET 22	REV A
PROJ.	MD360D0				

COMPONENT MAP

(COMPONENT SIDE VIEW)



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DRAWN	DWW	09/25/97	DWG. NO. 125275	SHEET 22 CONT. ON SHEET -	REV (A)
PROJ.	MD360D0				

CT810 Control Module 100V Information On Following Pages
Documentation, Component Map, Schematic

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101130

REVISION	B	TITLE: PWA, CT10 CONTROL 100V		PRINTS	K
MADE BY	TOM SZERENCSE			SHEET NO.	1
DATE	02-12-97			CONT. ON SH	2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES		DRAWN	KLW

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨		
DATE ⇨	10/29/96	02-12-97
SHEET NO. ⇩		
3	A	B
4	A	B
5	A	B
6	A	B
7	A	B
8	A	B

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APPROVALS	NAME	DATE
EE	BLC	2-19-97
PE		2-19-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

101130

REVISION	B	TITLE: PWA, CT10 CONTROL 100V	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	02-12-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	KLW

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-8	A	INITIAL RELEASE
TOM SZERENCSE			INITIAL RELEASE OF 101130-2.
	3	B	NOTE 1 WAS 100285, NOTE 2 WAS 100283-1, NOTE 3 WAS 101130-1, DELETED NOTE 6 & 7, NOTE 8 ADDED K931.
	4	B	100283-2 WAS 100283-1, A10124-24 QTY WAS 8", A10265-10021 QTY WAS 11, C 7873-0 QTY WAS 1, C 7817-7 QTY WAS 10, C10335-5 QTY WAS 1, 101031-1 WERE C 7817-7. ADDED C 9592-4. DELETED A10265-15011 AND C 8982-8,
	5	B	DELETED C930, C931, HW1, AND L930. C932 WAS NOT INSTALLED, ADDED J903 & K931.
	6	B	DELETED R954-R956, Z900, Z902, Z903. ADDED Z930-Z935, W11-W13, W1-W10 WERE C7817-7
	7	B	DELETED FIGURE 1.
	8	B	REPLACED COMPONENT MAP WITH 100283C-TOPSILK.

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 101526.
2. PWB PART NUMBER 100283-2.
3. PWA PART NUMBER 101130-2.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6.
7.
8. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

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DRAWN	KLW	02-12-97	DWG. NO. 101130	SHEET 3 CONT. ON SHEET 4	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100283-2	PWB, CT10 CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
A10124-24	WIRE, #24 SOLID BUS	16"	R937, R959, Z930, Z931, Z932, Z933
			Z934, Z935
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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DRAWN	KLW	02-12-97	DWG. NO.	SHEET 4	REV
PROJ.	D360		101130	CONT. ON SHEET 5	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100283-2	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO. 101130	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z931	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z932	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z933	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z934	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z935	A10124-24	WIRE, #24 SOLID BUSS	D 3

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DRAWN	KLW	02-12-97	DWG. NO.	SHEET 6	REV
PROJ.	D360		101130	CONT. ON SHEET 7	B

FIGURE 1

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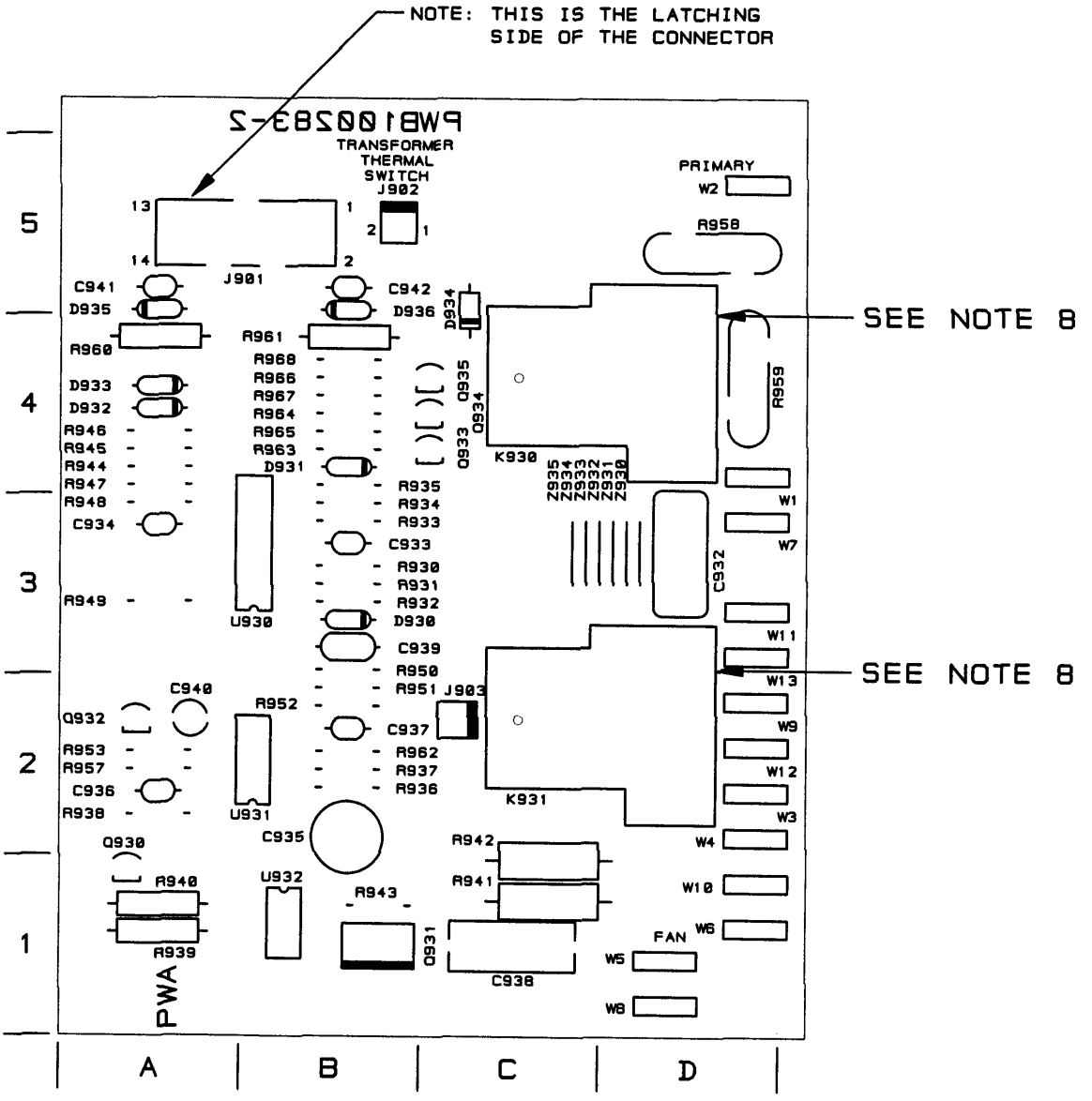
DRAWN	KLW	02-12-97	DWG. NO. 101130	REV B
PROJ.	D360		SHEET 7 CONT. ON SHEET 8	

COMPONENT MAP
(COMPONENT SIDE VIEW)



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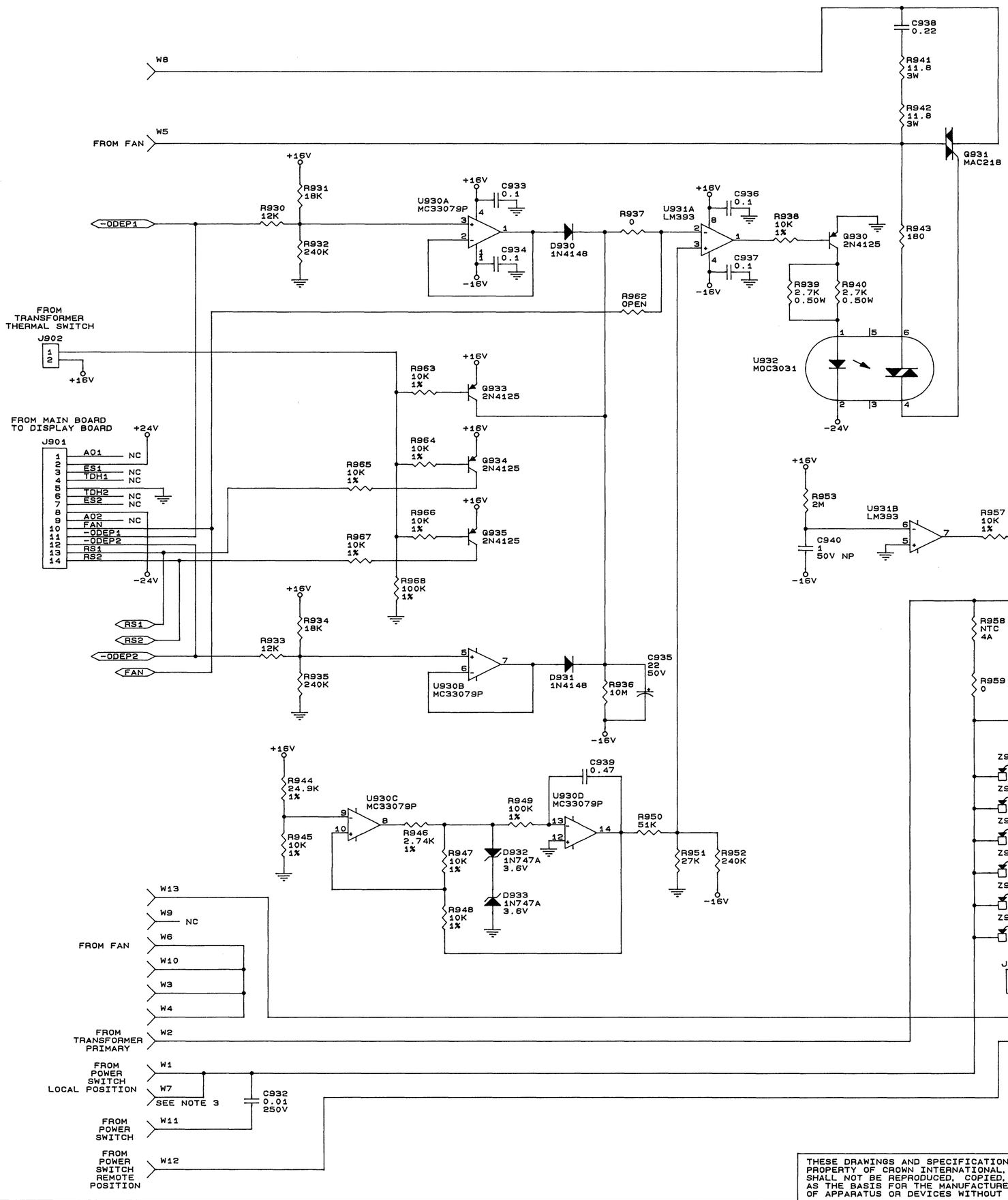
DRAWN	KLW	02-12-97	DWG. NO. 101130	SHEET 8	REV B
PROJ.	D360				

DWG. NO. 101526 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	02-18-97	KLW			RLC	



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

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PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT10 CONTROL 100V

DRAWN	KLW	02-18-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100285
SCALE	NONE		EE		E.C.
PROJ #	D360		PE	2-19-97	DWG. NO. 101526 REV (A)
FILENAME:	1015261A.SCM		NEXT ASSEMBLY:		

CT810 Control Module 120V Information On Following Pages
Documentation, Component Map, Schematic

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100284

REVISION	C	TITLE: PWA, CT10 CONTROL 120V	PRINTS: K
MADE BY	TOM SZERENCSE		SHEET NO.: 1
DATE	02-12-97		CONT. ON SH: 2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN: KLW

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨			
DATE ⇨	08-07-96	10/16/96	02-12-97
SHEET NO. ⇩			
3	A	B	C
4	A	B	C
5	A	B	C
6	A	B	C
7	A	A	B
8	A	A	B

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APPROVALS	NAME	DATE
EE	BKG	2-19-97
PE		2-19-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

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100284

REVISION	C	TITLE: PWA, CT10 CONTROL 120V	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	02-12-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	KLW

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-8	A	INITIAL RELEASE
TOM SZERENCSE	1	B	TITLE CHANGE AND REV CHANGE
TOM SZERENCSE	2	B	TITLE CHANGE AND REV CHANGE
TOM SZERENCSE	3	B	CHANGE NOTE 3, INITIAL RELEASE 100284-2
TOM SZERENCSE	4	B	DELETE Z900, A10265-10031 QTY. WAS 3, K930 WAS C 9787-0 R959 WAS NTC 100445-1
TOM SZERENCSE	5	B	K930 WAS C 9787-0
TOM SZERENCSE	6	B	R956 DO NOT INSTALL R959 WAS NTC 100445-1 Z900 DO NOT INSTALL
TOM SZERENCSE	3	C	INITIAL RELEASE OF 100284-3. NOTE 1 WAS 100285, NOTE 2 WAS 100283-1, NOTE 3 WAS 100284-2, DELETED NOTE 6 & 7, NOTE 8 ADDED K931.
	4	C	100283-2 WAS 100283-1, A10124-24 QTY WAS 8", A10265-10021 QTY WAS 11, C 7873-0 QTY WAS 1, C 7817-7 QTY WAS 10, C10335-5 QTY WAS 1, 101031-1 WAS C 7817-7. ADDED C 9592-4. DELETED A10265-15011 AND C 8982-8,
	5	C	DELETED C930, C931, HW1, AND L930. C932 WAS NOT INSTALLED, ADDED J903 & K931.
	6	C	DELETED R954-R956, Z900, Z902, Z903. ADDED Z930-Z935, W11-W13, W1-W10 WERE C7871-7.
	7	B	DELETED FIGURE 1.
	8	B	REPLACED COMPONENT MAP WITH 100283C-TOPSILK.

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 101527.
2. PWB PART NUMBER 100283-2.
3. PWA PART NUMBER 100284-3.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6.

7.

8. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

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DRAWN	KLW	02-12-97	DWG. NO. 100284	SHEET 3 CONT. ON SHEET 4	REV C
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100283-2	PWB, CT10 CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
A10124-24	WIRE, #24 SOLID BUS	16"	R937, R959, Z930, Z931, Z932, Z933
			Z934, Z935
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO. 100284	SHEET 4 CONT. ON SHEET 5	REV ©
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100283-2	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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DRAWN	KLW	02-12-97	DWG. NO. 100284	SHEET 5 CONT. ON SHEET 6	REV C
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z931	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z932	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z933	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z934	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z935	A10124-24	WIRE, #24 SOLID BUSS	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO. 100284	SHEET 6 CONT. ON SHEET 7	REV C
PROJ.	D360				

FIGURE 1

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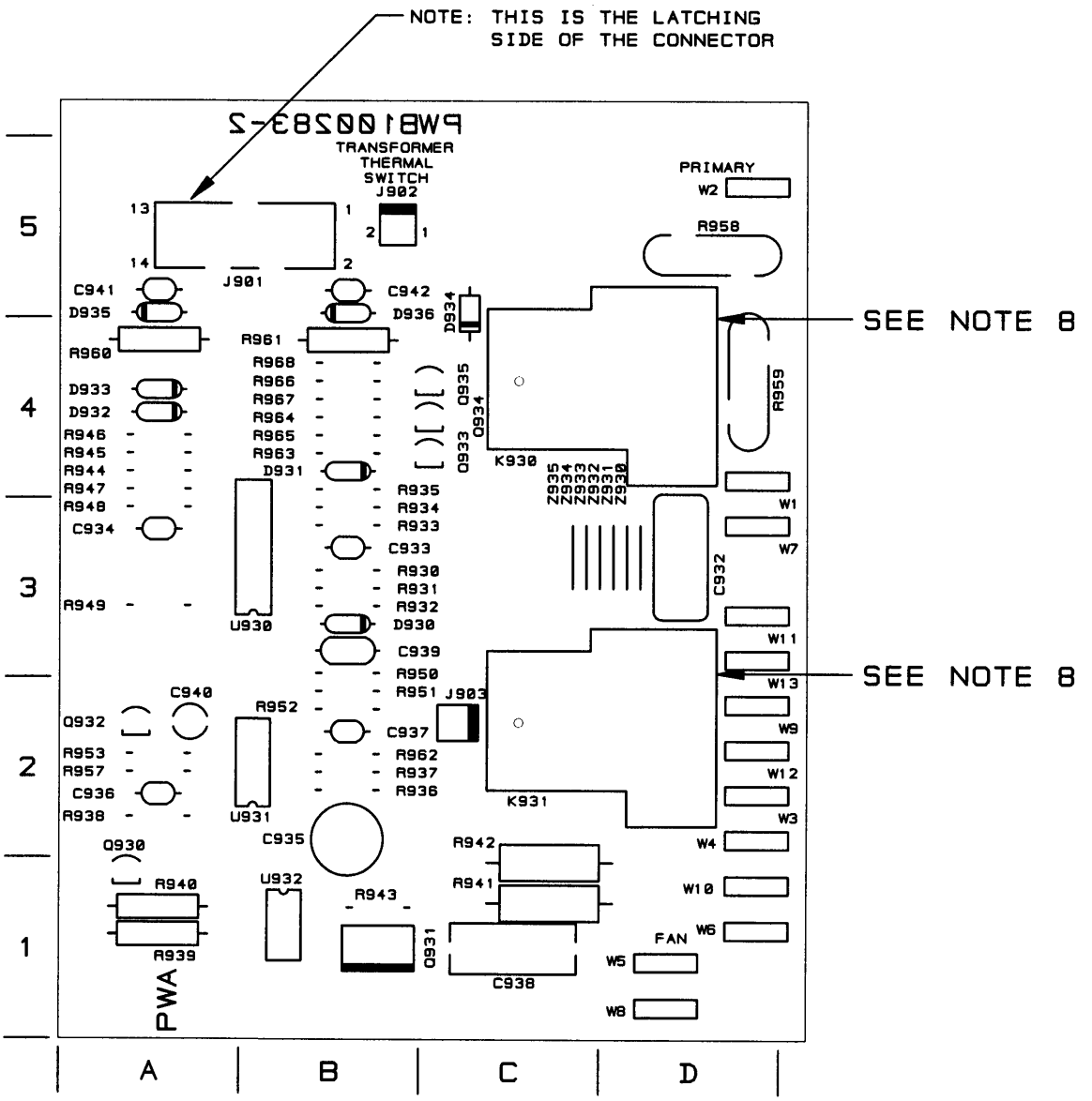
DRAWN	KLW	02-12-97	DWG. NO. 100284	REV B
PROJ.	D360		SHEET 7 CONT. ON SHEET 8	

COMPONENT MAP
(COMPONENT SIDE VIEW)



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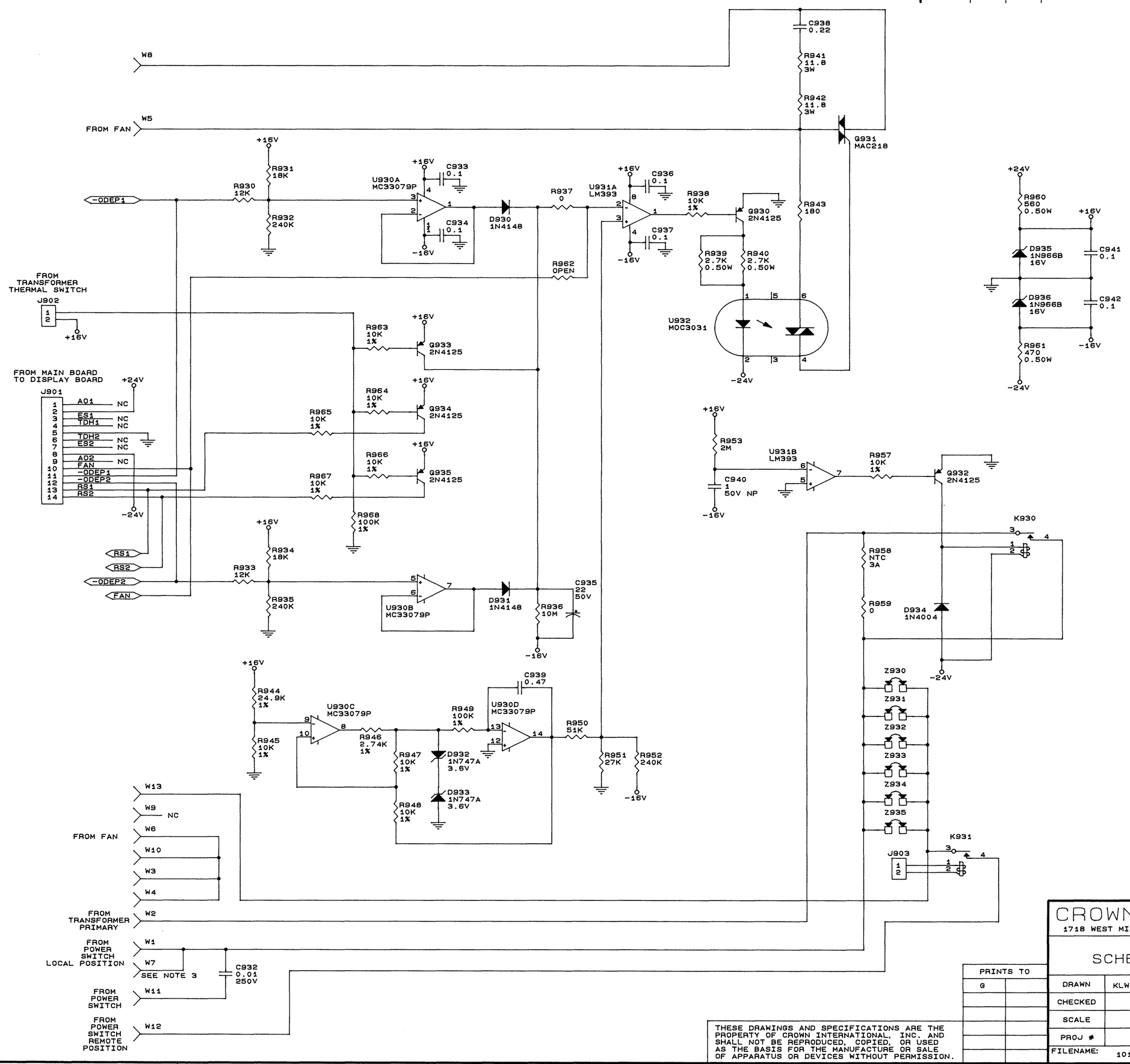
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO.	SHEET 8	REV
PROJ.	D360		100284		B

DWG. NO. 101527 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	
		(A)	INITIAL RELEASE.	02-18-97	KLW			RLC	



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

PRINTS TO	
G	

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SCHEMATIC; CT10 CONTROL 120V

DRAWN	KLW	02-18-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100285
SCALE	NONE		EE		E.C.
PROJ #	D360		PE	2-19-97	DWG. NO. 101527 REV (A)
FILENAME:	1015271A.SCM		NEXT ASSEMBLY:		

CT10 Control Module 220V/240V Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL

INACTIVE
For Reference Use Only

101057

REVISION	B	TITLE: PWA, CT10 CONTROL 220/240V		PRINTS	K
MADE BY	TOM SZERENCSE			SHEET NO.	1
DATE	02-12-97			CONT. ON SH	2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES		DRAWN	KLW

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	10-16-96	02-12-97									
SHEET NO. ⇩											
3	A	B									
4	A	B									
5	A	B									
6	A	B									
7	A	B									
8	A	B									

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF CROWN INTERNATIONAL, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.

APPROVALS	NAME	DATE
EE		2-19-97
PE		2-19-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

101057

REVISION	B	TITLE: PWA, CT10 CONTROL 220/240V	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	02-12-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	KLW

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-8	A	INITIAL RELEASE
TOM SZERENCSE	3	B	INITIAL RELEASE OF 101057-2. NOTE 2 WAS 100283-1, NOTE 3 WAS 101057-1, DELETED NOTE 6 & 7, NOTE 8 ADDED K931.
	4	B	100283-2 WAS 100283-1, A10124-24 QTY WAS 6", A10265-10021 QTY WAS 11, C 7873-0 QTY WAS 1, C 7817-7 QTY WAS 10, C10335-5 QTY WAS 1, 101031-1 WAS C 7871-7. ADDED C 9592-4. DELETED A10265-15011 AND C 8982-8.
	5	B	DELETED C930, C931, HW1, AND L930. C932 WAS NOT INSTALLED, ADDED J903 & K931.
	6	B	DELETED R954-R956, Z900, Z902, Z903. ADDED Z930-Z935, W11-W13, W1-W10 WAS C7817-7.
	7	B	DELETED FIGURE 1.
	8	B	REPLACED COMPONENT MAP WITH 100283C-TOPSILK.

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 101058.
2. PWB PART NUMBER 100283-2.
3. PWA PART NUMBER 101057-2.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6.
7.
8. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF CROWN INTERNATIONAL, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO. 101057	SHEET 3 CONT. ON SHEET 4	REV B
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100283-2	PWB, CT10 CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
100445-1	NTC, INRUSH CURR LIMITER 3A	2	R958, R959
A10124-24	WIRE, #24 SOLID BUS	14"	R937, Z930, Z931, Z932, Z933, Z934,
			Z935
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO. 101057	SHEET 4 CONT. ON SHEET 5	REV B
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100283-2	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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DRAWN	KLW	02-12-97	DWG. NO.	SHEET 5	REV
PROJ.	D360		101057	CONT. ON SHEET 6	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 5
R959	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z931	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z932	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z933	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z934	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z935	A10124-24	WIRE, #24 SOLID BUSS	D 3

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO.	SHEET 6	REV
PROJ.	D360		101057	CONT. ON SHEET 7	B

FIGURE 1

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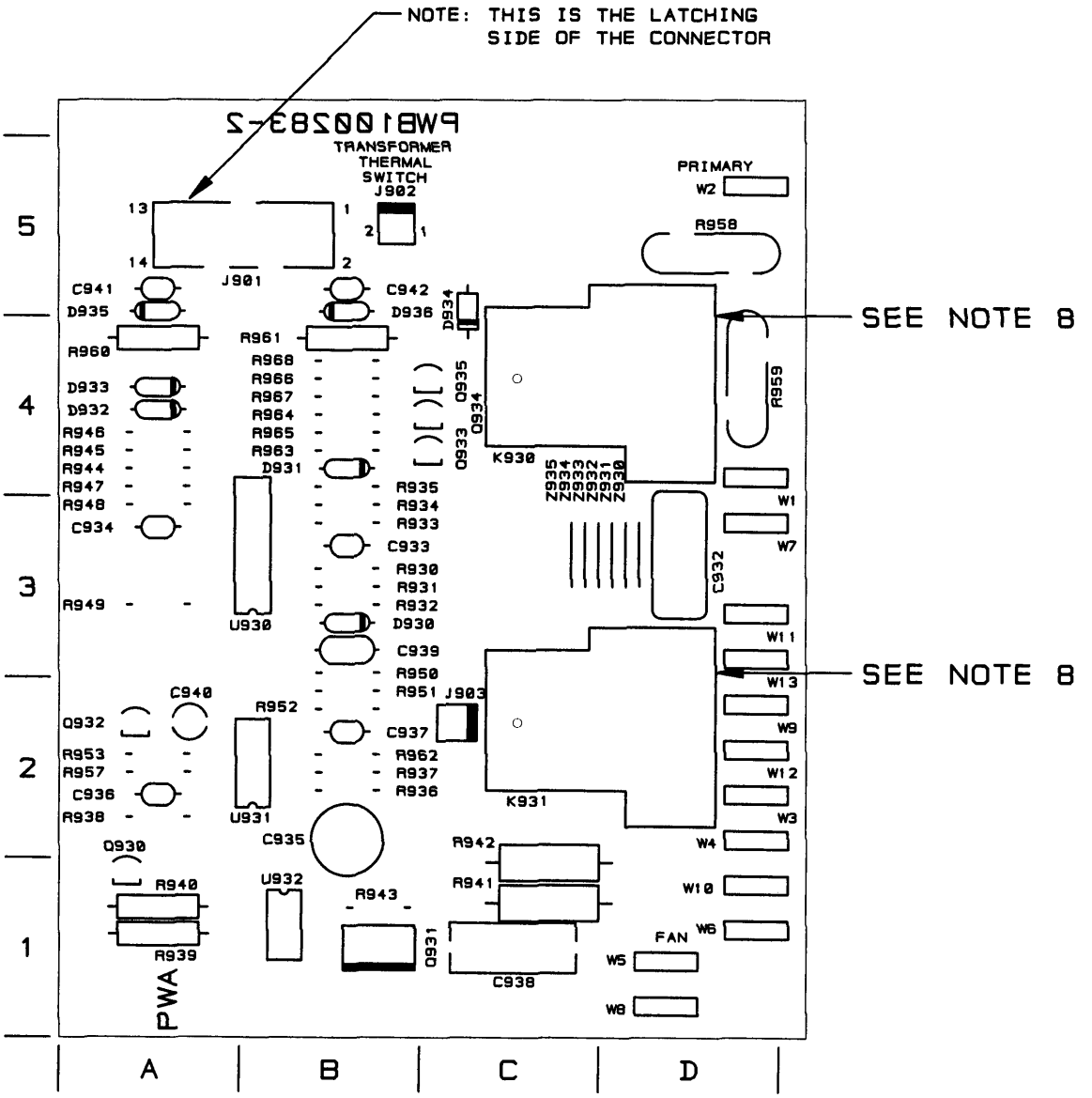
DRAWN	KLW	02-12-97	DWG. NO. 101057	SHEET 7 CONT. ON SHEET 8
PROJ.	D360			REV B

COMPONENT MAP

(COMPONENT SIDE VIEW)



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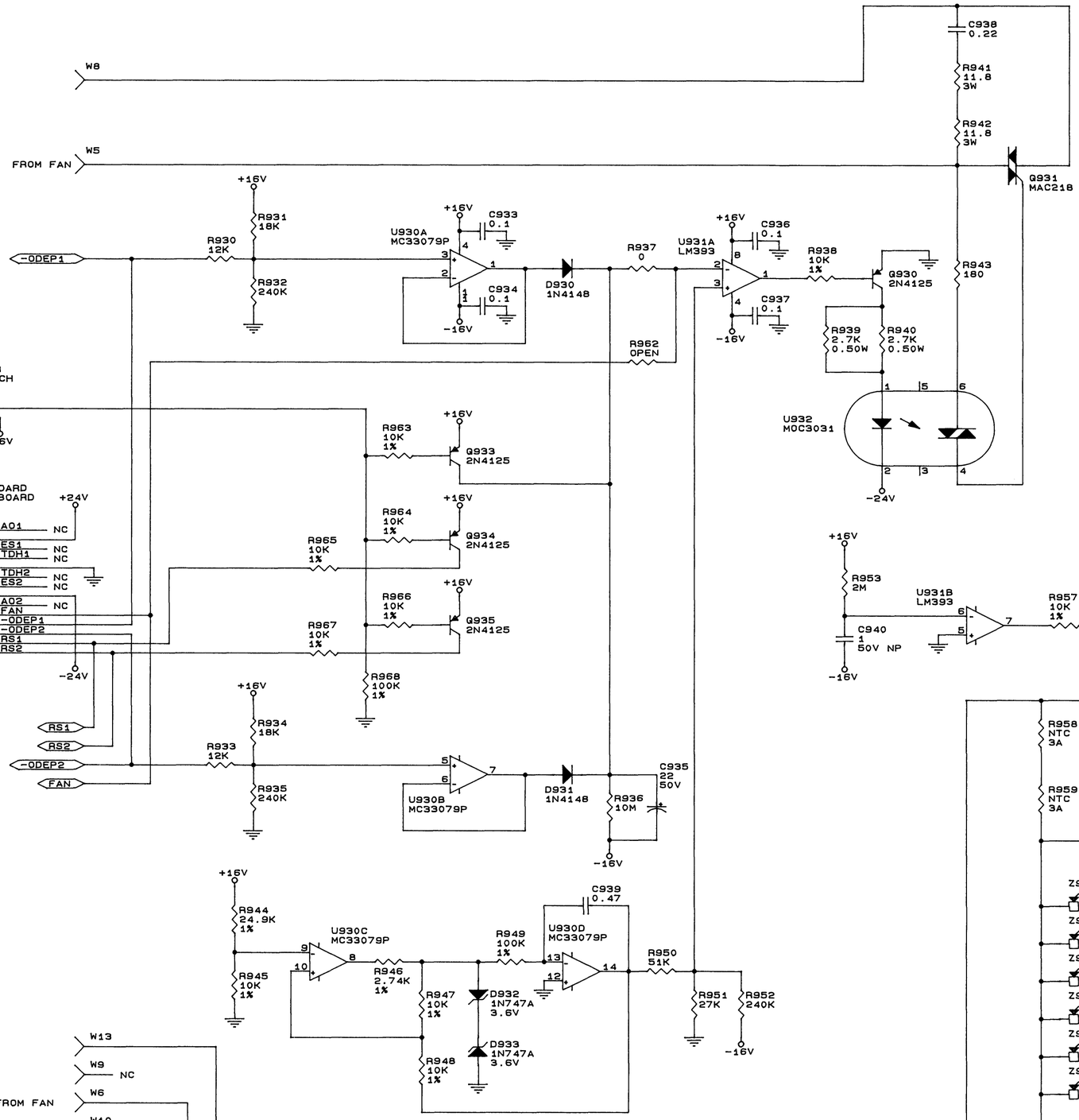
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	02-12-97	DWG. NO.	SHEET 8	REV
PROJ.	D360		101057		B

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	10/16/96	LCD				TS
97-101		(B)	DELETED C930, C931, L930, R954-R956, Z900, Z902, Z903. ADDED J903, K931, W11-W13, Z930-Z935.	02-18-97	KLW				RC 98



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

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For Reference Use Only

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G	

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1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT10 CONTROL 220/240V

DRAWN	LCD	10/16/96	APPROVED BY :			DO NOT SCALE PRINT
CHECKED			ME			SUPERSEDES
SCALE	NONE		EE			E.C.
PROJ #	D360		PE	TS	10-30-96	DWG. NO. 101058 REV (B)
FILENAME:	1010581B.SCM		NEXT ASSEMBLY:			

CT810A Control Module 100V 102833 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	06/03/97	LCD	KW			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102834.
2. PWB PART NUMBER 102824-1.
3. PWA PART NUMBER 102833-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
For Reference Use Only

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS	
K	

PWA CT10A CONTROL 100V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	LCD	06/03/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	06-04-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	6-4-97	DWG. NO. 102833 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102824-1	PWB, CT10A CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
A10124-24	WIRE, #24 SOLID BUS	16"	R937, R959, Z930, Z931, Z932, Z933
			Z934, Z935
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		102833		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102824-1	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		102833		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z931	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z932	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z933	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z934	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z935	A10124-24	WIRE, #24 SOLID BUSS	D 3

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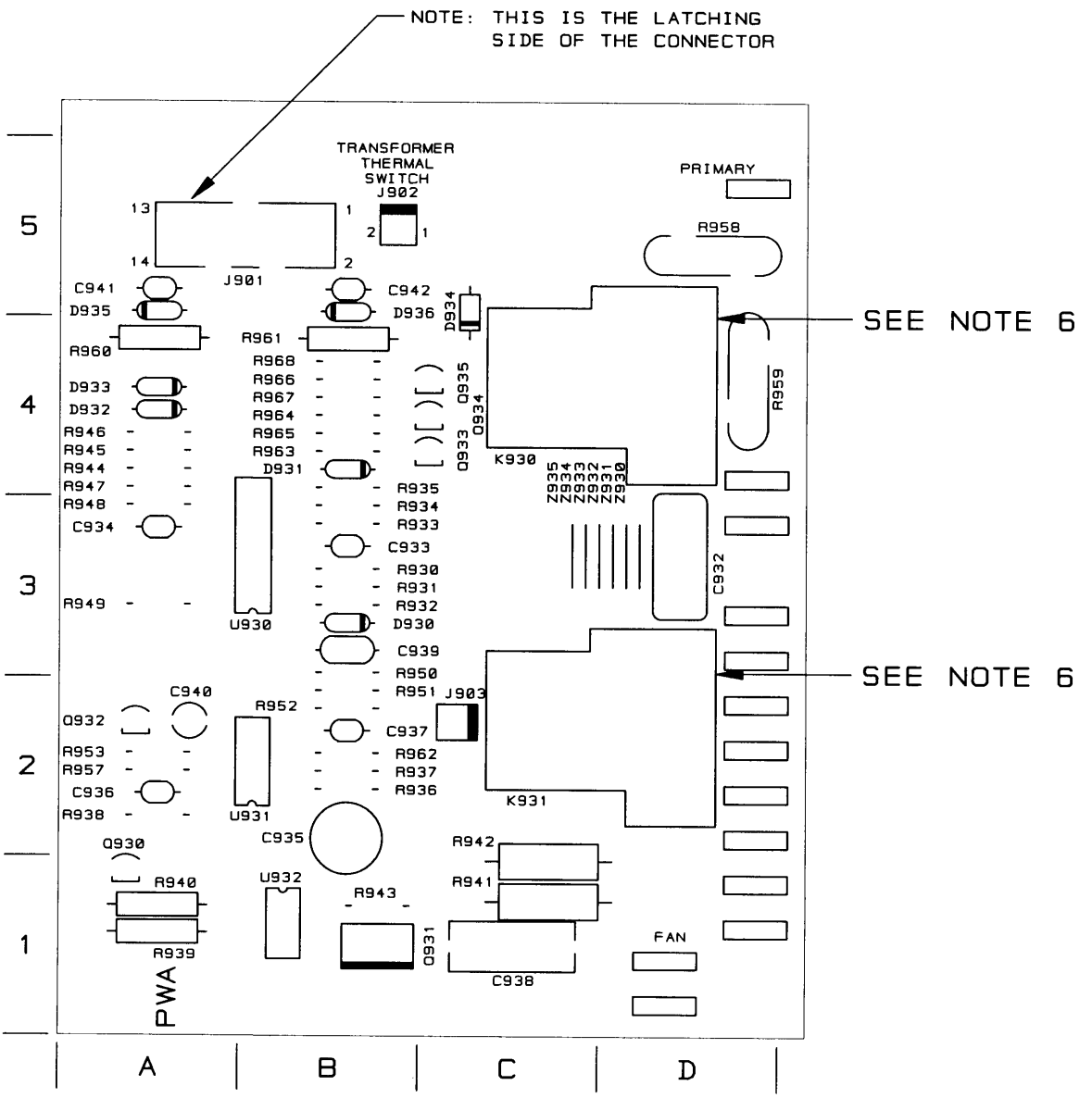
DRAWN	LCD	06/03/97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		102833		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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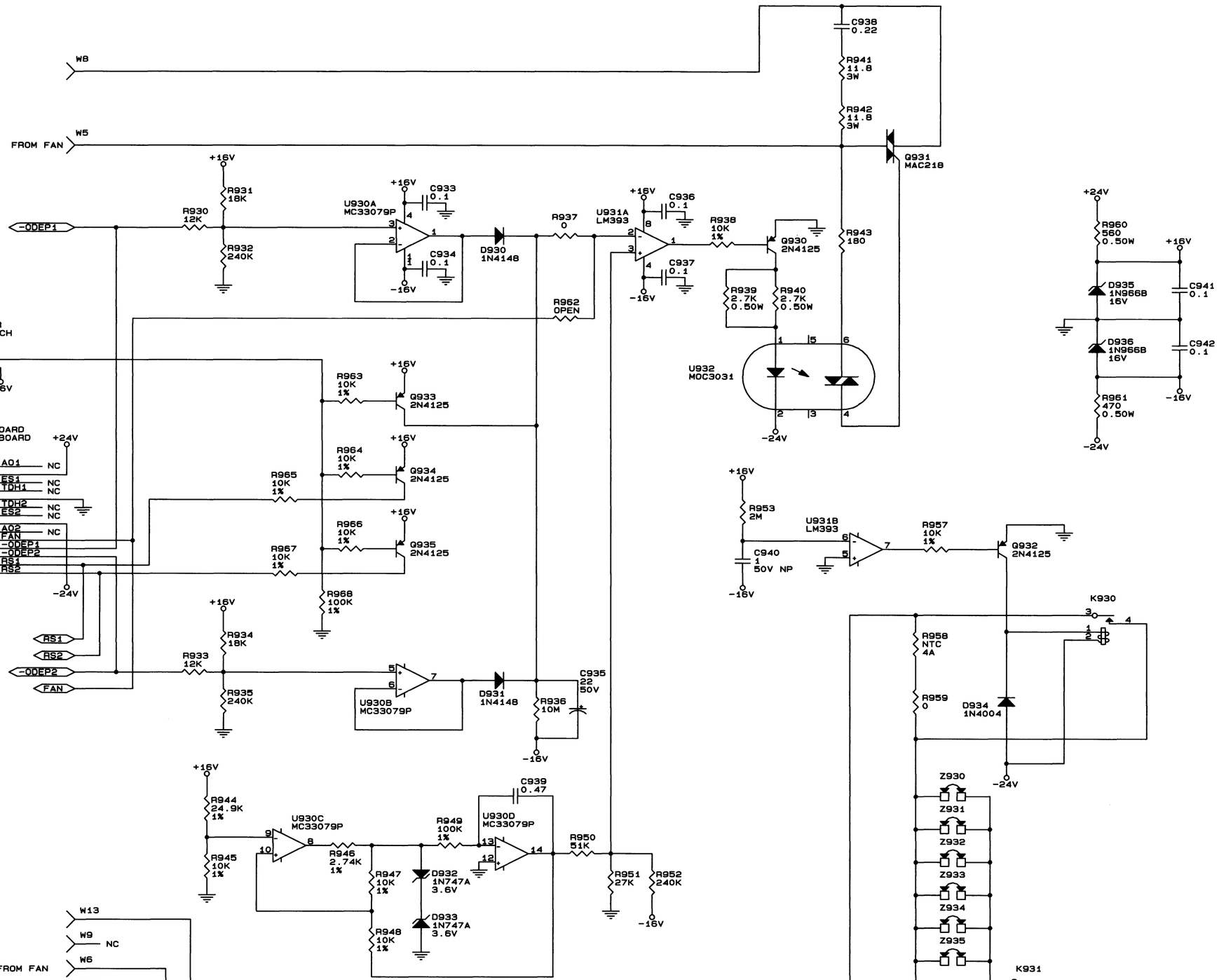
DRAWN	LCD	06/03/97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		102833		A

DWG. NO. 102834 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	06/04/97	LCD	KW			



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

INACTIVE
For Reference Use Only

PRINTS TO	
G	

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CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT10A CONTROL 100V

DRAWN	LCD	06/04/97	APPROVED BY :	DO NOT SCALE PRINT
CHECKED	KW	06-04-97	ME	SUPERSEDES
SCALE	NONE		EE	E.C.
PROJ #	MD360D0		PE 6-4-97	DWG. NO. 102834 REV (A)
FILENAME:	1028341A.SCM		NEXT ASSEMBLY:	

CT810A Control Module 100V 125420 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	11-04-97	KLW	JLM			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125425.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125420-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT10A CONTROL 100V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	11-04-97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JLM	11-11-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	EB 11-11-97	DWG. NO. 125420 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	18"	R959, Z902, Z903, Z930, Z931,
			Z932, Z933, Z934, Z935
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930, R933, R938, R957, R963,
			R964, R966, R969, R972, R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970, R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931, R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965, R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939, R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974, R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934, D937, D938, D939, D940
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930, Q932, Q933, Q934, Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933, C934, C936, C937, C941,
			C942, C943
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939, C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929, C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931
101031-1	FASTON, TAB .250 PC MNT	13	W1, W2, W3, W4, W5, W6, W7, W8, W9,
			W10, W11, W12, W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125420		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125420		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930	A10124-24	WIRE, #24 SOLID BUSS	
Z931	A10124-24	WIRE, #24 SOLID BUSS	
Z932	A10124-24	WIRE, #24 SOLID BUSS	
Z933	A10124-24	WIRE, #24 SOLID BUSS	
Z934	A10124-24	WIRE, #24 SOLID BUSS	
Z935	A10124-24	WIRE, #24 SOLID BUSS	
	125415-1	PWB, CT10A CONTROL, ,	

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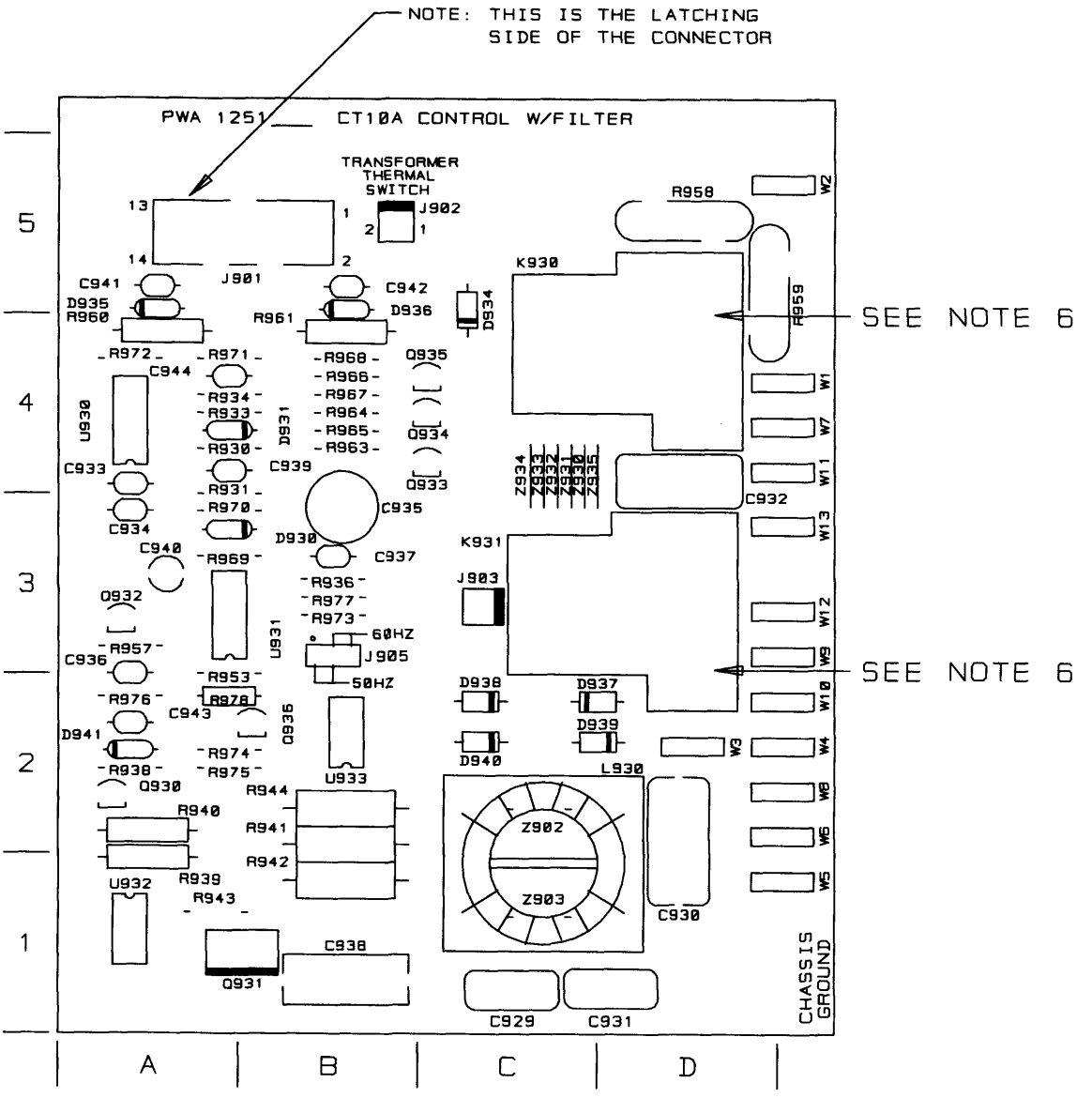
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125420		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125420		A

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	CM	EE	PE
99E0212		A	INITIAL RELEASE FOR PRODUCTION.	05-21-99	KLW	JLW		N/A	EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125425.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
4. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
5. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
6. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.
7. SOLDER C945 (C 6806-1) ACROSS R976 AS SHOWN ON THE COMPONENT MAP.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
For Reference Use Only

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT10A CONTROL 100V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	05-21-99	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JLW	05/21/99	ME	5-24-99	SUPERSEDES
SCALE	NONE		EE	N/A	E.C.N.
PROJ #	MD360D0		PE	EB 5-21-99	DWG. NO. 125420-2 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	18"	R959,Z902,Z903,Z930,Z931,
			Z932,Z933,Z934,Z935
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930,R933,R938,R957,R963,
			R964,R966,R969,R972,R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970,R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931,R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965,R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939,R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974,R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934,D937,D938,D939,D940
C 3181-2	DIODE, 1N4148 T/R	2	D930,D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935,D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930,Q932,Q933,Q934,Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933,C934,C936,C937,C941,
			C942,C943
C 6806-1	.01UF 100V AXIAL CER T/R	1	C945
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939,C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902,J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941,R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929,C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930,K931
101031-1	FASTON, TAB .250 PC MNT	13	W1,W2,W3,W4,W5,W6,W7,W8,W9,
			W10,W11,W12,W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125420-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
C945	C 6806-1	.01UF 100V AXIAL CER T/R	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125420-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930	A10124-24	WIRE, #24 SOLID BUSS	
Z931	A10124-24	WIRE, #24 SOLID BUSS	
Z932	A10124-24	WIRE, #24 SOLID BUSS	
Z933	A10124-24	WIRE, #24 SOLID BUSS	
Z934	A10124-24	WIRE, #24 SOLID BUSS	
Z935	A10124-24	WIRE, #24 SOLID BUSS	
	125415-1	PWB, CT10A CONTROL, ,	

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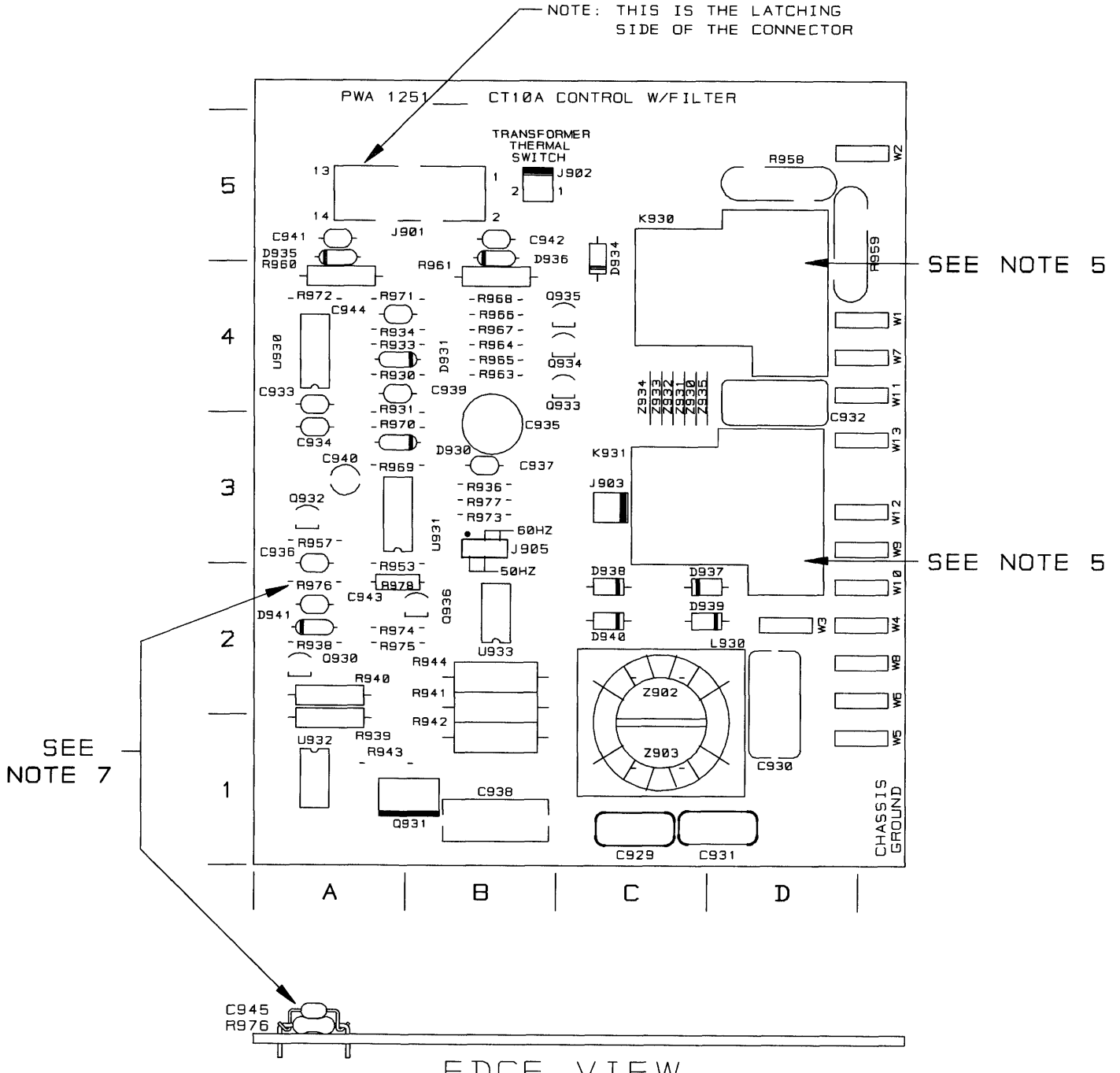
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125420-2		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



EDGE VIEW

MOST COMPONENTS OMITTED FOR CLARITY.

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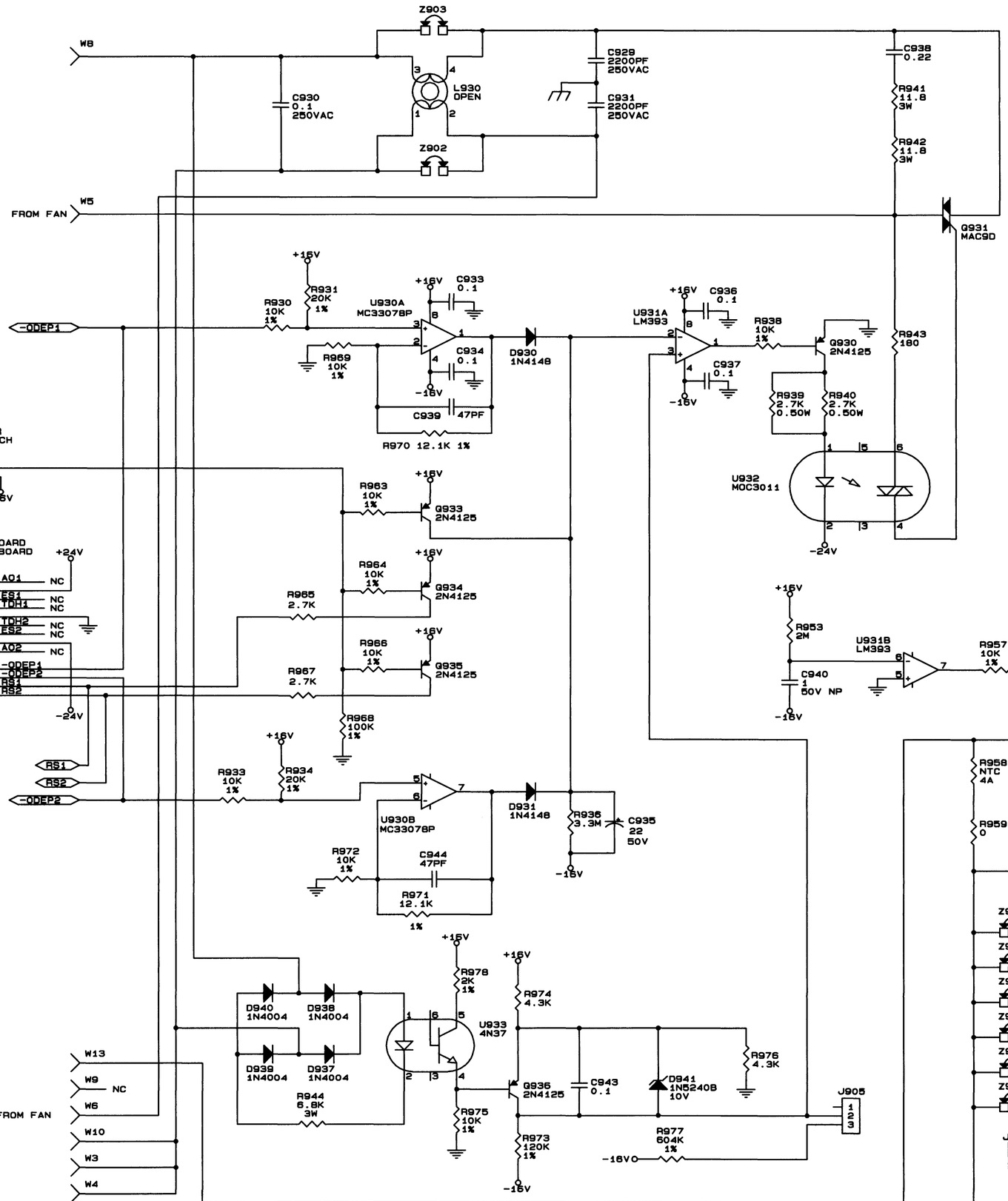
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125420-2		A

DWG. NO. 125425 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	11-10-97	KLW	JLM			BB



LAST USED	NOT USED
C944	900-928
D941	900-929, 932, 933
J905	900, 904
K931	900-929
Q936	900-929
R978	932, 935, 937, 945-952, 954-956, 962
U933	900-929
W13	
Z935	900, 901, 904-929

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

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PRINTS TO	
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CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, CONTROL CT10A 100V

DRAWN	KLW	11-10-97	APPROVED BY :			DO NOT SCALE PRINT
CHECKED	JLM	11-13-97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.
PROJ #	MD360D0		PE	EB	11-14-97	DWG. NO. 125425 REV (A)
FILENAME:	1254251A.SCM		NEXT ASSEMBLY:			

CT10A Control Module 120V 125416 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	CM	EE	PE
99E0216		A	INITIAL RELEASE FOR PRODUCTION.	05-21-99	KLW			N/A	

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125421.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
4. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
5. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
6. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.
7. SOLDER C945 (C 6806-1) ACROSS R976 AS SHOWN ON THE COMPONENT MAP.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT10A CONTROL 120V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	05-21-99	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KLW	05/21/99	ME	5-24-99	SUPERSEDES
SCALE	NONE		EE	N/A	E.C.N.
PROJ #	MD360D0		PE	5-21-99	DWG. NO. 125416-2 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	18"	R959,Z902,Z903,Z930,Z931,
			Z932,Z933,Z934,Z935
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930,R933,R938,R957,R963,
			R964,R966,R969,R972,R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970,R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931,R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965,R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939,R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974,R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934,D937,D938,D939,D940
C 3181-2	DIODE, 1N4148 T/R	2	D930,D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935,D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930,Q932,Q933,Q934,Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933,C934,C936,C937,C941,
			C942,C943
C 6806-1	.01UF 100V AXIAL CER T/R	1	C945
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939,C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902,J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941,R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929,C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930,K931
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
101031-1	FASTON, TAB .250 PC MNT	13	W1,W2,W3,W4,W5,W6,W7,W8,W9,
			W10,W11,W12,W13
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125416-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
C945	C 6806-1	.01UF 100V AXIAL CER T/R	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125416-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930	A10124-24	WIRE, #24 SOLID BUSS	
Z931	A10124-24	WIRE, #24 SOLID BUSS	
Z932	A10124-24	WIRE, #24 SOLID BUSS	
Z933	A10124-24	WIRE, #24 SOLID BUSS	
Z934	A10124-24	WIRE, #24 SOLID BUSS	
Z935	A10124-24	WIRE, #24 SOLID BUSS	
	125415-1	PWB, CT10A CONTROL, ,	

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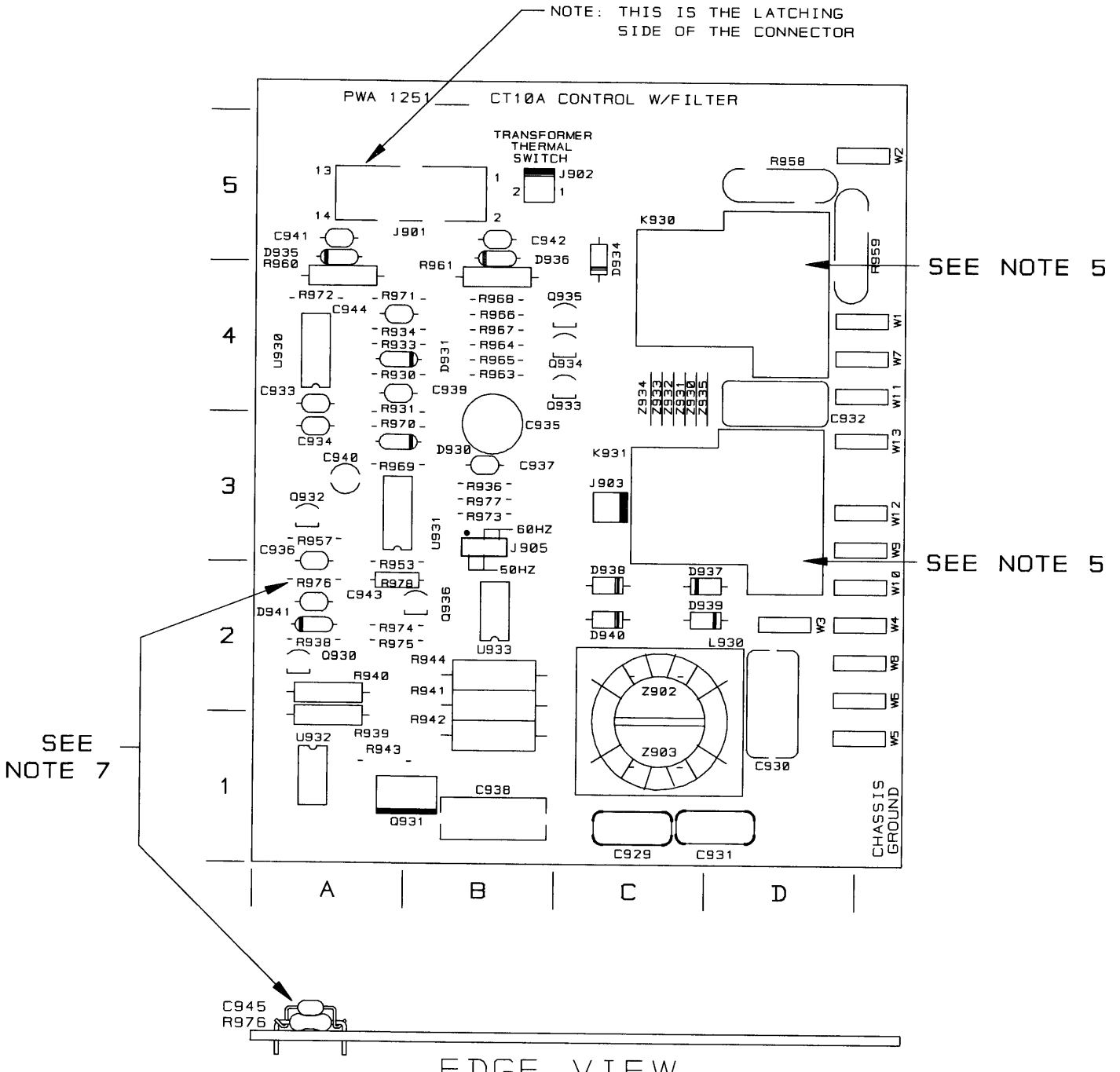
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125416-2		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



EDGE VIEW

MOST COMPONENTS OMITTED FOR CLARITY.

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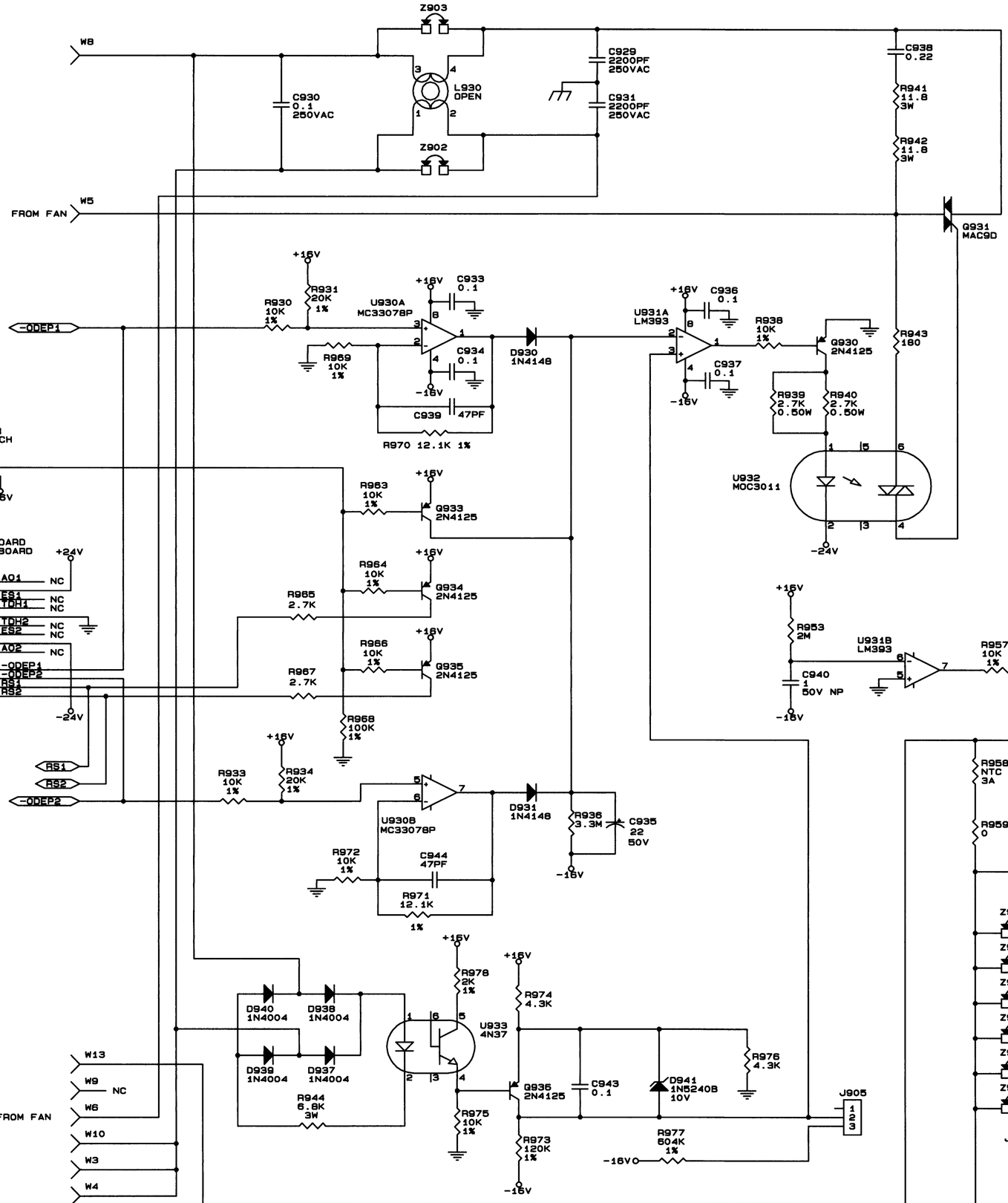
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125416-2		A

DWG. NO. 125421 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	11-10-97	KLW	JLM			



LAST USED	NOT USED
C944	900-928
D941	900-929, 932, 933
J905	900, 904
K931	900-929
Q936	900-929
R978	932, 935, 937, 945-952, 954-956, 962
U933	900-929
W13	
Z935	900, 901, 904-929

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

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Document Has Been Replaced with a Newer Version

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PRINTS TO	
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CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, CONTROL CT10A 120V

DRAWN	KLW	11-10-97	APPROVED BY :			DO NOT SCALE PRINT
CHECKED	JLM	11-13-97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.
PROJ #	MD3600		PE	EB	11-14-97	DWG. NO. 125421 REV (A)
FILENAME:	1254211A.SCM		NEXT ASSEMBLY:			

CT10A Control Module 220V/240V 102831 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	06/03/97	LCD	KW			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102832.
2. PWB PART NUMBER 102824-1.
3. PWA PART NUMBER 102831-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT10A CONTROL 220/240V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	LCD	06/03/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	06-04-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	6-4-97	DWG. NO. 102831 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102824-1	PWB, CT10A CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
100445-1	NTC, INRUSH CURR LIMITER 3A	2	R958, R959
A10124-24	WIRE, #24 SOLID BUS	14"	R937, Z930, Z931, Z932, Z933, Z934,
			Z935
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		102831		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102824-1	PWB, CT10A CONTROL, ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		102831		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 5
R959	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z931	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z932	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z933	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z934	A10124-24	WIRE, #24 SOLID BUSS	D 3
Z935	A10124-24	WIRE, #24 SOLID BUSS	D 3

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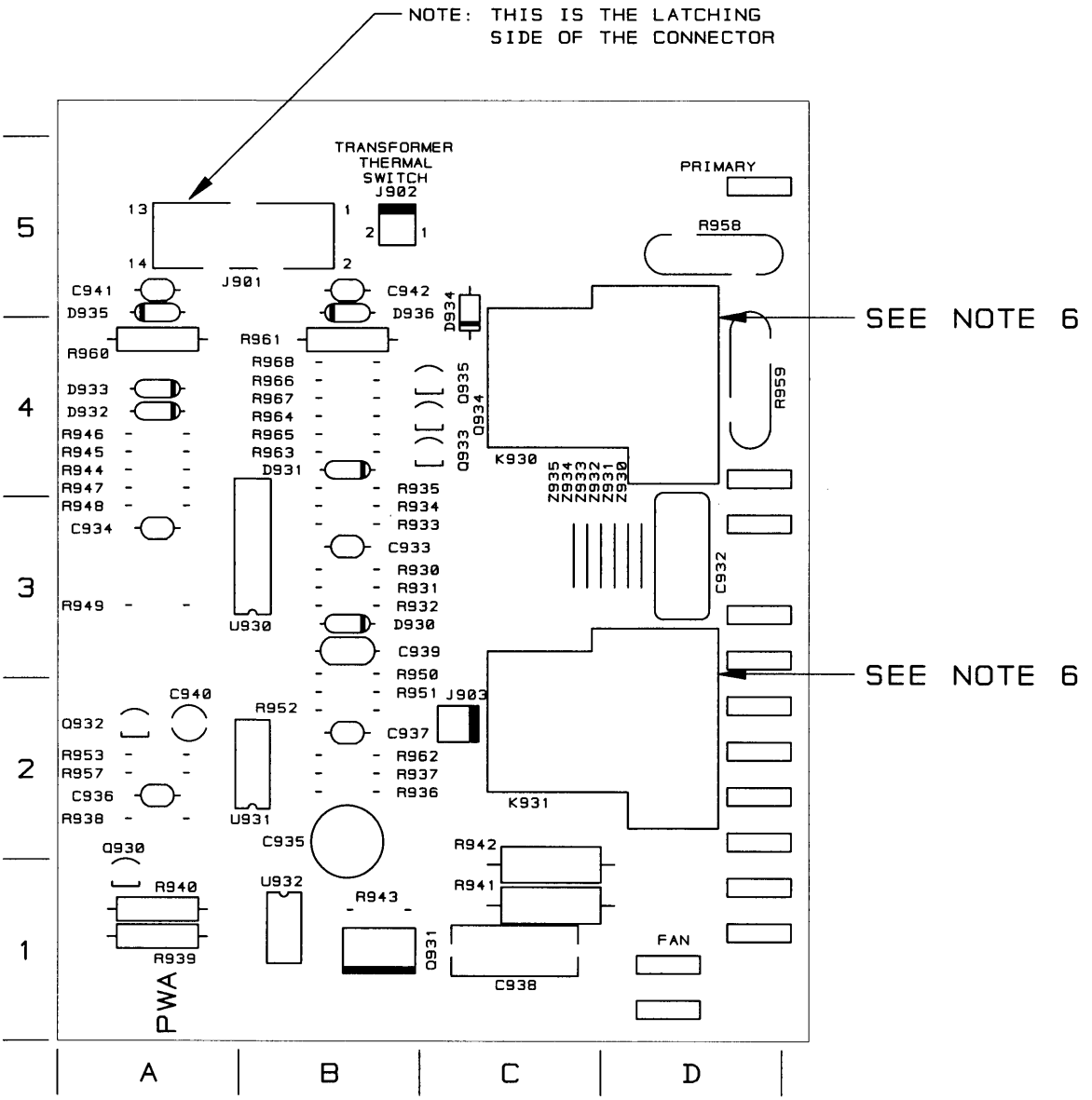
DRAWN	LCD	06/03/97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		102831		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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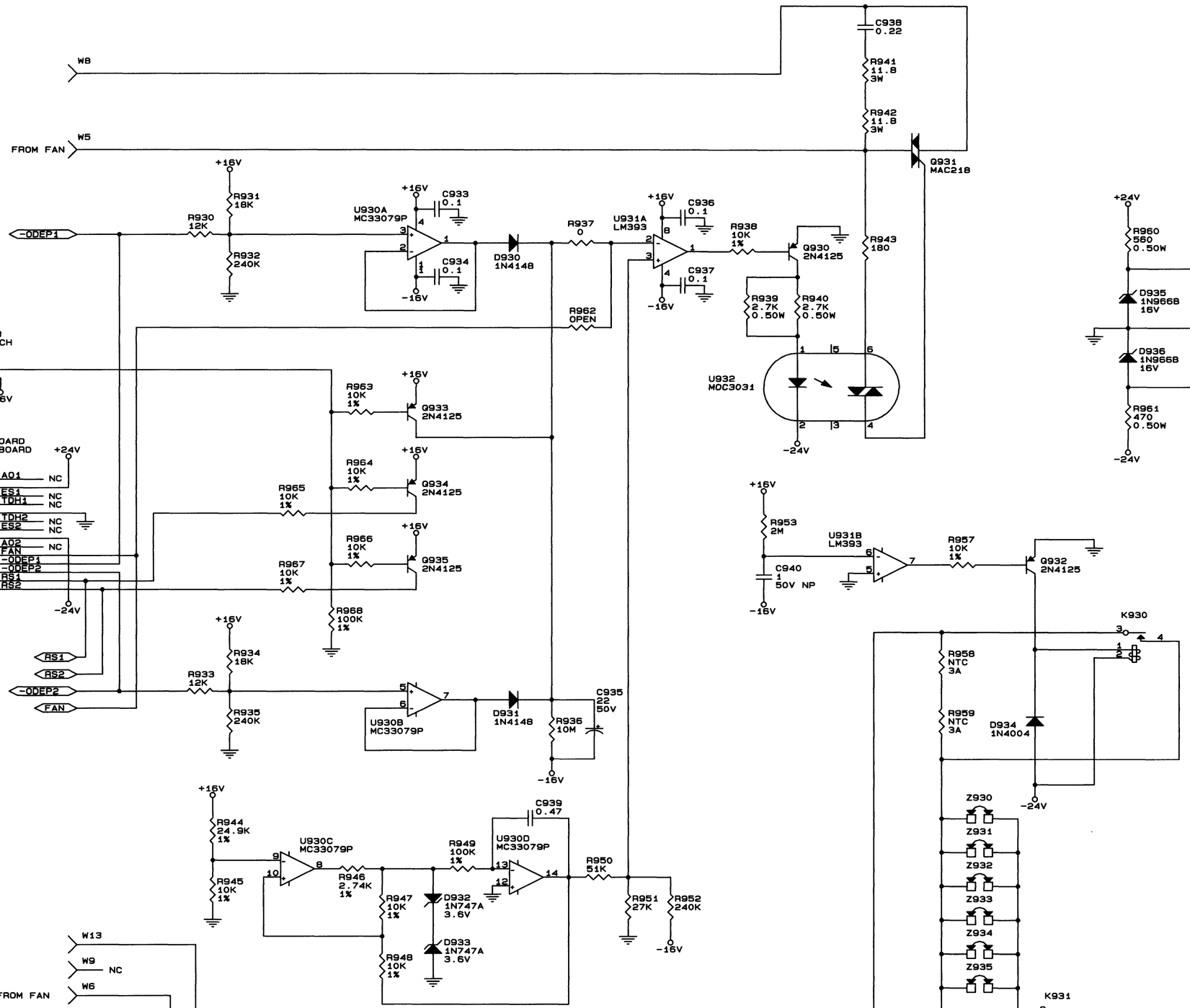
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		102831		A

DWG. NO. 102832 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	06/04/97	LCD	K.W			



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

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PRINTS TO	
G	

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CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT10A CONTROL 220/240V

DRAWN	LCD	06/04/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	K.W	06-04-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE	6-4-97	DWG. NO. 102832 REV (A)
FILENAME:	1028321A.SCM		NEXT ASSEMBLY:		

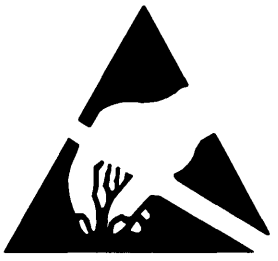
CT10A Control Module 220V/240V 125419 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	11-04-97	KLW	KM			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125424.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125419-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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CROWN INTERNATIONAL INC.
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PRINTS: K

PWA CT10A CONTROL 220/240V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	11-04-97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KM	11-11-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	EB 11-11-97	DWG. NO. 125419 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	16"	Z902, Z903, Z930, Z931,
			Z932, Z933, Z934, Z935
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930, R933, R938, R957, R963,
			R964, R966, R969, R972, R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970, R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931, R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965, R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939, R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974, R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934, D937, D938, D939, D940
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930, Q932, Q933, Q934, Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933, C934, C936, C937, C941,
			C942, C943
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939, C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929, C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931
100445-1	NTC, INRUSH CURR LIMITER 3A	2	R958, R959
101031-1	FASTON, TAB .250 PC MNT	13	W1, W2, W3, W4, W5, W6, W7, W8, W9,
			W10, W11, W12, W13
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125419		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125419		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R959	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930	A10124-24	WIRE, #24 SOLID BUSS	
Z931	A10124-24	WIRE, #24 SOLID BUSS	
Z932	A10124-24	WIRE, #24 SOLID BUSS	
Z933	A10124-24	WIRE, #24 SOLID BUSS	
Z934	A10124-24	WIRE, #24 SOLID BUSS	
Z935	A10124-24	WIRE, #24 SOLID BUSS	
	125415-1	PWB, CT10A CONTROL, ,	

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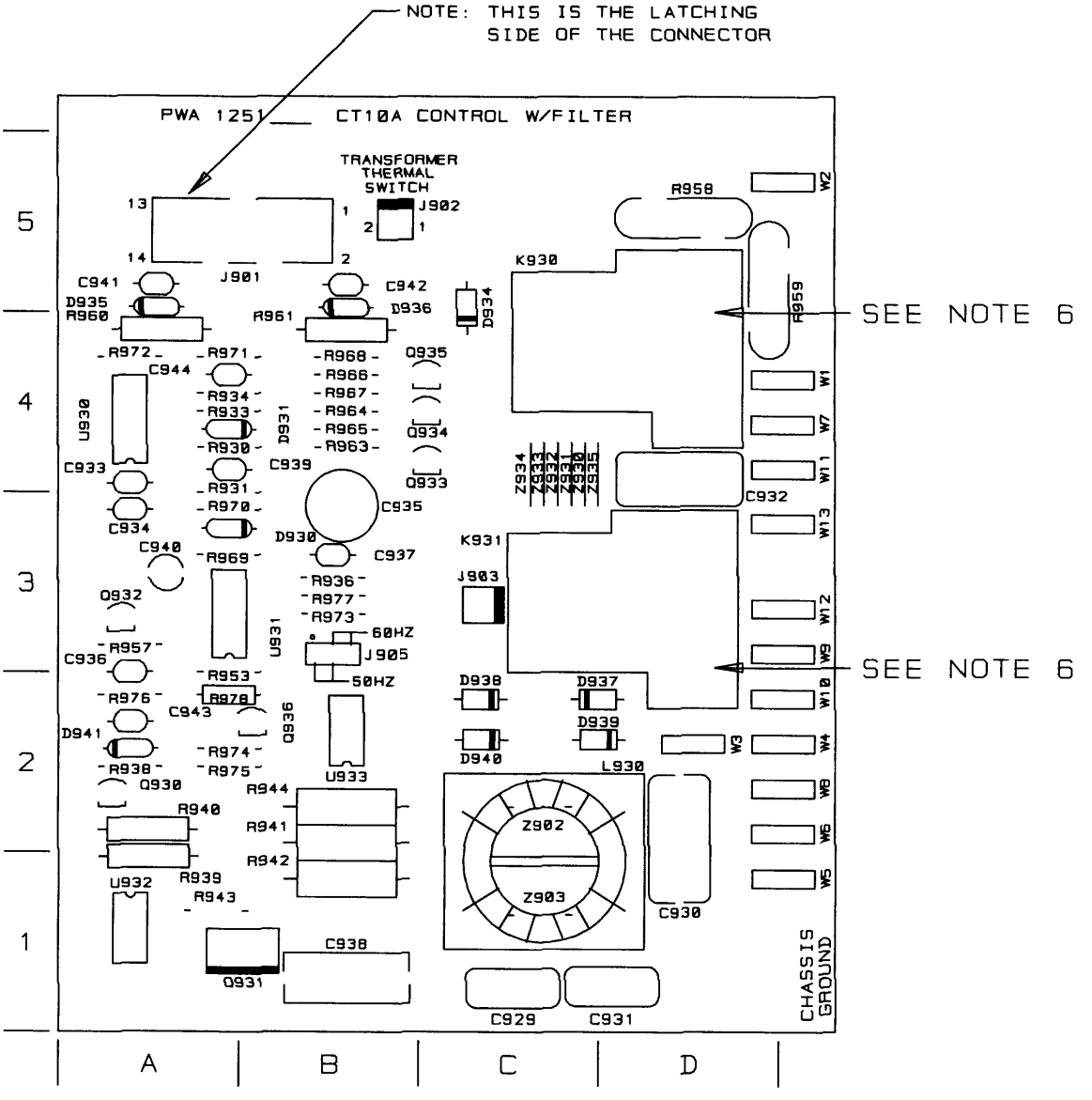
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125419		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125419		A

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	CM	EE	PE
99E0213		A	INITIAL RELEASE FOR PRODUCTION.	05-21-99	KLW	JW		N/A	

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125424.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
4. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
5. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
6. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.
7. SOLDER C945 (C 6806-1) ACROSS R976 AS SHOWN ON THE COMPONENT MAP.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
For Reference Use Only

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT10A CONTROL 220/240V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	05-21-99	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JW	05/21/99	ME	5-24-99	SUPERSEDES
SCALE	NONE		EE	N/A	E.C.N.
PROJ #	MD360D0		PE	5-21-99	DWG. NO. 125419-2 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	16"	Z902,Z903,Z930,Z931,
			Z932,Z933,Z934,Z935
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930,R933,R938,R957,R963,
			R964,R966,R969,R972,R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970,R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931,R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965,R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939,R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974,R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934,D937,D938,D939,D940
C 3181-2	DIODE, 1N4148 T/R	2	D930,D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935,D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930,Q932,Q933,Q934,Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933,C934,C936,C937,C941,
			C942,C943
C 6806-1	.01UF 100V AXIAL CER T/R	1	C945
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939,C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902,J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941,R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929,C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930,K931
100445-1	NTC, INRUSH CURR LIMITER 3A	2	R958,R959
101031-1	FASTON, TAB .250 PC MNT	13	W1,W2,W3,W4,W5,W6,W7,W8,W9,
			W10,W11,W12,W13
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125419-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
C945	C 6806-1	.01UF 100V AXIAL CER T/R	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125419-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R959	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930	A10124-24	WIRE, #24 SOLID BUSS	
Z931	A10124-24	WIRE, #24 SOLID BUSS	
Z932	A10124-24	WIRE, #24 SOLID BUSS	
Z933	A10124-24	WIRE, #24 SOLID BUSS	
Z934	A10124-24	WIRE, #24 SOLID BUSS	
Z935	A10124-24	WIRE, #24 SOLID BUSS	
	125415-1	PWB, CT10A CONTROL, ,	

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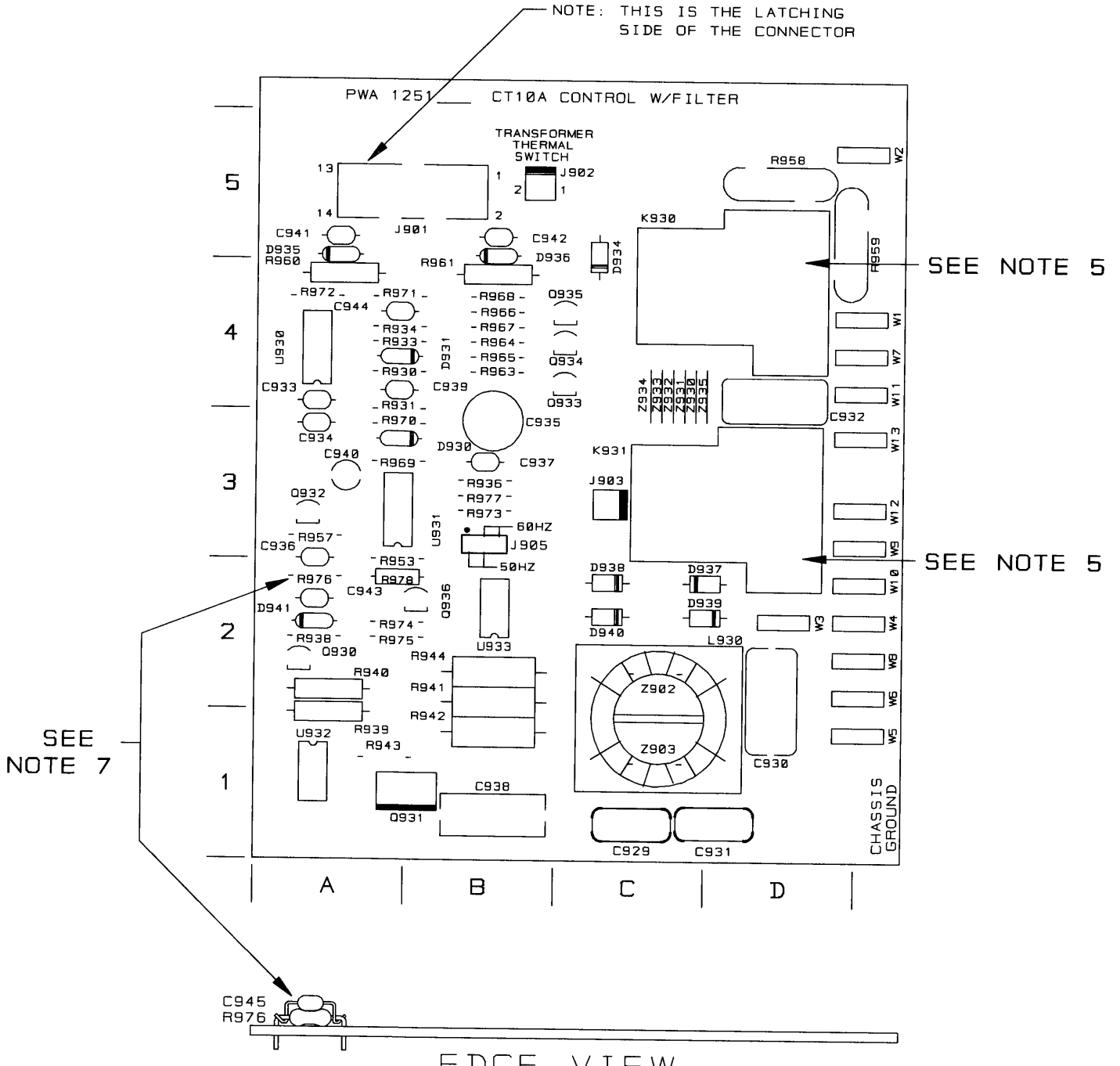
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125419-2		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



EDGE VIEW

MOST COMPONENTS OMITTED FOR CLARITY.

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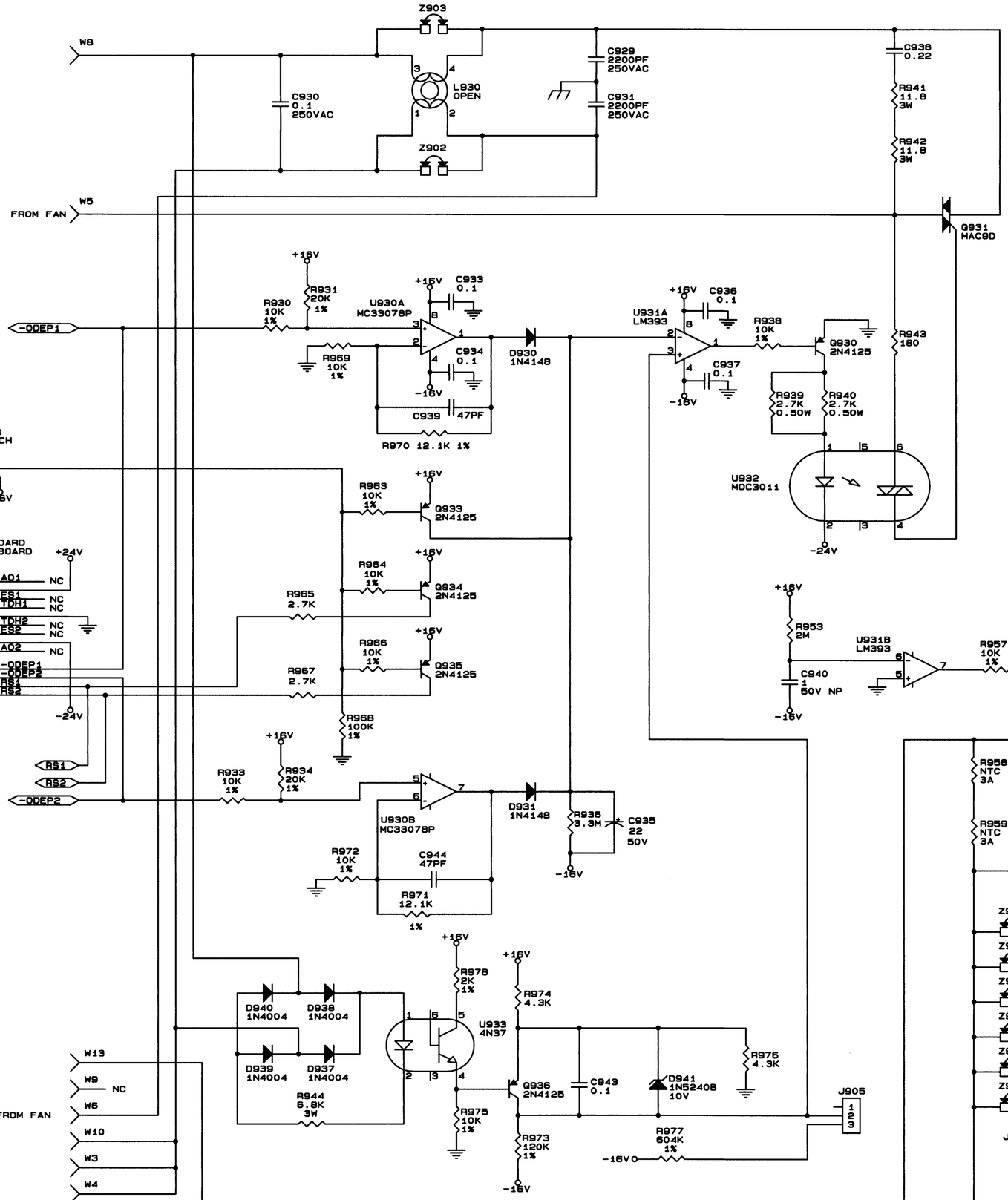
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125419-2		A

DWG. NO. 125424 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	11-10-97	KLW				



LAST USED	NOT USED
C944	900-928
D941	900-929, 932, 933
J905	900, 904
K931	900-929
Q936	900-929
R978	932, 935, 937, 945-952, 954-956, 962
U933	900-929
W13	
Z935	900, 901, 904-929

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

INACTIVE
For Reference Use Only
Document Has Been Replaced with a Newer Version

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PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, CONTROL CT10A 220/240V

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	[signature]	11-13-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE	[signature] 11-14-97	DWG. NO. 125424 REV (A)
FILENAME:	1254241A.SCM		NEXT ASSEMBLY:		

CT1610 Control Module 100V Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL

101530

REVISION	A	PRINTS	K
MADE BY	TOM SZERENCSE	SHEET NO.	1
DATE	01-27-97	CONT. ON SH	2
PROJ.	D360	DRAWN	KLW

TITLE: PWA, CT1610 CONTROL 100V

FIRST MADE FOR: CT1610

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	01-27-97										
SHEET NO. ⇩											
3	A										
4	A										
5	A										
6	A										
7	A										

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APPROVALS	NAME	DATE
EE	BLG	2-19-97
PE		2-19-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

101530

REVISION	A	TITLE: PWA, CT1610 CONTROL 100V	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	01-27-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT1610	DRAWN	KLW

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
TOM SZERENCSE	1-7	A	INITIAL RELEASE.

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 101528.
2. PWB PART NUMBER 100283-2.
3. PWA PART NUMBER 101530-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS. BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF CROWN INTERNATIONAL, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO. 101530	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100283-2	PWB, CT10 CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
A10124-24	WIRE, #24 SOLID BUS	4"	R937, R959
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO. 101530	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100283-2	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO.	SHEET 5	REV
PROJ.	D360		101530	CONT. ON SHEET 6	A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930		--- NOT USED ---	D 3
Z931		--- NOT USED ---	D 3
Z932		--- NOT USED ---	D 3
Z933		--- NOT USED ---	D 3
Z934		--- NOT USED ---	D 3
Z935		--- NOT USED ---	D 3

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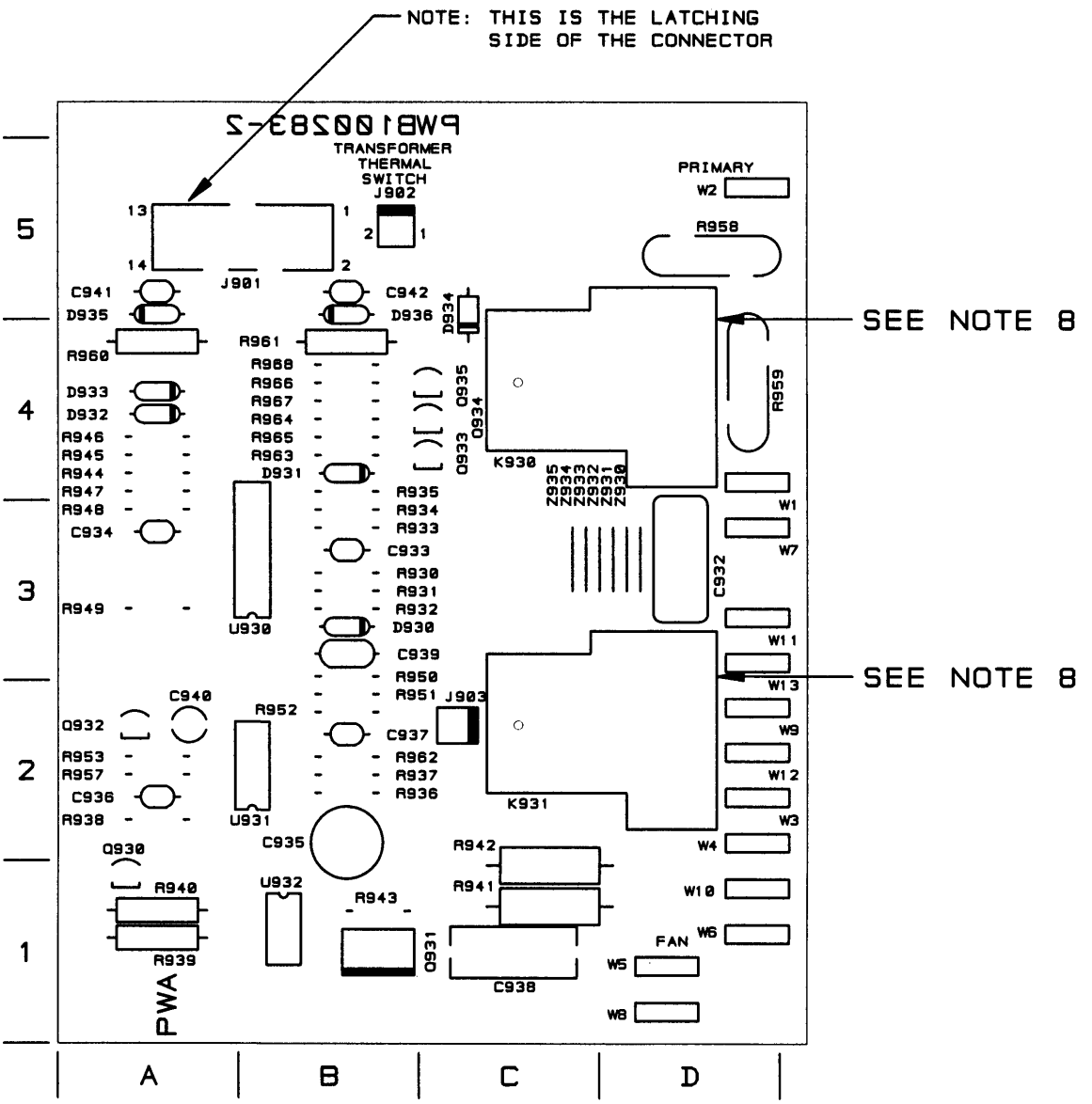
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO. 101530	SHEET 6 CONT. ON SHEET 7	REV A
PROJ.	D360				

COMPONENT MAP
(COMPONENT SIDE VIEW)



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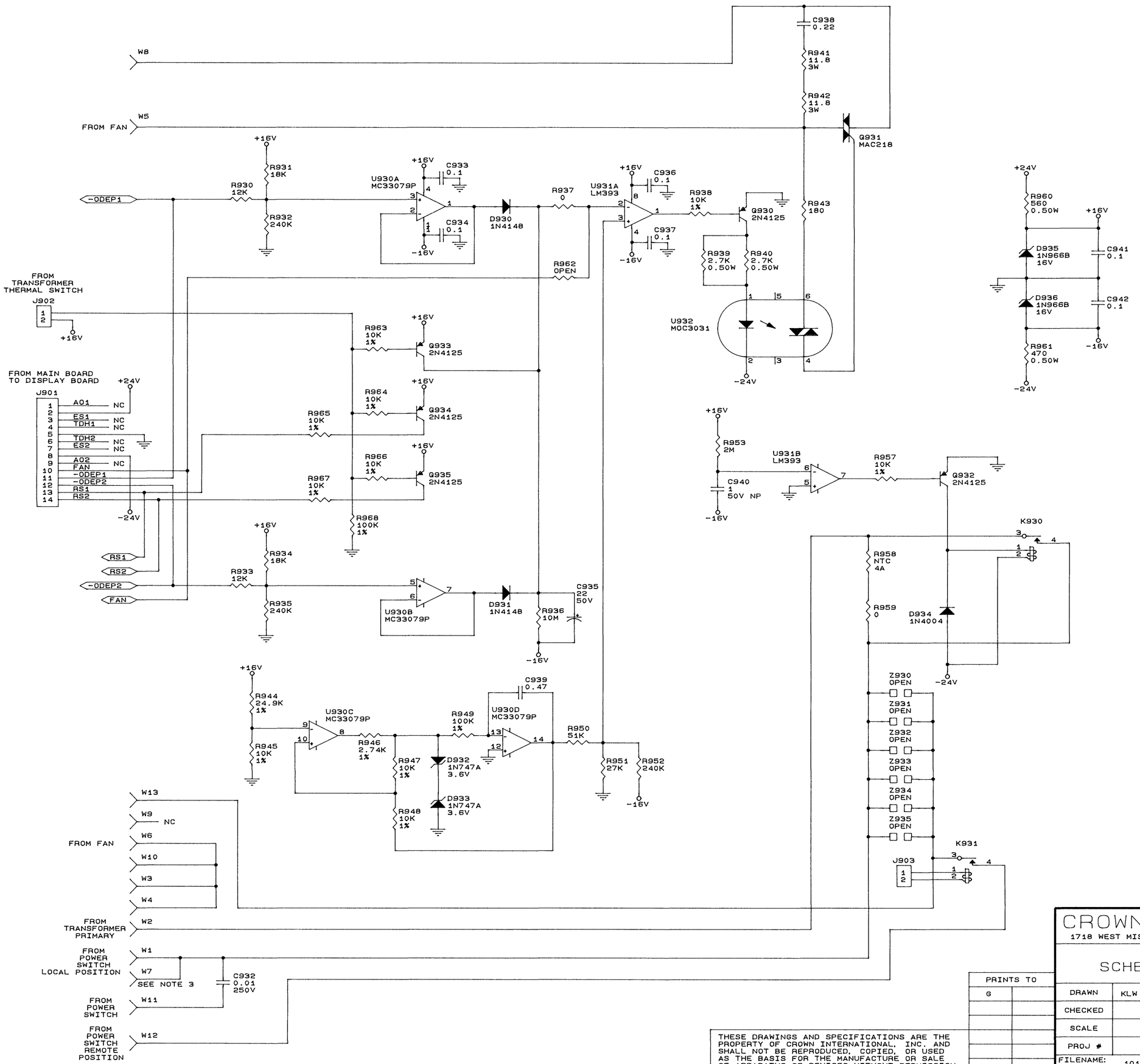
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO.	SHEET 7	REV
PROJ.	D360		101530		A

DWG. NO. 101528 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	02-18-97	KLW			BLC	



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

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PRINTS TO	
G	

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT1610 CONTROL 100V

DRAWN	KLW	02-18-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100285
SCALE	NONE		EE		E.C.
PROJ #	D360		PE	2-19-97	DWG. NO. 101528 REV (A)
FILENAME:	1015281A.SCM		NEXT ASSEMBLY:		

CT1610 Control Module 120V Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL

101531

REVISION	A	TITLE: PWA, CT1610 CONTROL 120V		PRINTS	K
MADE BY	TOM SZERENCSE			SHEET NO.	1
DATE	01-27-97			CONT. ON SH	2
PROJ.	D360	FIRST MADE FOR: CT1610		DRAWN	KLW

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	01-27-97										
SHEET NO. ⇩											
3	A										
4	A										
5	A										
6	A										
7	A										

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APPROVALS	NAME	DATE
EE	BG	2-19-97
PE		2-19-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

101531	

REVISION	A	TITLE: PWA, CT1610 CONTROL 120V	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	01-27-97		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT1610	DRAWN	KLW

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
TOM SZERENCSE	1-7	A	INITIAL RELEASE.

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 101529.
2. PWB PART NUMBER 100283-2.
3. PWA PART NUMBER 101531-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO. 101531	REV A
PROJ.	D360		SHEET 3 CONT. ON SHEET 4	

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100283-2	PWB, CT10 CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
A10124-24	WIRE, #24 SOLID BUS	4"	R937, R959
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO.	SHEET 4	REV
PROJ.	D360		101531	CONT. ON SHEET 5	A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100283-2	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	01-27-97	DWG. NO.	SHEET 5	REV
PROJ.	D360		101531	CONT. ON SHEET 6	A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930		--- NOT USED ---	D 3
Z931		--- NOT USED ---	D 3
Z932		--- NOT USED ---	D 3
Z933		--- NOT USED ---	D 3
Z934		--- NOT USED ---	D 3
Z935		--- NOT USED ---	D 3

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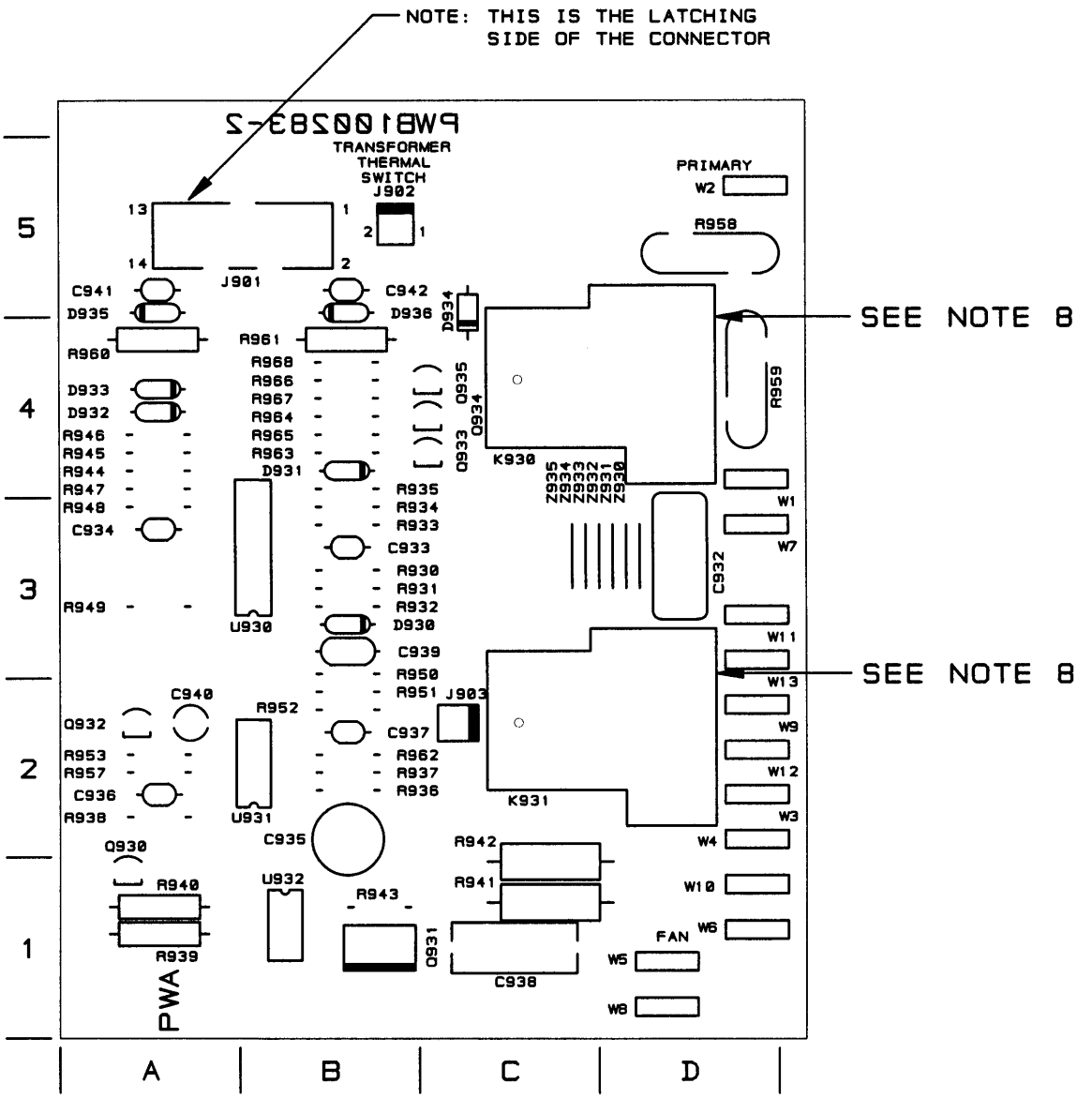
DRAWN	KLW	01-27-97	DWG. NO.	SHEET 6	REV
PROJ.	D360		101531	CONT. ON SHEET 7	A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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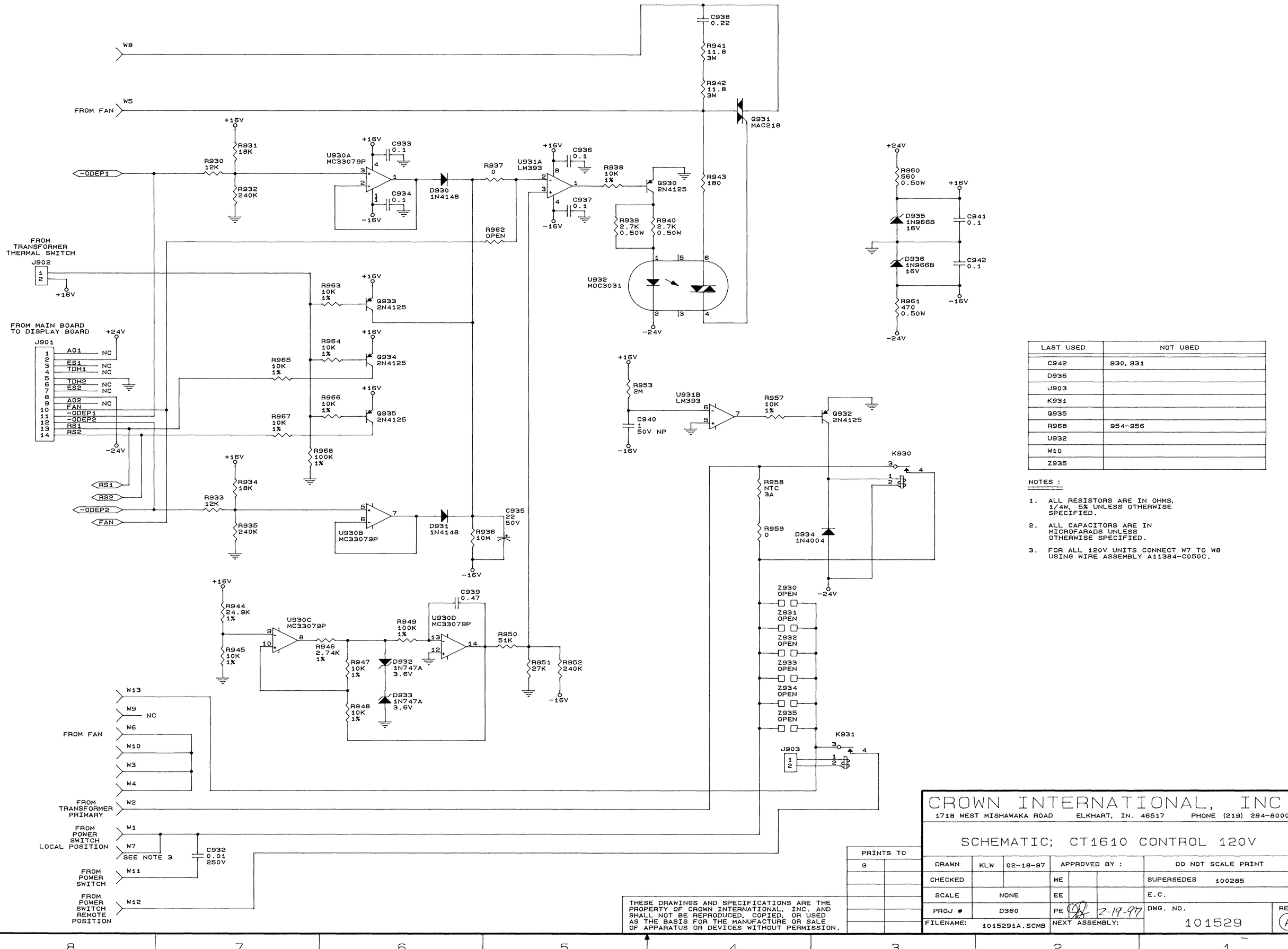
DRAWN	KLW	01-27-97	DWG. NO.	SHEET 7	REV
PROJ.	D360		101531		A

DWG. NO. 101529 REV (A)

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE.	02-18-97	KLW			BLC	



LAST USED	NOT USED
C942	930, 931
D936	
J903	
K931	
Q935	
R968	954-956
U932	
W10	
Z935	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

PRINTS TO	
G	

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CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT1610 CONTROL 120V

DRAWN	KLW	02-18-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES 100285
SCALE	NONE		EE		E.C.
PROJ #	D360		PE	2-19-97	DWG. NO. 101529 REV (A)
FILENAME:	1015291A.SCMB		NEXT ASSEMBLY:		

CT1610A Control Module 100V 102827 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS			
						CHK	ME	EE	PE
		A	INITIAL RELEASE	06/03/97	LCD				

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102828.
2. PWB PART NUMBER 102824-1.
3. PWA PART NUMBER 102827-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS	PWA CT1610A CONTROL 100V	TOL. UNLESS SPECIFIED X.XX - ± 0.020, X.XXX - ± 0.010, DRILLS - ± 0.003
K		

DRAWN	LCD	06/03/97	APPROVED BY:			DO NOT SCALE PRINT
CHECKED	KW	6/4/97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.N.
PROJ #	MD360D0		PE		6.4.97	DWG. NO. 102827 SHEET 1 OF 5
NEXT ASSEMBLY						REV A

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102824-1	PWB, CT10A CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
A10124-24	WIRE, #24 SOLID BUS	4"	R937, R959
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 2 0F 5	REV
PROJ.	MD360D0		102827		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102824-1	PWB, CT10 CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		102827		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930		--- NOT USED ---	D 3
Z931		--- NOT USED ---	D 3
Z932		--- NOT USED ---	D 3
Z933		--- NOT USED ---	D 3
Z934		--- NOT USED ---	D 3
Z935		--- NOT USED ---	D 3

INACTIVE
For Reference Use Only

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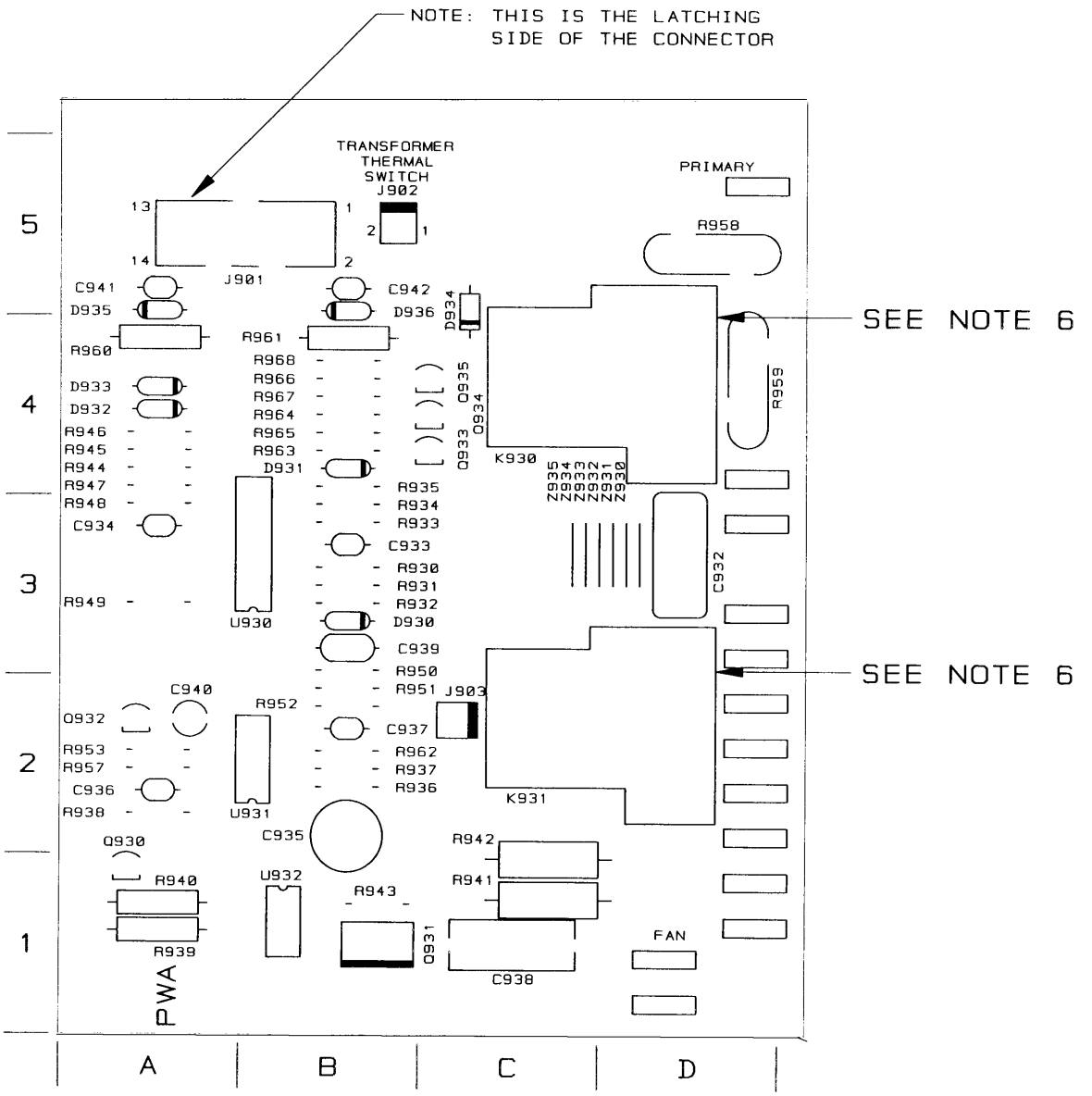
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		102827		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



INACTIVE
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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		102827		A

CT1610A Control Module 100V 125417 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	CM	EE	PE
T991758		A	RELEASE FOR PRODUCTION.	09-13-99	JAW	JLM	DSV	N/A	EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125422.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
4. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
5. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
6. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.
7. SOLDER C945 (C 6806-1) ACROSS R976 AS SHOWN ON THE COMPONENT MAP.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT1610A CONTROL 100V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	JAW	09-13-99	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	JLM	9-14-99	ME	N/A	SUPERSEDES
SCALE	NONE		EE	N/A	E.C.N.
PROJ #	MD360D0		PE	EB 9-15-99	DWG. NO. 125417-3 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	4"	R959,Z902
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930,R933,R938,R957,R963,
			R964,R966,R969,R972,R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970,R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931,R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965,R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939,R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974,R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934,D937,D938,D939,D940
C 3181-2	DIODE, 1N4148 T/R	2	D930,D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935,D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930,Q932,Q933,Q934,Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 5868-2	0 OHM 0.25W 20MILOHM MAX T/R	1	Z903
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933,C934,C936,C937,C941,
			C942,C943
C 6806-1	.01UF 100V AXIAL CER T/R	1	C945
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939,C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902,J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941,R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929,C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930,K931
101031-1	FASTON, TAB .250 PC MNT	13	W1,W2,W3,W4,W5,W6,W7,W8,W9,
			W10,W11,W12,W13
101131-1	NTC, INRUSH CURR LIMITER 4A	1	R958
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	09-13-99	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125417-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
C945	C 6806-1	.01UF 100V AXIAL CER T/R	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	09-13-99	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125417-3		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	101131-1	NTC, INRUSH CURRENT LIMITER 4A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	C 5868-2	0 OHM 0.25W 20MILOHM MAX T/R	
Z930		--- OPEN ---	
Z931		--- OPEN ---	
Z932		--- OPEN ---	
Z933		--- OPEN ---	
Z934		--- OPEN ---	
Z935		--- OPEN ---	
	125415-1	PWB, CT10A CONTROL, ,	

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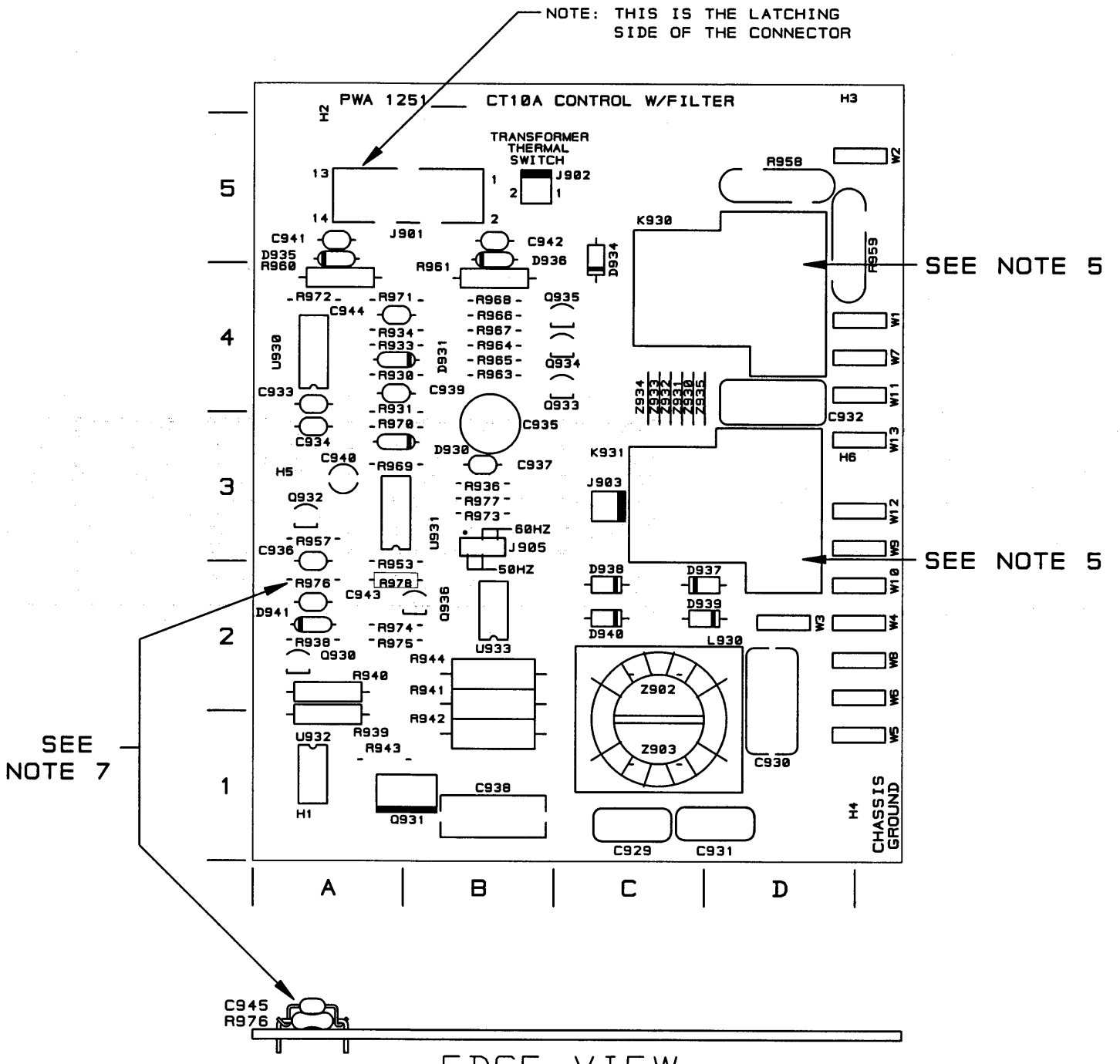
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	09-13-99	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125417-3		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



EDGE VIEW

MOST COMPONENTS OMITTED FOR CLARITY.

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	JAW	09-13-99	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125417-3		A

E.C.N.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVAL CK	CM	EE	PE
		A	INITIAL RELEASE.	11-10-97	KLW	TLM			EB
99E0235		B	ADDED C945. CONVERTED SCH FROM ORCAD TO CADSTAR.	05-27-99	KLW			N/A	EB

Z903 C930 0.1 250VAC L930 OPEN C929 2200PF 250VAC C931 2200PF 250VAC Z902 W8 FROM FAN W5

C938 0.22 R941 11.8 3W R942 11.8 3W Q931 MAC9D MT2 MT1 G R943 180

+16V R930 10K 1% R931 20K 1% -ODEP1 U930-A 33078 R969 10K 1% C946 47PF R970 12.1K 1% D930 1N4148

U931-A LM393 R938 10K 1% Q930 2N4125 R939 2.7K 0.50W R940 2.7K 0.50W U932 MOC3011 -24V

FROM TRANSFORMER THERMAL SWITCH J902 +16V

R963 10K 1% Q933 2N4125 R964 10K 1% Q934 2N4125 R965 2.7K R966 10K 1% Q935 2N4125 R967 2.7K R968 100K 1%

FROM MAIN BOARD TO DISPLAY BOARD J901 +24V -24V

1 AO1 NC
2 ES1 NC
3 TDH1 NC
4 TDH2 NC
5 ES2 NC
6 AO2 NC
7 -ODEP1
8 -ODEP2
9 RS1
10 RS2

RS1 RS2 -ODEP2

R933 10K 1% R934 20K 1% U930-B 33078 R972 10K 1% C944 47PF R971 12.1K 1% D931 1N4148 R936 3.3M C935 22 50V -16V

+24V R960 560 0.50W D935 1N9668 16V C941 0.1 D936 1N9668 16V C942 0.1 R961 470 0.50W +16V -16V -24V

+16V R953 2M C940 1 50V -16V U931-B LM393 R957 10K 1% Q932 2N4125

K932 R958 4A -T° R959 0 D934 1N4004 -24V

Z930 Z931 Z932 Z933 Z934 Z935 K931 J903

D940 1N4004 D938 1N4004 D939 1N4004 D937 1N4004 U933 4N37 R978 2K 1% R974 4.3K R944 6.8K 3W R975 10K 1% Q936 2N4125 C943 0.1 D941 1N5240B 10V R976 4.3K C945 0.01 R973 120K -16V R977 604K 1% J905

W13 W9 NC W6 FROM FAN W10 W3 W4 FROM TRANSFORMER PRIMARY W2 FROM POWER SWITCH LOCAL POSITION W1 W7 SEE NOTE 3 C932 0.01 250V FROM POWER SWITCH W11 FROM POWER SWITCH REMOTE POSITION W12

+16V C936 0.1 U931-C LM393 C937 0.1 -16V

+16V C933 0.1 U930-C 33078 C934 0.1 -16V

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

CROWN INTERNATIONAL, INC.
1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE (219) 294-8000

SCHEM, CT1610A CONTROL 100V

TOL. UNLESS SPECIFIED
X.XX = ±0.02"
X.XXX = ±0.010"
DRILLS = ±0.003"

PRINTS TO		DRAWN BY	KLW	11-10-97	APPROVED BY:			DO NOT SCALE PRINT
G		CHECKED	TLM	11-13-97	ME	N/A		SUPERSEDES
		SCALE	NONE		EE	N/A		E.C.
		PROJ. #	MD360D0		PE	EB	11-14-97	DWG. NO. 125422 REV B
		FILENAME:	125422_B.SCM		NEXT ASSEMBLY:			

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CT1610A Control Module 120V 102829 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	06/03/97	LCD	kw			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102830.
2. PWB PART NUMBER 102824-1.
3. PWA PART NUMBER 102829-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
For Reference Use Only

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS	PWA CT1610A CONTROL 120V					TOL. UNLESS SPECIFIED X.XX = ± 0.020 X.XXX = ± 0.010 DRILLS = ± 0.003
K	DRAWN	LCD	06/03/97	APPROVED BY:		DO NOT SCALE PRINT
	CHECKED	kw	06-04-97	ME		SUPERSEDES
	SCALE	NONE		EE		E.C.N.
	PROJ #	MD360D0		PE	6-4-97	DWG. NO. 102829 SHEET 1 OF 5 REV A
	NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102824-1	PWB, CT10A CONTROL, , ,	1	1
101031-1	FASTON, TAB .250 PC MNT	13	W1, W10, W2, W3, W4, W5, W6, W7,
			W8, W9, W11, W12, W13
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
A10124-24	WIRE, #24 SOLID BUS	4"	R937, R959
A10265-10021	10. KOHM .25W 1 MF T/R	10	R938, R945, R947, R948, R957,
			R963, R964, R965, R966, R967
A10265-10031	100. KOHM .25W 1 MF T/R	2	R949, R968
A10265-24921	24.9 KOHM .25W 1% MF T/R	1	R944
A10265-27411	2.74KOHM .25W 1% MF T/R	1	R946
A10266-1061	10. MOHM .25W 5% CF T/R	1	R936
A10266-1231	12.KOHM .25W 5% CF T/R	2	R930, R933
A10266-1811	180. OHM .25W 5% CF25 T/R	1	R943
A10266-1831	18. KOHM .25W 5% CF T/R	2	R931, R934
A10266-2051	2 MOHM .25W 5 CF T/R	1	R953
A10266-2441	240. KOHM .25W 5% CF T/R	3	R932, R935, R952
A10266-2722	2.7 KOHM .5W 5% CF T/R	2	R939, R940
A10266-2731	27. KOHM .25W 5 CF T/R	1	R951
A10266-4712	470, 0.50W, 5%, CF	1	R961
A10266-5131	51. KOHM .25W 5 CF25 T/R	1	R950
A10266-5612	560. OHM .5W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	1	D934
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3625-8	2N4125 30V PNP T/R	5	Q930, Q932, Q933, Q934, Q935,
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6802-0	.47UF 50V AXIAL CER T/R 474	1	C939
C 6804-6	.1UF 50V AXIAL CER T/R 104	6	C933, C934, C936, C937, C941,
			C942
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7558-7	MC33079P QUAD LOW NOISE OP A	1	U930
C 7662-7	MAC218A6 8AMP 400V TRIAC	1	Q931
C 7664-3	MOC3031 ZERO OPTO TRIAC	1	U932
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8369-8	1N747A 3.6V 5% ZENER .5W	2	D932, D933
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		102829		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102824-1	PWB, CT10A CONTROL, , ,	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	D 3
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 3
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 3
C935	C 5311-3	22UF 50V 20% NP VERT T/A	B 2
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 2
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C938	C 8554-5	.22UF 250V 10% POLYESTER	C 1
C939	C 6802-0	.47UF 50V AXIAL CER T/R 474	B 3
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	A 2
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	A 5
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 5
D930	C 3181-2	DIODE, 1N4148 T/R	B 3
D931	C 3181-2	DIODE, 1N4148 T/R	B 4
D932	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D933	C 8369-8	1N747A 3.6V 5% ZENER .5W	A 4
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 5
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	A 5
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	B 5
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	B 5
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	B 5
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	C 2
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 4
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	C 2
Q930	C 3625-8	2N4125 30V PNP T/R	A 1
Q931	C 7662-7	MAC218A6 8AMP 400V TRIAC	B 1
Q932	C 3625-8	2N4125 30V PNP T/R	A 2
Q933	C 3625-8	2N4125 30V PNP T/R	B 4
Q934	C 3625-8	2N4125 30V PNP T/R	B 4
Q935	C 3625-8	2N4125 30V PNP T/R	B 4
R930	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R931	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R932	A10266-2441	240. KOHM .25W 5% CF T/R	B 3
R933	A10266-1231	12.KOHM .25W 5% CF T/R	B 3
R934	A10266-1831	18. KOHM .25W 5% CF T/R	B 3
R935	A10266-2441	240. KOHM .25W 5% CF T/R	B 4
R936	A10266-1061	10. MOHM .25W 5 CF25 T/R	B 2
R937	A10124-24	WIRE, #24 SOLID BUS	B 2
R938	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R939	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R940	A10266-2722	2.7 KOHM .5W 5% CF T/R	A 1
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	C 1
R943	A10266-1811	180. OHM .25W 5% CF25 T/R	B 1
R944	A10265-24921	24.9 KOHM .25W 1% MF T/R	A 4

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	LCD	06/03/97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		102829		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R945	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R946	A10265-27411	2.74KOHM .25W 1% MF T/R	A 4
R947	A10265-10021	10. KOHM .25W 1 MF T/R	A 4
R948	A10265-10021	10. KOHM .25W 1 MF T/R	A 3
R949	A10265-10031	100. KOHM .25W 1 MF T/R	A 3
R950	A10266-5131	51. KOHM .25W 5 CF25 T/R	B 3
R951	A10266-2731	27. KOHM .25W 5 CF T/R	B 2
R952	A10266-2441	240. KOHM .25W 5% CF T/R	B 2
R953	A10266-2051	2 MOHM .25W 5 CF T/R	A 2
R957	A10265-10021	10. KOHM .25W 1 MF T/R	A 2
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	D 5
R959	A10124-24	WIRE, #24 SOLID BUSS	D 4
R960	A10266-5612	560. OHM .5W 5% CF T/R	A 4
R961	A10266-4712	470, 0.50W, 5%, CF	B 4
R962		DO NOT INSTALL	B 2
R963	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R964	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R965	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R966	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R967	A10265-10021	10. KOHM .25W 1 MF T/R	B 4
R968	A10265-10031	100. KOHM .25W 1 MF T/R	B 4
U930	C 7558-7	MC33079P QUAD LOW NOISE OP AMP	B 3
U931	C 7444-0	LM393 DUAL COMPARATOR	B 2
U932	C 7664-3	MOC3031 ZERO OPTO TRIAC	B 1
W1	101031-1	FASTON, TAB .250 PC MNT	D 4
W2	101031-1	FASTON, TAB .250 PC MNT	D 5
W3	101031-1	FASTON, TAB .250 PC MNT	D 2
W4	101031-1	FASTON, TAB .250 PC MNT	D 2
W5	101031-1	FASTON, TAB .250 PC MNT	D 1
W6	101031-1	FASTON, TAB .250 PC MNT	D 1
W7	101031-1	FASTON, TAB .250 PC MNT	D 3
W8	101031-1	FASTON, TAB .250 PC MNT	D 1
W9	101031-1	FASTON, TAB .250 PC MNT	D 2
W10	101031-1	FASTON, TAB .250 PC MNT	D 1
W11	101031-1	FASTON, TAB .250 PC MNT	D 3
W12	101031-1	FASTON, TAB .250 PC MNT	D 2
W13	101031-1	FASTON, TAB .250 PC MNT	D 3
Z930		--- NOT USED ---	D 3
Z931		--- NOT USED ---	D 3
Z932		--- NOT USED ---	D 3
Z933		--- NOT USED ---	D 3
Z934		--- NOT USED ---	D 3
Z935		--- NOT USED ---	D 3

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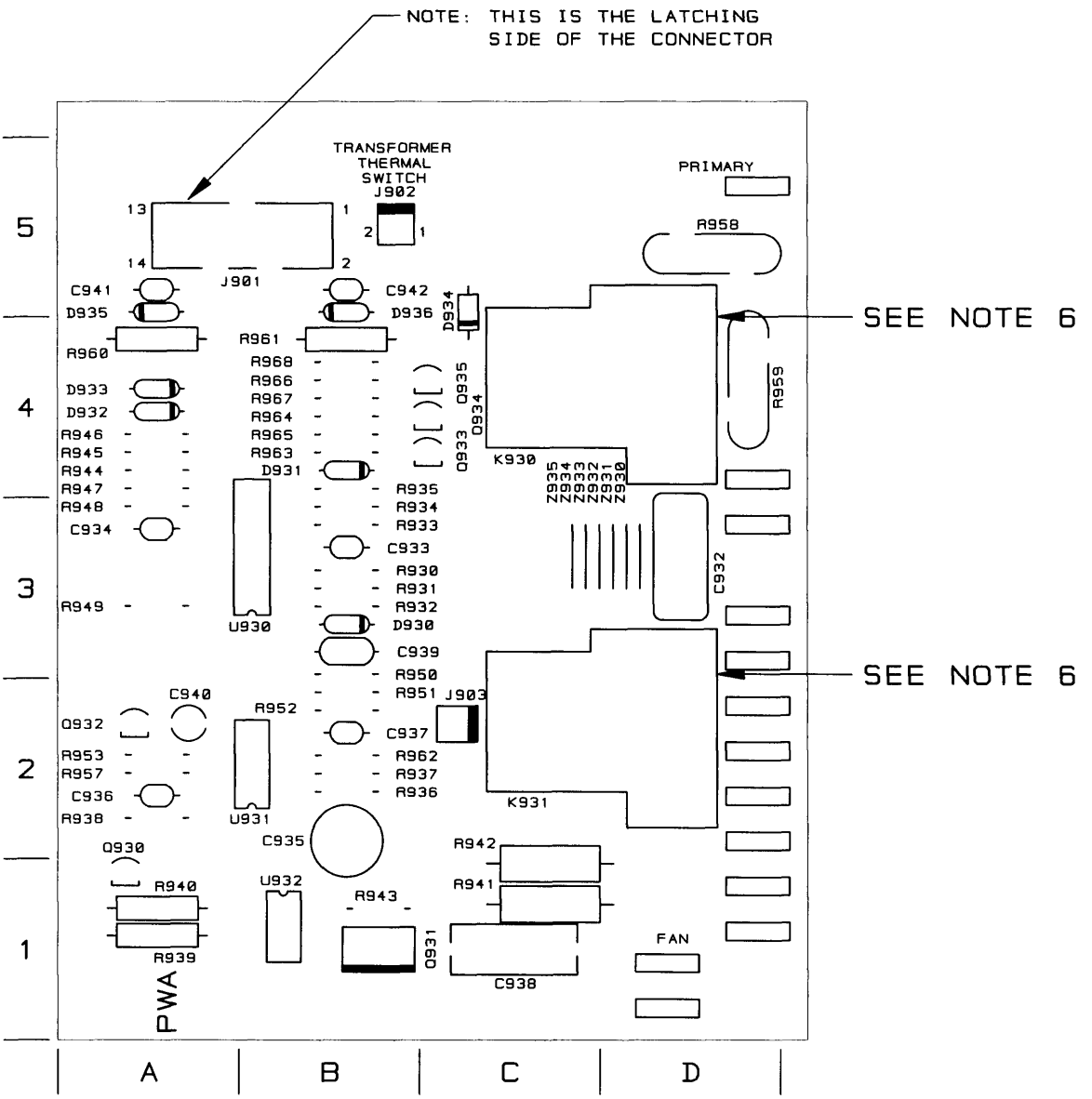
DRAWN	LCD	06/03/97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		102829		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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DRAWN	LCD	06/03/97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		102829		A

CT1610A Control Module 120V 125418 Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	11-04-97	KLW				

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125423.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. PRINTED WIRING ASSEMBLY PART NUMBER 125418-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
7. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE
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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT1610A CONTROL 120V

TOL. UNLESS SPECIFIED
X.XX - ± 0.020
X.XXX - ± 0.010
DRILLS - ± 0.003

DRAWN	KLW	11-04-97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED		11-11-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	11-11-97	DWG. NO. 125418 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	6"	R959, Z902, Z903
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930, R933, R938, R957, R963,
			R964, R966, R969, R972, R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970, R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931, R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965, R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939, R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974, R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934, D937, D938, D939, D940
C 3181-2	DIODE, 1N4148 T/R	2	D930, D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935, D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930, Q932, Q933, Q934, Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933, C934, C936, C937, C941,
			C942, C943
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939, C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902, J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941, R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929, C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930, K931
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
101031-1	FASTON, TAB .250 PC MNT	13	W1, W2, W3, W4, W5, W6, W7, W8, W9,
			W10, W11, W12, W13
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125418		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125418		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930		--- OPEN ---	
Z931		--- OPEN ---	
Z932		--- OPEN ---	
Z933		--- OPEN ---	
Z934		--- OPEN ---	
Z935		--- OPEN ---	
	125415-1	PWB, CT10A CONTROL, ,	

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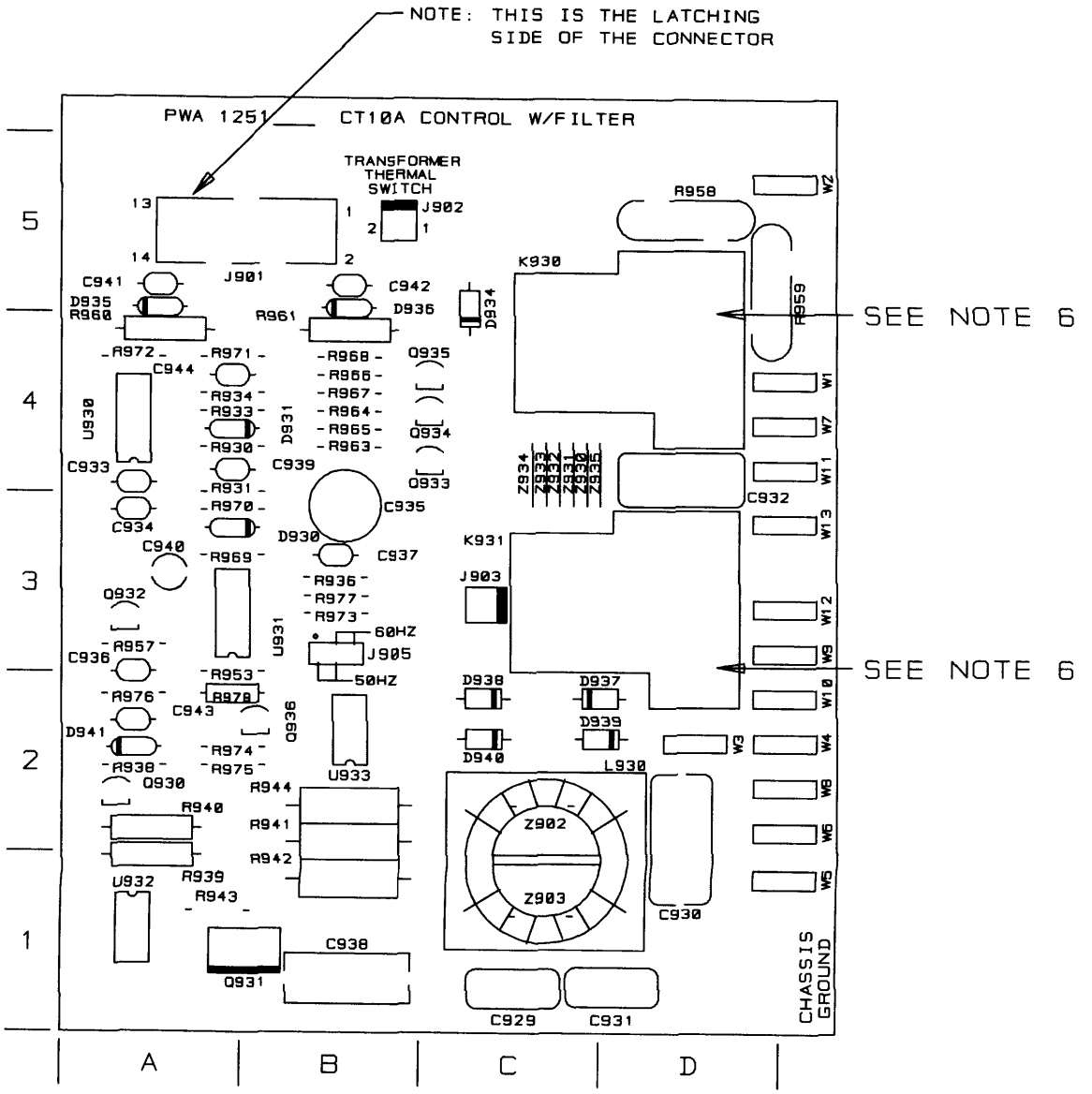
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125418		A

COMPONENT MAP

(COMPONENT SIDE VIEW)



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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	11-04-97	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125418		A

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	CM	EE	PE
99E0214		A	INITIAL RELEASE FOR PRODUCTION.	05-21-99	KLW	KLW	JmL	N/A	EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125423.
2. PRINTED WIRING BOARD PART NUMBER 125415-1.
3. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
4. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
5. THE VENT HOLE ON TOP OF THE RELAY K930 AND K931 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMULAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
6. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD AND SHALL BE PERMANENT.
7. SOLDER C945 (C 6806-1) ACROSS R976 AS SHOWN ON THE COMPONENT MAP.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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For Reference Use Only

CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

PRINTS: K

PWA CT1610A CONTROL 120V

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	KLW	05-21-99	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KLW	05/21/99	ME	CDH 5-24-99	SUPERSEDES
SCALE	NONE		EE	N/A	E.C.N.
PROJ #	MD360D0		PE	EB 5-21-99	DWG. NO. 125418-2 SHEET 1 OF 5 REV A
NEXT ASSEMBLY					

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10124-24	WIRE, #24 SOLID BUS	6"	R959,Z902,Z903
A10265-10021	10K OHM 0.25W 1% MF T/R	10	R930,R933,R938,R957,R963,
			R964,R966,R969,R972,R975
A10265-10031	100K OHM 0.25W 1% MF T/R	1	R968
A10265-12121	12.1K OHM 0.25W 1% MF T/R	2	R970,R971
A10265-20011	2K OHM 0.25W 1% MF T/R	1	R978
A10265-20021	20K OHM 0.25W 1% MF T/R	2	R931,R934
A10265-60431	604K OHM 0.25W 1% MF T/R	1	R977
A10266-1241	120K OHM 0.25W 5% CF T/R	1	R973
A10266-1811	180 OHM 0.25W 5% CF25 T/R	1	R943
A10266-2051	2M OHM 0.25W 5% CF T/R	1	R953
A10266-2721	2.7K OHM 0.25W 5% CF T/R	2	R965,R967
A10266-2722	2.7K OHM 0.50W 5% CF T/R	2	R939,R940
A10266-3351	3.3M OHM 0.25W 5% CF T/R	1	R936
A10266-4321	4.3K OHM 0.25W 5% CF T/R	2	R974,R976
A10266-4712	470 OHM 0.50W 5% CF	1	R961
A10266-5612	560 OHM 0.50W 5% CF T/R	1	R960
C 2851-1	RECTIFIER, 1N4004 SILICON T/	5	D934,D937,D938,D939,D940
C 3181-2	DIODE, 1N4148 T/R	2	D930,D931
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D935,D936
C 3549-0	DIODE, ZENER 10V 1N5240B T/R	1	D941
C 3625-8	2N4125 30V PNP T/R	6	Q930,Q932,Q933,Q934,Q935,
			Q936
C 5311-3	22UF 50V 20% NP VERT T/A	1	C935
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C933,C934,C936,C937,C941,
			C942,C943
C 6806-1	.01UF 100V AXIAL CER T/R	1	C945
C 6812-9	47PF 200V 10% NPO AXL CER	2	C939,C944
C 7444-0	LM393 DUAL COMPARATOR	1	U931
C 7636-1	MC33078P DUAL LOW NOISE OP A	1	U930
C 7665-0	MOC3011 OPTO TRIAC	1	U932
C 7746-8	3POS SGLROW HDR .025 POST G	1	J905
C 7873-0	2POS .1 CENTER MTA HEADER TI	2	J902,J903
C 8554-5	.22UF 250V 10% POLYESTER	1	C938
C 8894-5	1UF 50V VERT 10% NP ELECT T/	1	C940
C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	1	U933
C 9592-4	.01 250VAC UL/CSA 20% FILM	1	C932
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J901
C 9930-6	11.8 OHM 3W 5% WW T/R	2	R941,R942
C10325-6	2200.PF 250VAC 20% FILM Y2	2	C929,C931
C10326-4	.1UF 250VAC 20% FILM X2	1	C930
C10335-5	RELAY, 30A 24V T90 SEALED CE	2	K930,K931
100445-1	NTC, INRUSH CURR LIMITER 3A	1	R958
101031-1	FASTON, TAB .250 PC MNT	13	W1,W2,W3,W4,W5,W6,W7,W8,W9,
			W10,W11,W12,W13
125106-1	MAC9D 8A 400V TRIAC	1	Q931
125158-1	6.8K OHM 3W 5% WW T/R	1	R944
125415-1	PWB, CT10A CONTROL, , ,	1	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 2 OF 5	REV
PROJ.	MD360D0		125418-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
C929	C10325-6	2200.PF 250VAC 20% FILM Y2	
C930	C10326-4	.1UF 250VAC 20% FILM X2	
C931	C10325-6	2200.PF 250VAC 20% FILM Y2	
C932	C 9592-4	.01 250VAC UL/CSA 20% FILM	
C933	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C934	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C935	C 5311-3	22UF 50V 20% NP VERT T/A	
C936	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C937	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C938	C 8554-5	.22UF 250V 10% POLYESTER	
C939	C 6812-9	47PF 200V 10% NPO AXL CER	
C940	C 8894-5	1UF 50V VERT 10% NP ELECT T/R	
C941	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C942	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C943	C 6804-6	.1UF 50V AXIAL CER T/R 104	
C944	C 6812-9	47PF 200V 10% NPO AXL CER	
C945	C 6806-1	.01UF 100V AXIAL CER T/R	
D930	C 3181-2	DIODE, 1N4148 T/R	
D931	C 3181-2	DIODE, 1N4148 T/R	
D934	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D935	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D936	C 3533-4	DIODE, 1N966B 16V ZENER T/R	
D937	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D938	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D939	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D940	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	
D941	C 3549-0	DIODE, ZENER 10V 1N5240B T/R	
J901	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	
J902	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J903	C 7873-0	2POS .1 CENTER MTA HEADER TIN	
J905	C 7746-8	3POS SGLROW HDR .025 POST GOLD	
K930	C10335-5	RELAY, 30A 24V T90 SEALED CE	
K931	C10335-5	RELAY, 30A 24V T90 SEALED CE	
L930		--- OPEN ---	
Q930	C 3625-8	2N4125 30V PNP T/R	
Q931	125106-1	MAC9D 8AMP 400V TRIAC	
Q932	C 3625-8	2N4125 30V PNP T/R	
Q933	C 3625-8	2N4125 30V PNP T/R	
Q934	C 3625-8	2N4125 30V PNP T/R	
Q935	C 3625-8	2N4125 30V PNP T/R	
Q936	C 3625-8	2N4125 30V PNP T/R	
R930	A10265-10021	10K OHM 0.25W 1% MF T/R	
R931	A10265-20021	20K OHM 0.25W 1% MF T/R	
R933	A10265-10021	10K OHM 0.25W 1% MF T/R	
R934	A10265-20021	20K OHM 0.25W 1% MF T/R	
R936	A10266-3351	3.3M OHM 0.25W 5% CF25 T/R	
R938	A10265-10021	10K OHM 0.25W 1% MF T/R	
R939	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R940	A10266-2722	2.7K OHM 0.50W 5% CF T/R	
R941	C 9930-6	11.8 OHM 3W 5% WW T/R	
R942	C 9930-6	11.8 OHM 3W 5% WW T/R	

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 3 OF 5	REV
PROJ.	MD360D0		125418-2		A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R943	A10266-1811	180 OHM 0.25W 5% CF25 T/R	
R944	125158-1	6.8K OHM 3W 5% MF T/R	
R953	A10266-2051	2M OHM 0.25W 5% CF T/R	
R957	A10265-10021	10K OHM 0.25W 1% MF T/R	
R958	100445-1	NTC, INRUSH CURRENT LIMITER 3A	
R959	A10124-24	WIRE, #24 SOLID BUSS	
R960	A10266-5612	560 OHM 0.50W 5% CF T/R	
R961	A10266-4712	470 OHM 0.50W 5% CF	
R963	A10265-10021	10K OHM 0.25W 1% MF T/R	
R964	A10265-10021	10K OHM 0.25W 1% MF T/R	
R965	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R966	A10265-10021	10K OHM 0.25W 1% MF T/R	
R967	A10266-2721	2.7K OHM 0.25W 5% CF T/R	
R968	A10265-10031	100K OHM 0.25W 1% MF T/R	
R969	A10265-10021	10K OHM 0.25W 1% MF T/R	
R970	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R971	A10265-12121	12.1K OHM 0.25W 1% CF25 T/R	
R972	A10265-10021	10K OHM 0.25W 1% MF T/R	
R973	A10266-1241	120K OHM 0.25W 5% CF T/R	
R974	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R975	A10265-10021	10K OHM 0.25W 1% MF T/R	
R976	A10266-4321	4.3K OHM 0.25W 5% CF T/R	
R977	A10265-60431	604K OHM 0.25W 1% MF T/R	
R978	A10265-20011	2K OHM 0.25W 1% MF T/R	
U930	C 7636-1	MC33078P DUAL LOW NOISE OP AMP	
U931	C 7444-0	LM393 DUAL COMPARATOR	
U932	C 7665-0	MOC3011 OPTO TRIAC	
U933	C 9255-8	4N37 PHOTOXSISTOR OPTO ISOLR	
W1	101031-1	FASTON, TAB .250 PC MNT	
W2	101031-1	FASTON, TAB .250 PC MNT	
W3	101031-1	FASTON, TAB .250 PC MNT	
W4	101031-1	FASTON, TAB .250 PC MNT	
W5	101031-1	FASTON, TAB .250 PC MNT	
W6	101031-1	FASTON, TAB .250 PC MNT	
W7	101031-1	FASTON, TAB .250 PC MNT	
W8	101031-1	FASTON, TAB .250 PC MNT	
W9	101031-1	FASTON, TAB .250 PC MNT	
W10	101031-1	FASTON, TAB .250 PC MNT	
W11	101031-1	FASTON, TAB .250 PC MNT	
W12	101031-1	FASTON, TAB .250 PC MNT	
W13	101031-1	FASTON, TAB .250 PC MNT	
Z902	A10124-24	WIRE, #24 SOLID BUSS	
Z903	A10124-24	WIRE, #24 SOLID BUSS	
Z930		--- OPEN ---	
Z931		--- OPEN ---	
Z932		--- OPEN ---	
Z933		--- OPEN ---	
Z934		--- OPEN ---	
Z935		--- OPEN ---	
	125415-1	PWB, CT10A CONTROL, ,	

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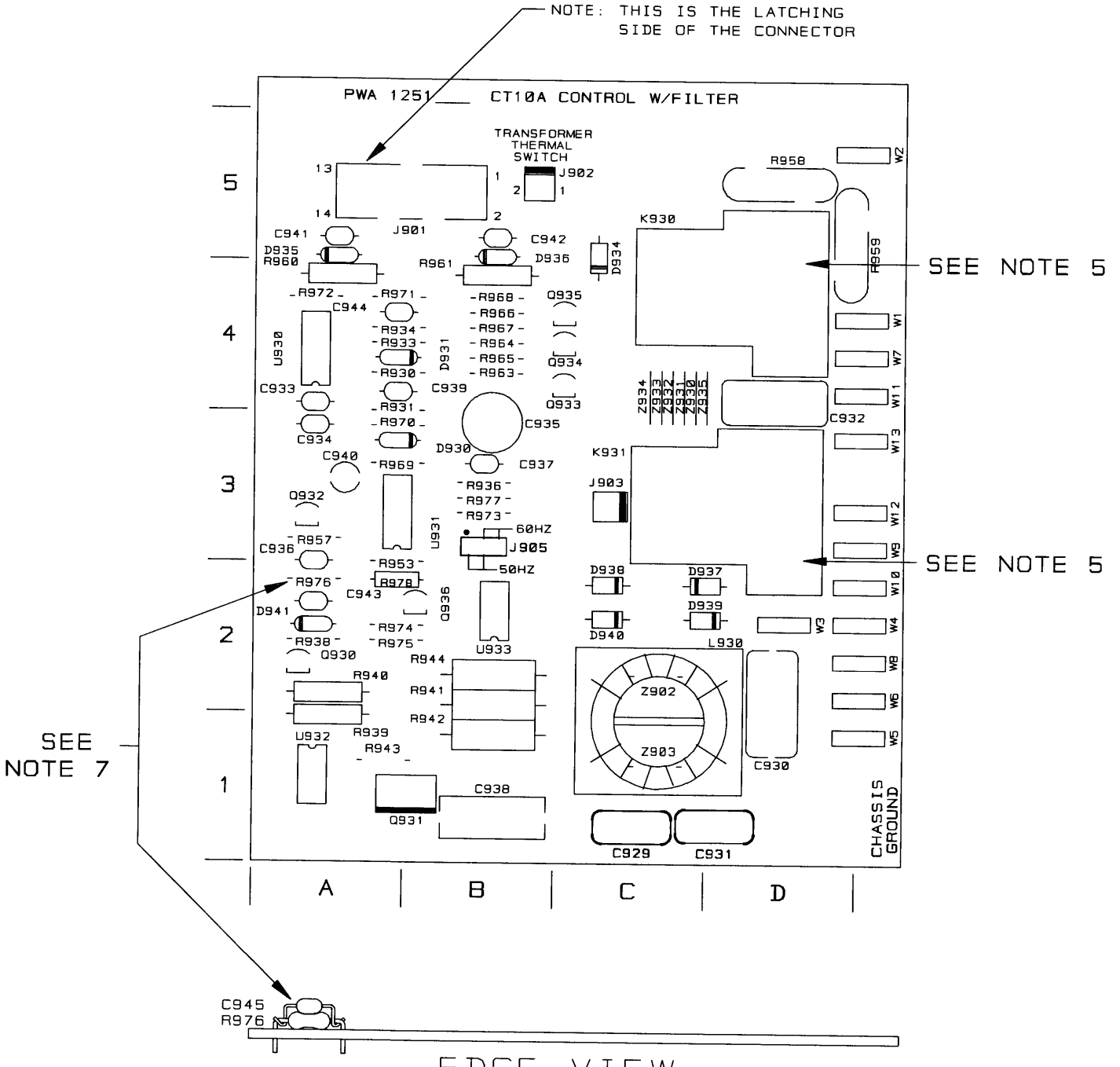
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 4 OF 5	REV
PROJ.	MD360D0		125418-2		A

COMPONENT MAP
(COMPONENT SIDE VIEW)



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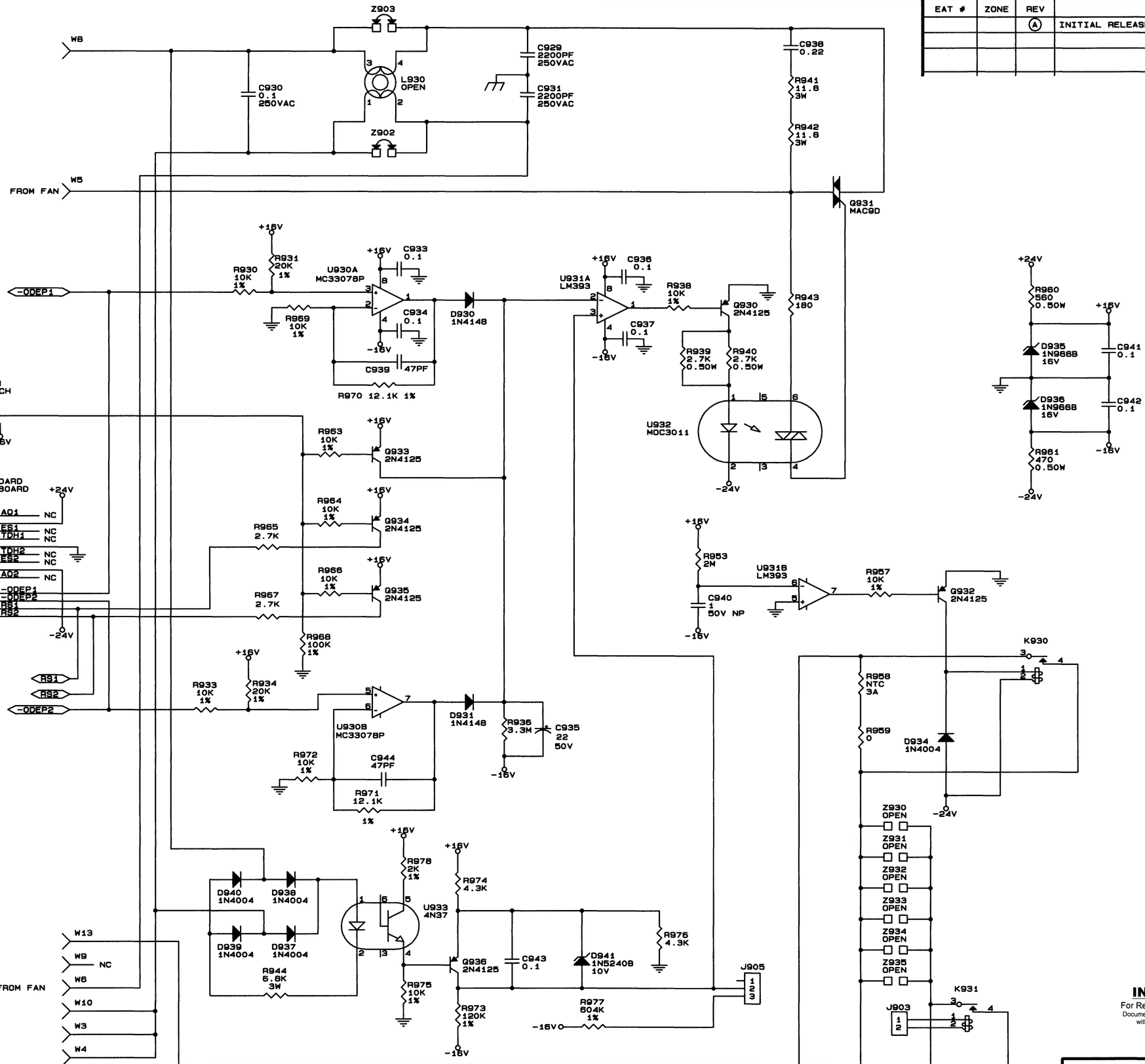
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	KLW	05-21-99	DWG. NO.	SHEET 5 OF 5	REV
PROJ.	MD360D0		125418-2		A

DWG. NO. 125423 REV A

EAT #	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	INITIAL RELEASE.	11-10-97	KLW	JLM			DB



LAST USED	NOT USED
C944	900-928
D941	900-929, 932, 933
J905	900, 904
K931	900-929
Q936	900-929
R978	932, 935, 937, 945-952, 954-956, 962
U933	900-929
W13	
Z935	900, 901, 904-929

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR ALL 120V UNITS CONNECT W7 TO W8 USING WIRE ASSEMBLY A11384-C050C.

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Document Has Been Replaced with a Newer Version

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PRINTS TO
G

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCH, CONTROL CT1610A 120V

DRAWN	KLW	11-10-97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	JLM	11-13-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD360D0		PE	DB 11-14-97	DWG. NO. 125423 REV A
FILENAME:	1254231A.SCM		NEXT ASSEMBLY:		

CT10 Display Module Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL

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For Reference Use Only

100281

REVISION	A	TITLE: PWA, CT10 DISPLAY	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	1
DATE	08-07-96		CONT. ON SH	2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	TLM

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	08-07-96										
SHEET NO. ⇩											
3	A										
4	A										
5	A										
6	A										
7	A										

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APPROVALS	NAME	DATE
EE	Pat Wiess	8/27/96
PE		8-29-96
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

INACTIVE
For Reference Use Only

100281

REVISION	A	TITLE: PWA, CT10 DISPLAY	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	08-07-96		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	TLM

REVISION CONTROL INFORMATION

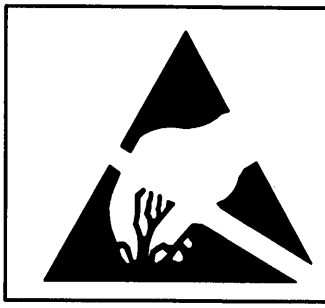
NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-7	A	INITIAL RELEASE

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 100282.
2. PWB PART NUMBER 100280-1.
3. PWA PART NUMBER 100281-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES AT REFERENCE DESIGNATION LOCATIONS J900.
   SEE COMPONENT MAP.
7. INSTALL J900 ON THE SOLDER SIDE OF THE BOARD.
   SEE COMPONENT MAP.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-06-96	DWG. NO. 100281	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100282-1	PWB, CT10 DISPLAY, , ,	1	1
A10265-12731	127 KOHM .25W 1 MF T/R	1	R914
A10265-34002	340. OHM .5W 1% MF T/R	1	R910
A10265-39221	39.2KOHM .25W 1% MF T/R	3	R911,R912,R913
A10266-1031	10. KOHM .25W 5% CF T/R	4	R1000,R1002,R900,R902
A10266-1051	1.0 MOHM .25W 5 CF T/R	2	R1004,R904
A10266-2222	2.2 KOHM .5W 5% CF T/R	3	R1003,R903,R908
A10266-2711	270. OHM .25W 5% CF T/R	1	R915
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R1005,R905
A10266-3322	3.3 KOHM .5W 5% CF T/R	4	R1001,R1007,R901,R907
A10266-4751	4.7 MOHM .25W 5 CF T/R	2	R1006,R906
A10266-8211	820. OHM .25W 5% CF T/R	1	R909
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D900,D901
C 3625-8	2N4125 30V PNP T/R	4	Q1000,Q1001,Q900,Q901
C 4345-2	LM339N VOLT COMPARATOR	1	U901
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C901,C902,C903,C904,C905,
			C906,C907
C 7444-0	LM393 DUAL COMPARATOR	1	U900
C 7661-9	LM358N DUAL OP AMP	1	U902
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J900
D 9117-9	LED, T 1.75 GREEN T/R	4	E1000,E1002,E900,E902
D 9118-7	LED, T 1.75 YELLOW T/R	2	E1001,E901
D 9119-5	LED, T 1.75 ORANGE T/R	1	E903

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-06-96	DWG. NO. 100281	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100282-1	PWB, CT10 DISPLAY, , ,	
C901	C 6804-6	.1UF 50V AXIAL CER T/R 104	F 1
C902	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
C903	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 1
C904	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 1
C905	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C906	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C907	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
D900	C 3533-4	DIODE, 1N966B 16V ZENER T/R	F 1
D901	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 1
E900	D 9117-9	LED, T 1.75 GREEN T/R	A 1
E901	D 9118-7	LED, T 1.75 YELLOW T/R	A 2
E902	D 9117-9	LED, T 1.75 GREEN T/R	A 2
E903	D 9119-5	LED, T 1.75 ORANGE T/R	F 2
E1000	D 9117-9	LED, T 1.75 GREEN T/R	C 1
E1001	D 9118-7	LED, T 1.75 YELLOW T/R	C 2
E1002	D 9117-9	LED, T 1.75 GREEN T/R	C 2
J900	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	D 2
Q900	C 3625-8	2N4125 30V PNP T/R	A 1
Q901	C 3625-8	2N4125 30V PNP T/R	A 1
Q1000	C 3625-8	2N4125 30V PNP T/R	C 1
Q1001	C 3625-8	2N4125 30V PNP T/R	C 1
R900	A10266-1031	10. KOHM .25W 5% CF T/R	B 1
R901	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R902	A10266-1031	10. KOHM .25W 5% CF T/R	B 2
R903	A10266-2222	2.2 KOHM .5W 5% CF T/R	A 1
R904	A10266-1051	1.0 MOHM .25W 5 CF T/R	D 1
R905	A10266-2751	2.7 MOHM .25W 5% CF T/R	D 1
R906	A10266-4751	4.7 MOHM .25W 5 CF T/R	D 1
R907	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R908	A10266-2222	2.2 KOHM .5W 5% CF T/R	F 2
R909	A10266-8211	820. OHM .25W 5% CF T/R	F 1
R910	A10265-34002	340. OHM .5W 1% MF T/R	E 2
R911	A10265-39221	39.2KOHM .25W 1% MF T/R	F 1
R912	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R913	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R914	A10265-12731	127 KOHM .25W 1 MF T/R	F 1
R915	A10266-2711	270. OHM .25W 5% CF T/R	F 1
R1000	A10266-1031	10. KOHM .25W 5% CF T/R	C 1
R1001	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 1
R1002	A10266-1031	10. KOHM .25W 5% CF T/R	C 2
R1003	A10266-2222	2.2 KOHM .5W 5% CF T/R	C 1
R1004	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 1
R1005	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 1
R1006	A10266-4751	4.7 MOHM .25W 5 CF T/R	E 1
R1007	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 1
U900	C 7444-0	LM393 DUAL COMPARATOR	B 1

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-06-96	DWG. NO.	SHEET 5	REV
PROJ.	D360		100281	CONT. ON SHEET 6	A

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
U901	C 4345-2	LM339N VOLT COMPARATOR	B 2
U902	C 7661-9	LM358N DUAL OP AMP	D 1

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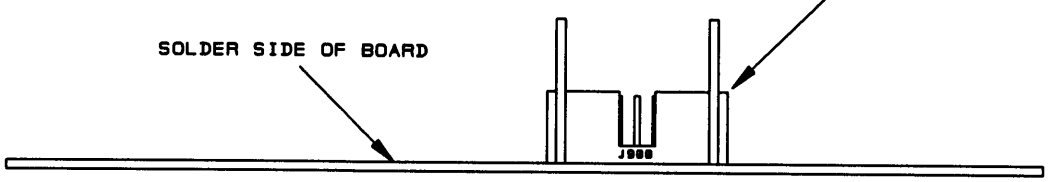
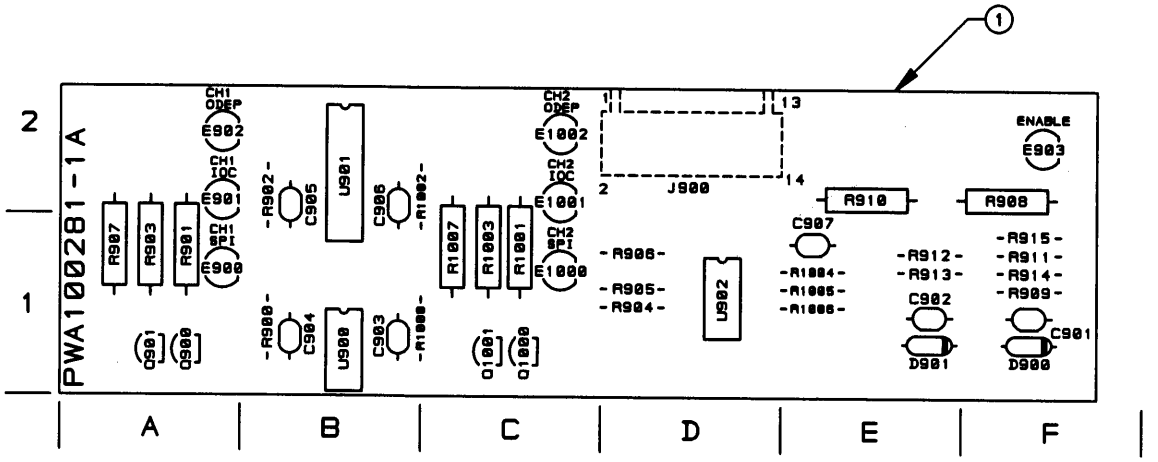
CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-06-96	DWG. NO. 100281	SHEET 6 CONT. ON SHEET 7	REV A
PROJ.	D360				

DWG. NO. 100281 REV A

COMPONENT MAP
(COMPONENT SIDE VIEW)





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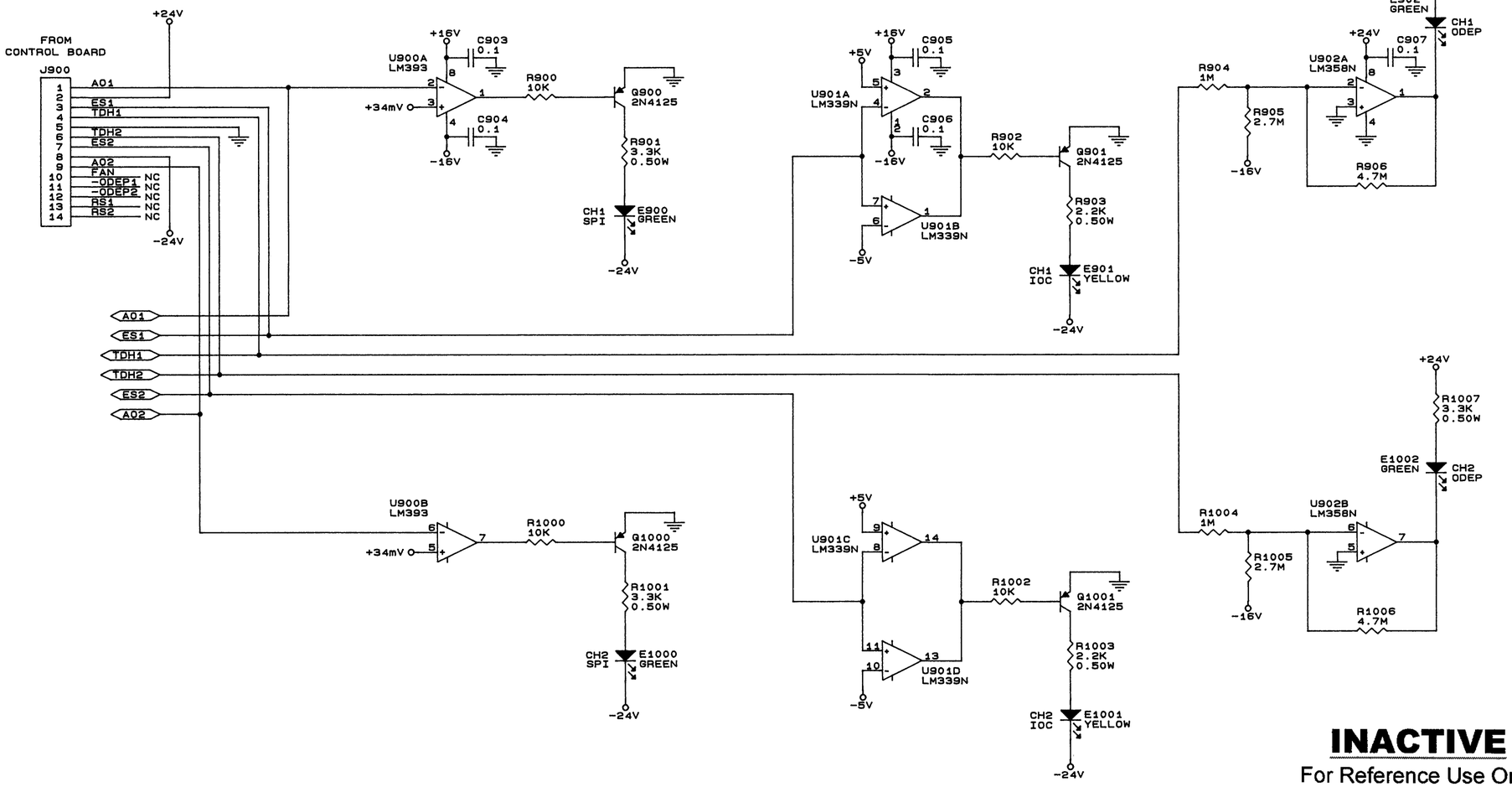
SCALE	NONE	DWG. NO.	REV
PROJ	D360	100281	A

SHEET 7
CONT. ON SHEET -

DWG. NO. 100282 REV (A)

E.C.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE	07/30/96	TLM			RW	
		○							
		○							



LAST USED	OBSOLETED
C906	
D901	
E903	
E1002	
Q901	
Q1001	
R915	
R1007	
U902	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

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PRINTS TO: G

CROWN INTERNATIONAL, INC.
1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT10 DISPLAY

DRAWN	TLM	07/30/96	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES
SCALE	NONE		EE	RW 8/30/96	E.C.
PROJ #	D360		PE	8/30/96	DWG. NO. SHEET 1 OF 1 REV
FILENAME:	1002820.SCM		NEXT ASSEMBLY:		100282 (A)

CT10A Display Module 102682 Information On Following Pages
Documentation, Component Map, Schematic

CROWN INTERNATIONAL

INACTIVE
For Reference Use Only

102682

REVISION	A	TITLE: PWA, CT'10A DISPLAY		PRINTS	K
MADE BY	TOM SZERENCSE			SHEET NO.	1
DATE	05-27-97			CONT. ON SH	2
PROJ.	MD360D0	FIRST MADE FOR: CT'10A SERIES		DRAWN	TLM

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	05-27-97										
SHEET NO. ⇩											
3	A										
4	A										
5	A										
6	A										
7	A										

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APPROVALS	NAME	DATE
EE		5-28-97
PE		5-28-97
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

102682

REVISION	A	TITLE: PWA, CT'10A DISPLAY	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	05-27-97		CONT. ON SH	3
PROJ.	MD360D0	FIRST MADE FOR: CT'10A SERIES	DRAWN	TLM

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
TOM SZERENCSE	1-7	A	INITIAL RELEASE

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102684.
2. PWB PART NUMBER 102683-1.
3. PWA PART NUMBER 102682-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES AT REFERENCE DESIGNATION LOCATIONS J900.
   SEE COMPONENT MAP.
7. INSTALL J900 ON THE SOLDER SIDE OF THE BOARD.
   SEE COMPONENT MAP.

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	05-27-97	DWG. NO. 102682	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	MD360D0				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102683-1	PWB, CT'10A DISPLAY, , ,	1	1
A10265-12731	127 KOHM .25W 1 MF T/R	2	R1014,R914
A10265-34002	340. OHM .5W 1% MF T/R	1	R910
A10265-39221	39.2KOHM .25W 1% MF T/R	3	R911,R912,R913
A10266-1031	10. KOHM .25W 5% CF T/R	4	R1000,R1002,R900,R902
A10266-1051	1.0 MOHM .25W 5 CF T/R	2	R1004,R904
A10266-1641	160.KOHM .25W 5% CF T/R	2	R1016,R916
A10266-2222	2.2 KOHM .5W 5% CF T/R	3	R1003,R903,R908
A10266-2711	270. OHM .25W 5% CF T/R	2	R1015,R915
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R1005,R905
A10266-3322	3.3 KOHM .5W 5% CF T/R	4	R1001,R1007,R901,R907
A10266-4751	4.7 MOHM .25W 5 CF T/R	2	R1006,R906
A10266-8211	820. OHM .25W 5% CF T/R	1	R909
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D900,D901
C 3625-8	2N4125 30V PNP T/R	4	Q1000,Q1001,Q900,Q901
C 4345-2	LM339N VOLT COMPARATOR	1	U901
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C901,C902,C903,C904,C905,
			C906,C907
C 7444-0	LM393 DUAL COMPARATOR	1	U900
C 7661-9	LM358N DUAL OP AMP	1	U902
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J900
D 9117-9	LED, T 1.75 GREEN T/R	4	E1000,E1002,E900,E902
D 9118-7	LED, T 1.75 YELLOW T/R	2	E1001,E901
D 9119-5	LED, T 1.75 ORANGE T/R	1	E903

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	05-27-97	DWG. NO. 102682	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102683-1	PWB, CT'10A DISPLAY, , ,	
C901	C 6804-6	.1UF 50V AXIAL CER T/R 104	F 1
C902	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
C903	C 6804-6	.1UF 50V AXIAL CER T/R 104	C 1
C904	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 1
C905	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C906	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C907	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
D900	C 3533-4	DIODE, 1N966B 16V ZENER T/R	F 1
D901	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 1
E900	D 9117-9	LED, T 1.75 GREEN T/R	A 1
E901	D 9118-7	LED, T 1.75 YELLOW T/R	A 2
E902	D 9117-9	LED, T 1.75 GREEN T/R	A 2
E903	D 9119-5	LED, T 1.75 ORANGE T/R	F 2
E1000	D 9117-9	LED, T 1.75 GREEN T/R	C 1
E1001	D 9118-7	LED, T 1.75 YELLOW T/R	C 2
E1002	D 9117-9	LED, T 1.75 GREEN T/R	C 2
J900	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	D 2
Q900	C 3625-8	2N4125 30V PNP T/R	A 1
Q901	C 3625-8	2N4125 30V PNP T/R	A 1
Q1000	C 3625-8	2N4125 30V PNP T/R	C 1
Q1001	C 3625-8	2N4125 30V PNP T/R	C 1
R900	A10266-1031	10. KOHM .25W 5% CF T/R	B 1
R901	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R902	A10266-1031	10. KOHM .25W 5% CF T/R	B 2
R903	A10266-2222	2.2 KOHM .5W 5% CF T/R	A 1
R904	A10266-1051	1.0 MOHM .25W 5 CF T/R	D 1
R905	A10266-2751	2.7 MOHM .25W 5% CF T/R	D 1
R906	A10266-4751	4.7 MOHM .25W 5 CF T/R	D 1
R907	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R908	A10266-2222	2.2 KOHM .5W 5% CF T/R	F 2
R909	A10266-8211	820. OHM .25W 5% CF T/R	F 1
R910	A10265-34002	340. OHM .5W 1% MF T/R	E 2
R911	A10265-39221	39.2KOHM .25W 1% MF T/R	F 1
R912	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R913	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R914	A10265-12731	127 KOHM .25W 1 MF T/R	B 1
R915	A10266-2711	270. OHM .25W 5% CF T/R	B 1
R916	A10266-1641	160.KOHM .25W 5% CF T/R	B 1
R1000	A10266-1031	10. KOHM .25W 5% CF T/R	C 1
R1001	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 2
R1002	A10266-1031	10. KOHM .25W 5% CF T/R	C 2
R1003	A10266-2222	2.2 KOHM .5W 5% CF T/R	C 2
R1004	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 1
R1005	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 1
R1006	A10266-4751	4.7 MOHM .25W 5 CF T/R	E 1
R1007	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 2

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CROWN INTERNATIONAL INC.
1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	05-27-97	DWG. NO.	SHEET 5	REV
PROJ.	MD360D0		102682	CONT. ON SHEET 6	A

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R1014	A10265-12731	127 KOHM .25W 1 MF T/R	C 1
R1015	A10266-2711	270. OHM .25W 5% CF T/R	C 1
R1016	A10266-1641	160.KOHM .25W 5% CF T/R	C 1
U900	C 7444-0	LM393 DUAL COMPARATOR	B 1
U901	C 4345-2	LM339N VOLT COMPARATOR	B 2
U902	C 7661-9	LM358N DUAL OP AMP	D 1

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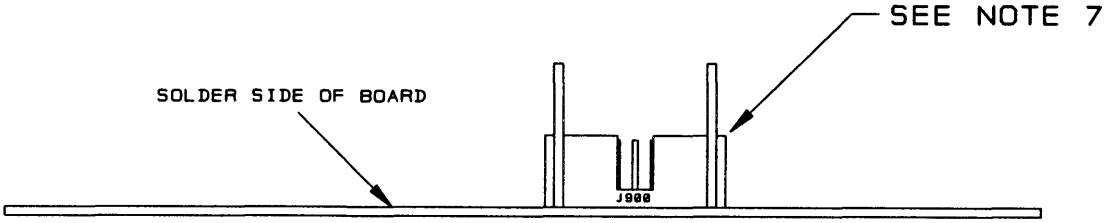
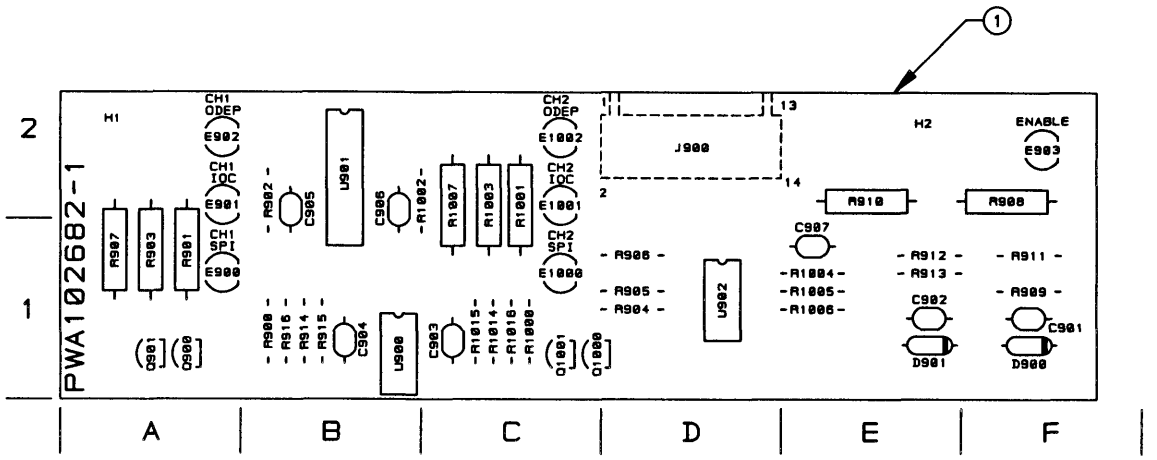
DRAWN	TLM	05-27-97	DWG. NO. 102682	SHEET 6 CONT. ON SHEET 7	REV A
PROJ.	MD360D0				

DWG. NO. 102682 REV A

COMPONENT MAP
(COMPONENT SIDE VIEW)





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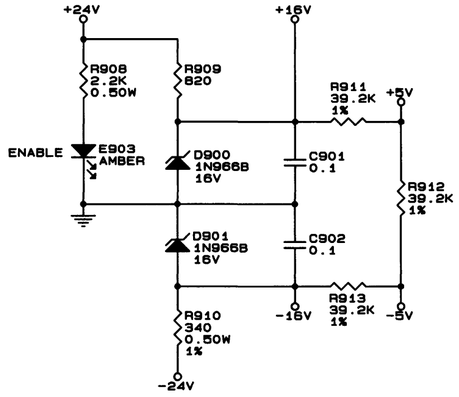
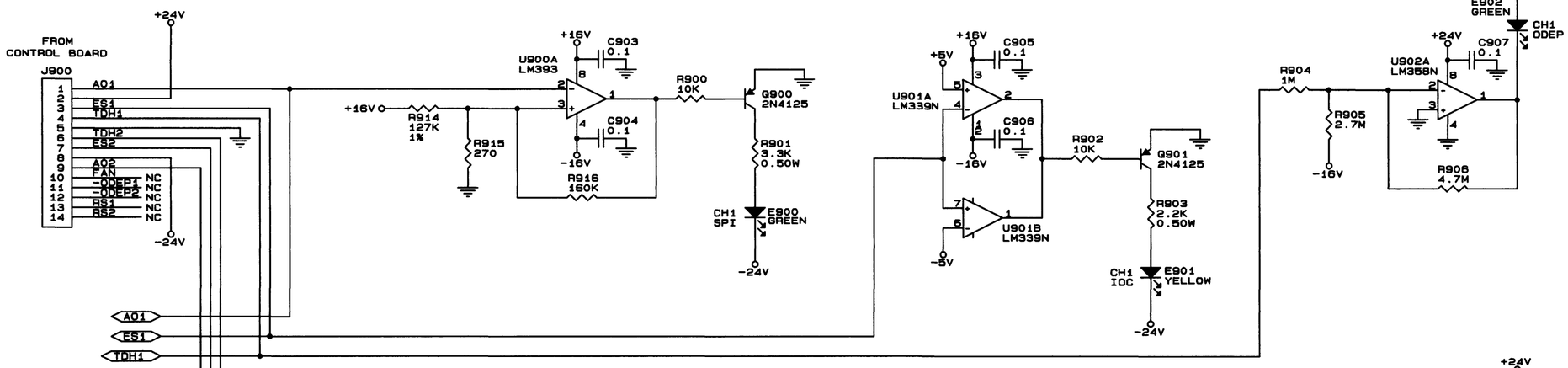
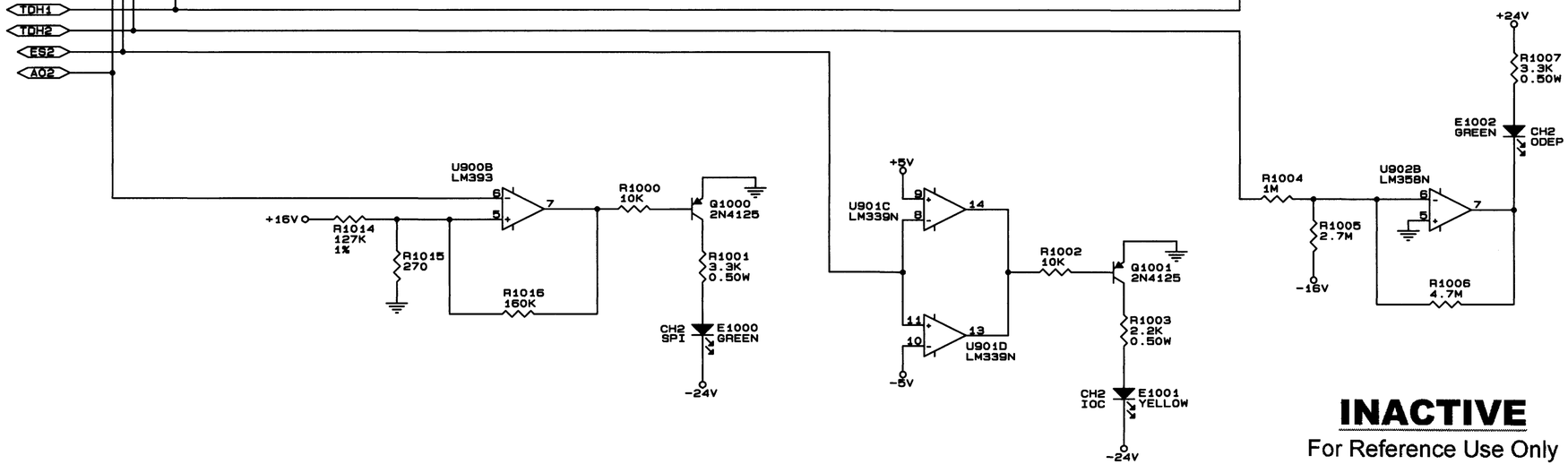
	PROJ	MD360D0	SHEET 7 CONT. ON SHEET -	

DWG. NO. 102684 REV (A)

E.C.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE	05/23/97	TLM				







LAST USED	NOT USED
C907	
D901	
E903	
E1002	
Q901	
Q1001	
R916	
R1016	1008, 1009, 1010, 1011, 1012, 1013
U902	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

INACTIVE

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PRINTS TO	
G	

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1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT'10A DISPLAY

DRAWN	TLM	05/23/97	APPROVED BY :	DO NOT SCALE PRINT
CHECKED	LD	6/16/97	ME	SUPERSEDES
SCALE	NONE		EE 6-16-97	E.C.
PROJ #	MD360D0		PE 6-16-97	DWG. NO. 102684 SHEET 1 OF 1 REV (A)
FILENAME:	1026840A.SCM		NEXT ASSEMBLY:	

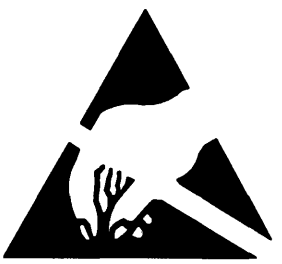
CT10A Display Module 125402 Information On Following Pages
Documentation, Component Map, Schematic

E.C.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	10/28/97	TLM	KW			EB

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 125404.
2. PWB PART NUMBER 125403-1.
3. PWA PART NUMBER 125402-1.
4. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES AT REFERENCE DESIGNATION LOCATIONS J900. SEE COMPONENT MAP.
7. INSTALL J900 ON THE SOLDER SIDE OF THE BOARD. SEE COMPONENT MAP.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

INACTIVE

For Reference Use Only

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PRINTS TO: K

PWA, CT10A DISPLAY

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	TLM	10-28-97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	10-28-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD390D0		PE	EB 10-28-97	DWG. NO. 125402
FILENAME: 125402A.001			NEXT ASM:		SHEET 1 CONT. ON SHEET 2

REV: A

PARTS LIST

C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
A10265-12731	127 KOHM .25W 1 MF T/R	2	R914,R1014
A10265-34002	340. OHM .5W 1% MF T/R	1	R910
A10265-39221	39.2KOHM .25W 1% MF T/R	3	R911,R912,R913
A10266-1031	10. KOHM .25W 5% CF T/R	4	R1000,R1002,R900,R902
A10266-1051	1.0 MOHM .25W 5 CF T/R	2	R1004,R904
A10266-1641	160 KOHM .25W 5 CF T/R	2	R1016,R916
A10266-2222	2.2 KOHM .5W 5% CF T/R	3	R1003,R903,R908
A10266-2711	270. OHM .25W 5% CF T/R	2	R1015,R915
A10266-2751	2.7 MOHM .25W 5% CF T/R	2	R1005,R905
A10266-3322	3.3 KOHM .5W 5% CF T/R	4	R1001,R1007,R901,R907
A10266-4751	4.7 MOHM .25W 5 CF T/R	2	R1006,R906
A10266-5621	5.6 KOHM .25W 5% CF T/R	2	R918,R920
A10266-8211	820. OHM .25W 5% CF T/R	1	R909
C 3533-4	DIODE, 1N966B 16V ZENER T/R	2	D900,D901
C 3625-8	2N4125 30V PNP T/R	5	Q1000,Q1001,Q900,Q901,Q902
C 4345-2	LM339N VOLT COMPARATOR	1	U901
C 5900-3	DIODE, 1N960B 9.1V ZENER T/R	1	D902
C 6804-6	.1UF 50V AXIAL CER T/R 104	7	C901,C902,C903,C904,C905,
			C906,C907
C 7444-0	LM393 DUAL COMPARATOR	1	U900
C 7661-9	LM358N DUAL OP AMP	1	U902
C 9885-2	14PIN DUAL ROW HDR .1 X.1 CT	1	J900
D 9117-9	LED, T 1.75 GREEN T/R	4	E1000,E1002,E900,E902
D 9118-7	LED, T 1.75 YELLOW T/R	2	E1001,E901
D 9119-5	LED, T 1.75 ORANGE T/R	1	E903
125403-1	PWB, CT10 DISPLAY, , ,	1	1

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	10-28-97	DWG. NO. 125402	SHEET 2 CONT. ON SHEET 3	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	125403-1	PWB, CT10 DISPLAY, , ,	
C901	C 6804-6	.1UF 50V AXIAL CER T/R 104	F 1
C902	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
C903	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 1
C904	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 1
C905	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C906	C 6804-6	.1UF 50V AXIAL CER T/R 104	B 2
C907	C 6804-6	.1UF 50V AXIAL CER T/R 104	E 1
D900	C 3533-4	DIODE, 1N966B 16V ZENER T/R	F 1
D901	C 3533-4	DIODE, 1N966B 16V ZENER T/R	E 1
D902	C 5900-3	DIODE, 1N960B 9.1V ZENER T/R	E 2
E900	D 9117-9	LED, T 1.75 GREEN T/R	A 1
E901	D 9118-7	LED, T 1.75 YELLOW T/R	A 2
E902	D 9117-9	LED, T 1.75 GREEN T/R	A 2
E903	D 9119-5	LED, T 1.75 ORANGE T/R	F 2
E1000	D 9117-9	LED, T 1.75 GREEN T/R	C 1
E1001	D 9118-7	LED, T 1.75 YELLOW T/R	C 2
E1002	D 9117-9	LED, T 1.75 GREEN T/R	C 2
J900	C 9885-2	14PIN DUAL ROW HDR .1 X.1 CTR	D 2
Q900	C 3625-8	2N4125 30V PNP T/R	A 1
Q901	C 3625-8	2N4125 30V PNP T/R	A 1
Q902	C 3625-8	2N4125 30V PNP T/R	F 2
Q1000	C 3625-8	2N4125 30V PNP T/R	C 1
Q1001	C 3625-8	2N4125 30V PNP T/R	C 1
R900	A10266-1031	10. KOHM .25W 5% CF T/R	B 1
R901	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R902	A10266-1031	10. KOHM .25W 5% CF T/R	B 2
R903	A10266-2222	2.2 KOHM .5W 5% CF T/R	A 1
R904	A10266-1051	1.0 MOHM .25W 5 CF T/R	D 1
R905	A10266-2751	2.7 MOHM .25W 5% CF T/R	D 1
R906	A10266-4751	4.7 MOHM .25W 5 CF T/R	D 1
R907	A10266-3322	3.3 KOHM .5W 5% CF T/R	A 1
R908	A10266-2222	2.2 KOHM .5W 5% CF T/R	F 1
R909	A10266-8211	820. OHM .25W 5% CF T/R	F 1
R910	A10265-34002	340. OHM .5W 1% MF T/R	E 1
R911	A10265-39221	39.2KOHM .25W 1% MF T/R	F 1
R912	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R913	A10265-39221	39.2KOHM .25W 1% MF T/R	E 1
R914	A10265-12731	127 KOHM .25W 1 MF T/R	B 1
R915	A10266-2711	270. OHM .25W 5% CF T/R	B 1
R916	A10266-1641	160 KOHM .25W 5% CF T/R	B 1
R918	A10266-5621	5.6 KOHM .25W 5% CF T/R	E 2
R920	A10266-5621	5.6 KOHM .25W 5% CF T/R	F 2
R1000	A10266-1031	10. KOHM .25W 5% CF T/R	C 1
R1001	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 1
R1002	A10266-1031	10. KOHM .25W 5% CF T/R	C 2
R1003	A10266-2222	2.2 KOHM .5W 5% CF T/R	C 1

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DRAWN	TLM	10-28-97	DWG. NO.	SHEET 3	REV
PROJ.	MD360D0		125402	CONT. ON SHEET 4	A

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
R1004	A10266-1051	1.0 MOHM .25W 5 CF T/R	E 1
R1005	A10266-2751	2.7 MOHM .25W 5% CF T/R	E 1
R1006	A10266-4751	4.7 MOHM .25W 5 CF T/R	E 1
R1007	A10266-3322	3.3 KOHM .5W 5% CF T/R	C 1
R1014	A10265-12731	127 KOHM .25W 1 MF T/R	C 1
R1015	A10266-2711	270. OHM .25W 5% CF T/R	C 1
R1016	A10266-1641	160 KOHM .25W 5% CF T/R	C 1
U900	C 7444-0	LM393 DUAL COMPARATOR	B 1
U901	C 4345-2	LM339N VOLT COMPARATOR	B 2
U902	C 7661-9	LM358N DUAL OP AMP	D 1

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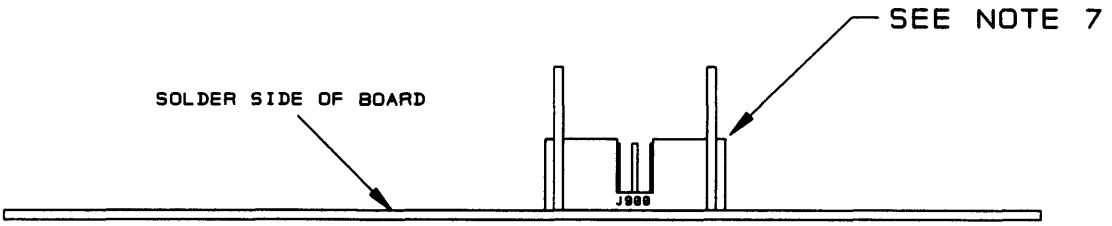
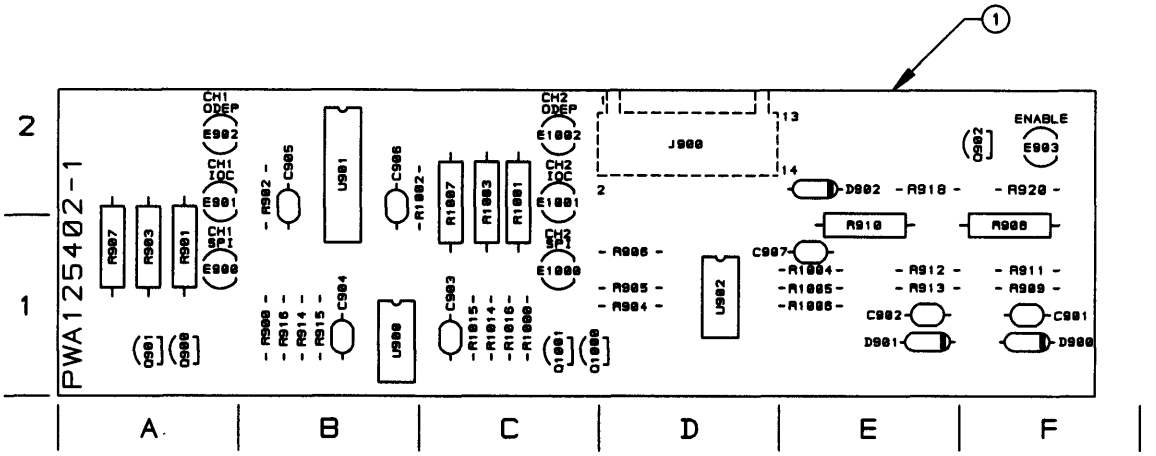
DRAWN	TLM	10-28-97	DWG. NO. 125402	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	MD360D0				

DWG. NO. 125402 REV A

COMPONENT MAP
(COMPONENT SIDE VIEW)





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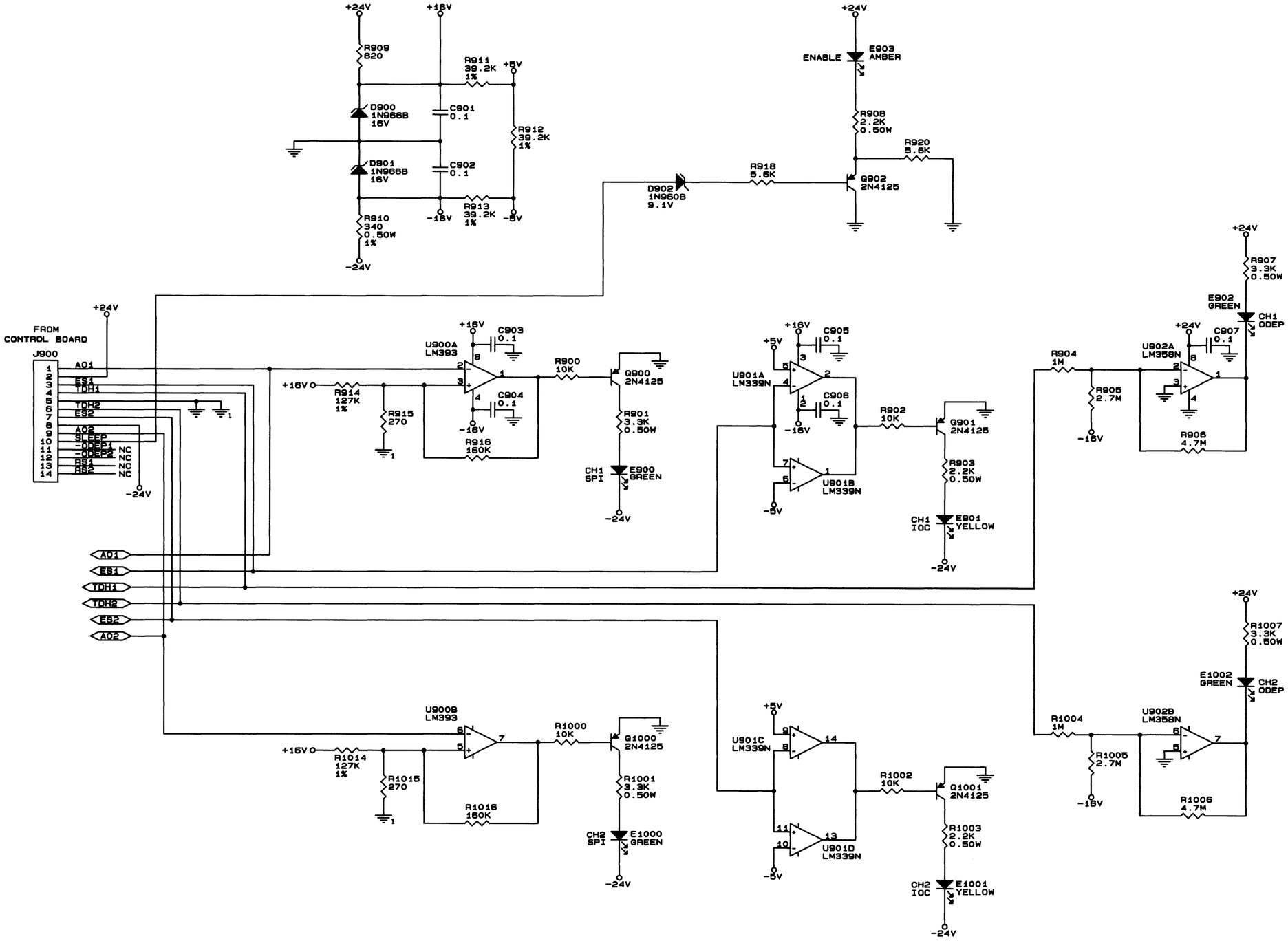
	PROJ	MD360D0	SHEET 5 CONT. ON SHEET -	

DWG. NO. 125404 REV (A)

E.C.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE	10/28/97	TLM	KW			EB



LAST USED	NOT USED
C907	
D902	
E903	
E1002	
Q902	
Q1001	
R920	917, 919
R1016	1008, 1009, 1010, 1011, 1012, 1013
U902	

NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

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1718 WEST MISHAWAKA ROAD ELKHART, IN. 46517 PHONE (219) 294-8000

SCHEMATIC; CT'10A DISPLAY W/SLEEP

DRAWN	TLM	10/28/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	KW	10-28-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.
PROJ #	MD3600		PE	EB 10-28-97	DWG. NO. 125404 SHEET 1 OF 1 REV (A)
FILENAME:	1254040A.SCM		NEXT ASSEMBLY:		

CT810/1610 Output Module Information On Following Pages
Documentation, Component map, Schematic

CROWN INTERNATIONAL

INACTIVE
For Reference Use Only

100289

REVISION	A	TITLE: PWA; CT810/1610 OUTPUT	PRINTS: K
MADE BY	TOM SZERENCSE		SHEET NO.: 1
DATE	08-08-96		CONT. ON SH: 2
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN: TLM

REVISION CONTROL SHEET FOR MULTI-SHEET DOCUMENTS

REVISION IN THE UPPER LEFT CORNER OF THIS SHEET IS THE REVISION FOR THE ENTIRE DOCUMENT

REFERENCE ⇨											
DATE ⇨	08-08-96										
SHEET NO. ⇩											
3	A										
4	A										
5	A										
6	A										
7	A										
8	A										

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APPROVALS	NAME	DATE
EE		8/27/96
PE		8-29-96
MFG		

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

CROWN INTERNATIONAL

100289

REVISION	A	TITLE: PWA; CT810/1610 OUTPUT	PRINTS	K
MADE BY	TOM SZERENCSE		SHEET NO.	2
DATE	08-08-96		CONT. ON SH	3
PROJ.	D360	FIRST MADE FOR: CT10 SERIES	DRAWN	TLM

REVISION CONTROL INFORMATION

NAME	SHEET NO.	SHEET REV.	ACTION
PAT WIERS	1-8	A	INITIAL RELEASE

CROWN INTERNATIONAL INC., 1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE: 219-294-8000

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 100290.
2. PWB PART NUMBER 100286-1.
3. PWA PART NUMBER 100289-1.
4. ALL LEADS SHALL BE TRIMMED ACCORDING TO ILLUSTRATION 2 OF DRAWING T10131-0 REV.A.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. AFTER WAVE SOLDERING REMOVE BREAK OUT OVAL. SEE COMPONENT MAP.
7. AFTER WAVE SOLDERING, INSTALL COMPONENTS Q01, Q02, Q01X AND Q02X AS FOLLOWS:
   - LAY THE CIRCUIT BOARD ON 0.032" SPACERS THAT ARE PLACED ON A FLAT SURFACE.
   - PLACE THE TRANSISTOR IN THE OPENING OF THE PWB. WITH THE TRANSISTOR LAYING AGAINST THE FLAT SURFACE, FORM THE TRANSISTOR LEADS TO THE PWB. THIS WILL REDUCE THE STRAIN ON THE COMPONENT LEADS.
   - SOLDER THE TRANSISTOR LEADS TO THE PADS ON THE BOARD.
   - SOLDER Q01X AND Q02X HOLD DOWN CLIPS (D 6414-3) TO THE PADS ON THE PWB AS SHOWN ON THE COMPONENT MAP TOP VIEW.
8. AFTER WAVE SOLDERING INSTALL COMPONENTS P00, P01 AND L02 AS SHOWN ON COMPONENT MAP SIDE VIEW. NOTE ORIENTATION OF THE COMPONENTS.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD IN THE PROVIDED BOX AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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DRAWN	TLM	08-08-96	DWG. NO. 100289	SHEET 3 CONT. ON SHEET 4	REV A
PROJ.	D360				

PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
100286-1	PWB, CT10 OUTPUT, , ,	1	1
A10265-11301	113 OHM .25W 1% MF T/R	1	R35
A10266-1011	100. OHM .25W 5% CF T/R	2	R08,R19
A10266-1331	13.0KOHM .25W 5% CF T/R	2	R04,R06
A10266-2201	22.0 OHM .25W 5 CF T/R	3	R10,R11,R12
A10266-2221	2.2 KOHM .25W 5% CF T/R	1	R00
A10266-2721	2.7 KOHM .25W 5 CF T/R	2	R34,R36
A10266-2R74	2.7 OHM 2W 5% CF T/R	3	R21,R23,R24
A10266-3911	390. OHM .25W 5% CF T/R	1	R01
A10266-5101	51.0 OHM .25W 5% CF T/R	1	R03
A10266-7501	75.0 OHM .25W 5 CF T/R	2	R05,R07
C 2851-1	RECTIFIER, 1N4004 SILICON T/	10	D00,D01,D02,D03,D04,D05,
			D10,D11,D12,D13
C 2941-0	DIODE, 1N5402 3A 200V	4	D06,D07,D08,D09
C 3510-2	CHOKE, 10% AXIAL 470 UH TR	2	L00,L01
C 5868-2	0 OHM.25W 20 MILOHM MAX T/R	14	Z1,Z10,Z11,Z12,Z13,Z14,
			Z2,Z3,Z4,Z5,Z6,Z7,Z8,Z9,
C 6486-2	0.2 OHM 5W 5% WIRE	12	R13,R14,R15,R16,R17,R18,
			R26,R27,R28,R30,R31,R32,
C 6806-1	.01UF 100V AXIAL CER T/R 103	3	C01,C04,C05
C 6807-9	.001UF 100V 10% AXL CER T/R	1	C00
C 6809-5	220PF 100V AXIAL CER T/R 221	1	C02
C 6810-3	180PF 100V AXIAL CER T/R 181	1	C03
C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	2	R02,R33
C 7697-3	.01 UF 500V 1.5" LEADS DISC	1	C06
C 7778-1	5.6 OHM .5W 5% FU/ FP T/	2	R09,R25
C 7779-9	22. OHM .25W 5% FU/FP T/R	2	R20,R29
C 8426-6	.1UF 250V 10% MET POLY RADIA	2	C08,C09
C 8511-5	0.047UF 250V 5% FILM	1	C07
C 9828-2	12 PIN MTA HDR, R/A PC MNT T	2	P00,P01
C10155-7	2SC4793 PWR NPN XSISTOR	1	Q01
C10156-5	2SA1837 PWR PNP XSISTOR	1	Q02
C10444-5	.02 OHM 5W 3% WW RES AXL MOU	1	R22
D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDO	2	Q01X,Q02X
D 6592-6	COIL, MICROTECH OUTPUT 414W1	1	L02

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1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

DRAWN	TLM	08-08-96	DWG. NO. 100289	SHEET 4 CONT. ON SHEET 5	REV A
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	100286-1	PWB, CT10 OUTPUT, , ,	
C00	C 6807-9	.001UF 100V 10% AXL CER T/R	H 3
C01	C 6806-1	.01UF 100V AXIAL CER T/R 103	H 3
C02	C 6809-5	220PF 100V AXIAL CER T/R 221	N 4
C03	C 6810-3	180PF 100V AXIAL CER T/R 181	A 3
C04	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 4
C05	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C06	C 7697-3	.01 UF 500V 1.5" LEADS DISC	H 3
C07	C 8511-5	0.047UF 250V 5% FILM	H 3
C08	C 8426-6	.1UF 250V 10% MET POLY RADIAL	E 2
C09	C 8426-6	.1UF 250V 10% MET POLY RADIAL	J 2
D00	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 4
D01	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 4
D02	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D03	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	H 4
D04	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 2
D05	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	K 2
D06	C 2941-0	DIODE, 1N5402 3A 200V	C 3
D07	C 2941-0	DIODE, 1N5402 3A 200V	D 3
D08	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D09	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D10	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 3
D11	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D12	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D13	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	I 3
L00	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	E 4
L01	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	K 4
L02	D 6592-6	COIL, MICROTECH OUTPUT 414W1	G 2
P00	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	B 3
P01	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	M 3
Q00		INSTALLED ON NEXT ASSEMBLY	G 3
Q01	C10155-7	2SC4793 PWR NPN XSISTOR	B 4
Q01X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	B 4
Q02	C10156-5	2SA1837 PWR PNP XSISTOR	K 4
Q02X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	K 4
Q03		INSTALLED ON NEXT ASSEMBLY	E 3
Q04		INSTALLED ON NEXT ASSEMBLY	C 2
Q05		INSTALLED ON NEXT ASSEMBLY	E 2
Q06		INSTALLED ON NEXT ASSEMBLY	A 2
Q07		INSTALLED ON NEXT ASSEMBLY	J 3
Q08		INSTALLED ON NEXT ASSEMBLY	L 2
Q09		INSTALLED ON NEXT ASSEMBLY	I 2
Q10		INSTALLED ON NEXT ASSEMBLY	N 2
Q11		INSTALLED ON NEXT ASSEMBLY	F 3
Q12		INSTALLED ON NEXT ASSEMBLY	D 2
Q13		INSTALLED ON NEXT ASSEMBLY	G 2
Q14		INSTALLED ON NEXT ASSEMBLY	B 2

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DRAWN	TLM	08-08-96	DWG. NO. 100289	SHEET 5 CONT. ON SHEET 6	REV A
PROJ.	D360				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q15		INSTALLED ON NEXT ASSEMBLY	I 3
Q16		INSTALLED ON NEXT ASSEMBLY	K 2
Q17		INSTALLED ON NEXT ASSEMBLY	H 2
Q18		INSTALLED ON NEXT ASSEMBLY	M 2
R00	A10266-2221	2.2 KOHM .25W 5% CF T/R	G 4
R01	A10266-3911	390. OHM .25W 5% CF T/R	H 3
R02	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	H 4
R03	A10266-5101	51.0 OHM .25W 5% CF T/R	B 4
R04	A10266-1331	13.0KOHM .25W 5% CF T/R	D 4
R05	A10266-7501	75.0 OHM .25W 5 CF T/R	D 4
R06	A10266-1331	13.0KOHM .25W 5% CF T/R	K 4
R07	A10266-7501	75.0 OHM .25W 5 CF T/R	K 4
R08	A10266-1011	100. OHM .25W 5% CF T/R	E 3
R09	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	E 3
R10	A10266-2201	22.0 OHM .25W 5 CF T/R	C 3
R11	A10266-2201	22.0 OHM .25W 5 CF T/R	E 3
R12	A10266-2201	22.0 OHM .25W 5 CF T/R	A 3
R13	C 6486-2	0.2 OHM 5W 5% WIRE	C 2
R14	C 6486-2	0.2 OHM 5W 5% WIRE	E 2
R15	C 6486-2	0.2 OHM 5W 5% WIRE	A 2
R16	C 6486-2	0.2 OHM 5W 5% WIRE	L 2
R17	C 6486-2	0.2 OHM 5W 5% WIRE	I 2
R18	C 6486-2	0.2 OHM 5W 5% WIRE	N 2
R19	A10266-1011	100. OHM .25W 5% CF T/R	J 3
R20	C 7779-9	22. OHM .25W 5% FU/FP T/R	J 3
R21	A10266-2R74	2.7 OHM 2W 5% CF T/R	G 3
R22	C10444-5	.02 OHM 5W 3% WW RES AXL MOUNT	H 1
R23	A10266-2R74	2.7 OHM 2W 5% CF T/R	E 2
R24	A10266-2R74	2.7 OHM 2W 5% CF T/R	J 1
R25	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	F 2
R26	C 6486-2	0.2 OHM 5W 5% WIRE	D 1
R27	C 6486-2	0.2 OHM 5W 5% WIRE	F 1
R28	C 6486-2	0.2 OHM 5W 5% WIRE	B 1
R29	C 7779-9	22. OHM .25W 5% FU/FP T/R	H 2
R30	C 6486-2	0.2 OHM 5W 5% WIRE	J 1
R31	C 6486-2	0.2 OHM 5W 5% WIRE	H 1
R32	C 6486-2	0.2 OHM 5W 5% WIRE	L 1
R33	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	I 3
R34	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R35	A10265-11301	113 OHM .25W 1% MF T/R	C 3
R36	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R37		DO NOT INSTALL	C 2
R38		DO NOT INSTALL	L 2
R39		DO NOT INSTALL	D 2
R40		DO NOT INSTALL	K 2
U00		INSTALLED ON NEXT ASSEMBLY	C 3

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DRAWN	TLM	08-08-96	DWG. NO. 100289	SHEET 6 CONT. ON SHEET 7	REV A
PROJ.	D360				

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Z1	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	A 4
Z2	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	N 4
Z3	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	H 1
Z4	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	G 3
Z5	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	E 3
Z6	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	F 3
Z7	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	J 4
Z8	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	M 3
Z9	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	K 3
Z10	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	C 2
Z11	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 2
Z12	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 3
Z13	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 2
Z14	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 4

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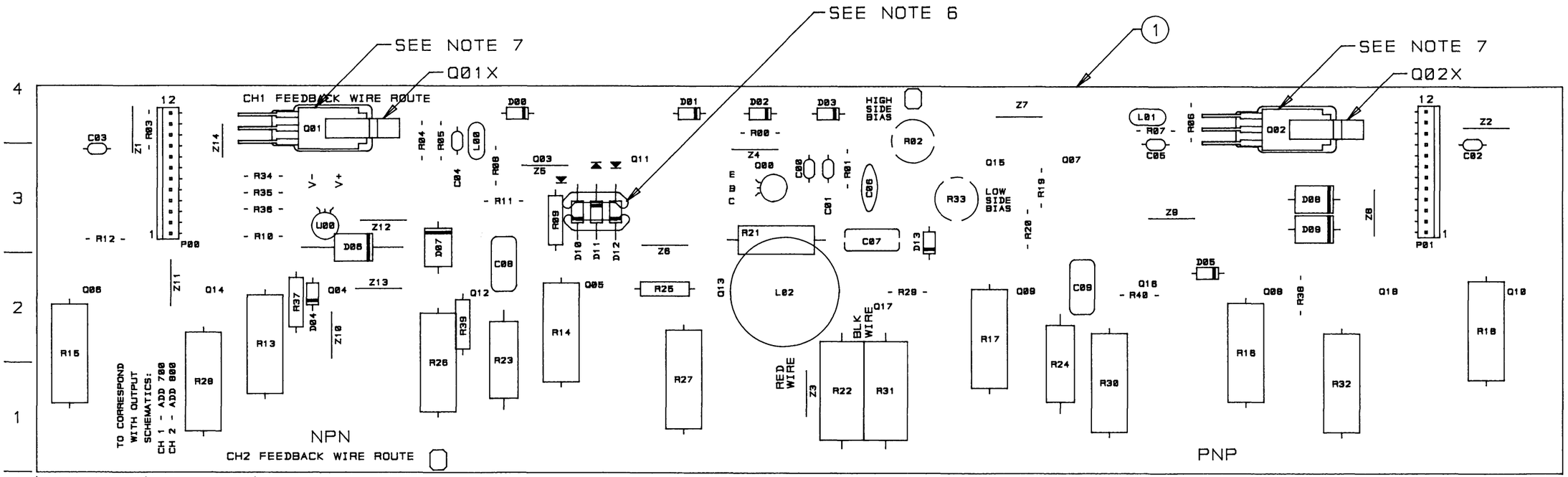
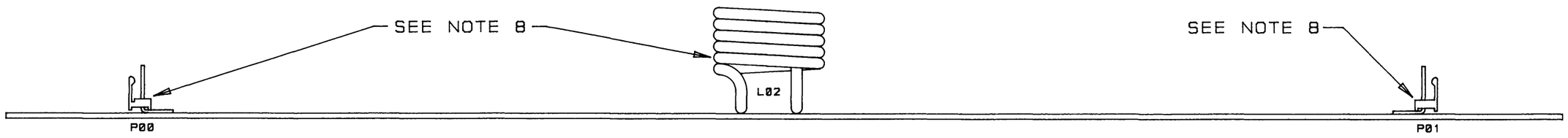
DRAWN	TLM	08-08-96	DWG. NO. 100289	SHEET 7 CONT. ON SHEET 8	REV A
PROJ.	D360				

COMPONENT MAP

TOP VIEW



SIDE VIEW



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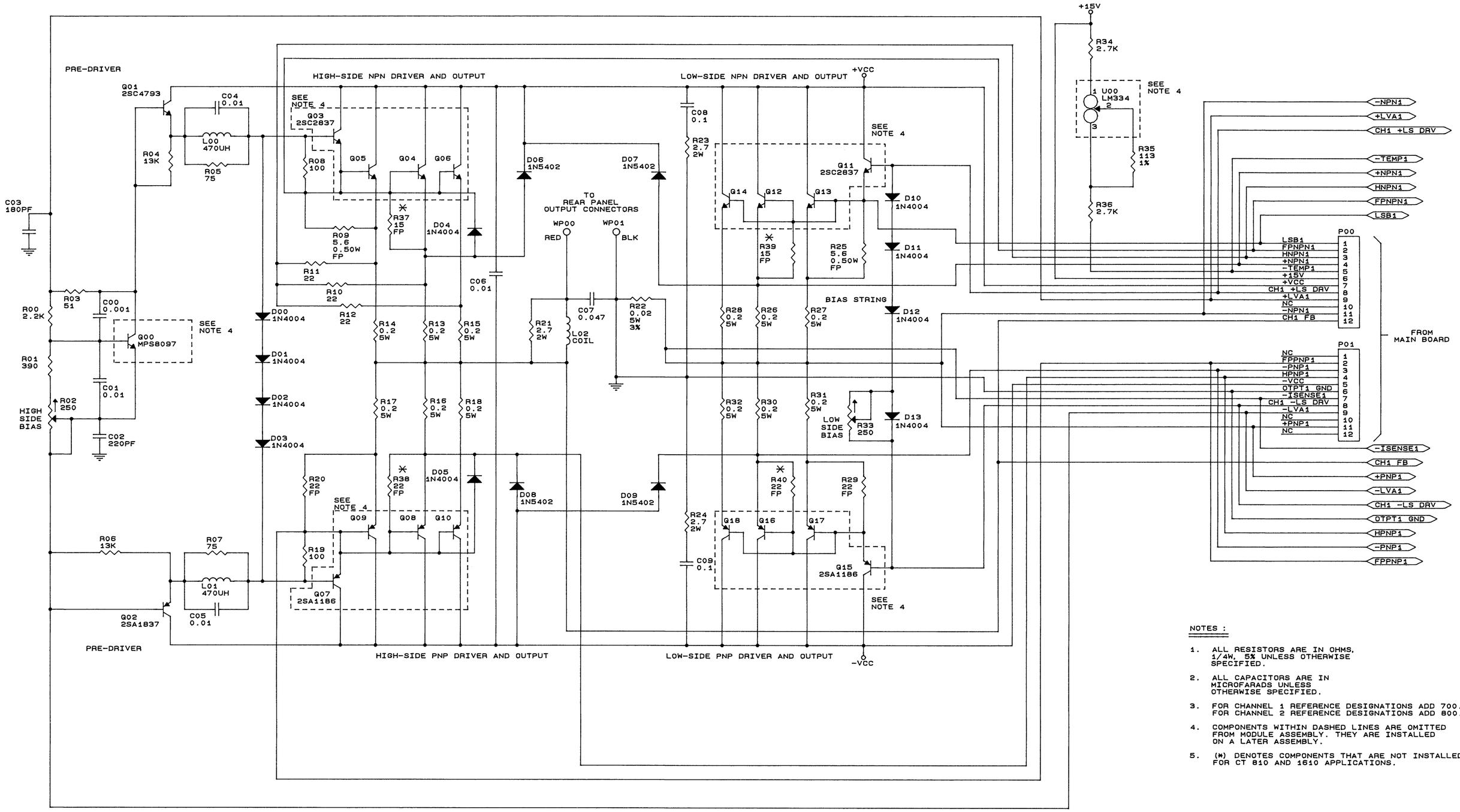
SCALE	NONE	DWG. NO.	SHEET 8	REV
PROJ	D360	100289	CONT. ON SHEET -	A

DWG. NO. 100289 REV A

DWG. NO. 100290 REV (A)

E.C.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE	07/29/96	TLM			PD	
		○							
		○							



NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR CHANNEL 1 REFERENCE DESIGNATIONS ADD 700. FOR CHANNEL 2 REFERENCE DESIGNATIONS ADD 800.
4. COMPONENTS WITHIN DASHED LINES ARE OMITTED FROM MODULE ASSEMBLY. THEY ARE INSTALLED ON A LATER ASSEMBLY.
5. (*) DENOTES COMPONENTS THAT ARE NOT INSTALLED FOR CT 810 AND 1610 APPLICATIONS.

LAST USED	OBSOLETED
C09	
D13	
L02	
Q18	
R40	
U00	

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PRINTS TO	
G	

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SCHEMATIC; CT810/1610 OUTPUT

DRAWN	TLM	07/29/96	APPROVED BY :		DO NOT SCALE PRINT
CHECKED			ME		SUPERSEDES
SCALE	NONE		EE PD	8/27/96	E.C.
PROJ #	D360		PE	8-29-96	DWG. NO. 100290 SHEET 1 OF 1 REV (A)
FILENAME:	1002900.SCM		NEXT ASSEMBLY:		

CT810A/1610A Output Module Information On Following Pages
Documentation, Component Map, Schematic

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	05/30/97	LCD	KW			

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102773.
2. PWB PART NUMBER 102770-1.
3. PWA PART NUMBER 102774-1.
4. ALL LEADS SHALL BE TRIMMED ACCORDING TO ILLUSTRATION 2 OF DRAWING T10131-0 REV.A.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. AFTER WAVE SOLDERING REMOVE BREAK OUT OVAL. SEE COMPONENT MAP.
7. AFTER WAVE SOLDERING, INSTALL COMPONENTS Q01, Q02, Q01X AND Q02X AS FOLLOWS:
   - LAY THE CIRCUIT BOARD ON 0.032" SPACERS THAT ARE PLACED ON A FLAT SURFACE.
   - PLACE THE TRANSISTOR IN THE OPENING OF THE PWB. WITH THE TRANSISTOR LAYING AGAINST THE FLAT SURFACE, FORM THE TRANSISTOR LEADS TO THE PWB. THIS WILL REDUCE THE STRAIN ON THE COMPONENT LEADS.
   - SOLDER THE TRANSISTOR LEADS TO THE PADS ON THE BOARD.
   - SOLDER Q01X AND Q02X HOLD DOWN CLIPS (D 6414-3) TO THE PADS ON THE PWB AS SHOWN ON THE COMPONENT MAP TOP VIEW.
8. AFTER WAVE SOLDERING INSTALL COMPONENTS P00, P01 AND L02 AS SHOWN ON COMPONENT MAP SIDE VIEW. NOTE ORIENTATION OF THE COMPONENTS.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD IN THE PROVIDED BOX AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS: K

PWA CT810A/1610A OUTPUT

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	LCD	05/30/97	APPROVED BY:		DO NOT SCALE PRINT
CHECKED	KW	05-30-97	ME		SUPERSEDES
SCALE	NONE		EE		E.C.N.
PROJ #	MD360D0		PE	6-2-97	DWG. NO. 102774
NEXT ASSEMBLY					SHEET 1 CONT. ON SHEET 2

REV: A

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102770-1	PWB, CT10A OUTPUT, , ,	1	1
A10265-11301	113 OHM .25W 1% MF T/R	1	R35
A10266-1011	100. OHM .25W 5% CF T/R	2	R08,R19
A10266-1331	13.0KOHM .25W 5% CF T/R	2	R04,R06
A10266-2201	22.0 OHM .25W 5 CF T/R	3	R10,R11,R12
A10266-2221	2.2 KOHM .25W 5% CF T/R	1	R00
A10266-2721	2.7 KOHM .25W 5 CF T/R	2	R34,R36
A10266-2R74	2.7 OHM 2W 5% CF T/R	3	R21,R23,R24
A10266-3911	390. OHM .25W 5% CF T/R	1	R01
A10266-5101	51.0 OHM .25W 5% CF T/R	1	R03
A10266-7501	75.0 OHM .25W 5 CF T/R	2	R05,R07
C 2851-1	RECTIFIER, 1N4004 SILICON T/	10	D00,D01,D02,D03,D04,D05,
			D10,D11,D12,D13
C 2941-0	DIODE, 1N5402 3A 200V	4	D06,D07,D08,D09
C 3510-2	CHOKE, 10% AXIAL 470 UH TR	2	L00,L01
C 5868-2	0 OHM.25W 20 MILOHM MAX T/R	14	Z1,Z10,Z11,Z12,Z13,Z14,
			Z2,Z3,Z4,Z5,Z6,Z7,Z8,Z9,
C 6486-2	0.2 OHM 5W 5% WIRE	12	R13,R14,R15,R16,R17,R18,
			R26,R27,R28,R30,R31,R32,
C 6806-1	.01UF 100V AXIAL CER T/R 103	3	C01,C04,C05
C 6807-9	.001UF 100V 10% AXL CER T/R	1	C00
C 6809-5	220PF 100V AXIAL CER T/R 221	1	C02
C 6810-3	180PF 100V AXIAL CER T/R 181	1	C03
C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	2	R02,R33
C 7697-3	.01 UF 500V 1.5" LEADS DISC	1	C06
C 7778-1	5.6 OHM .5W 5% FU/ FP T/	2	R09,R25
C 7779-9	22. OHM .25W 5% FU/FP T/R	2	R20,R29
C 8426-6	.1UF 250V 10% MET POLY RADIA	2	C08,C09
C 8511-5	0.047UF 250V 5% FILM	1	C07
C 9828-2	12 PIN MTA HDR, R/A PC MNT T	2	P00,P01
C10155-7	2SC4793 PWR NPN XSISTOR	1	Q01
C10156-5	2SA1837 PWR PNP XSISTOR	1	Q02
C10444-5	.02 OHM 5W 3% WW RES AXL MOU	1	R22
D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDO	2	Q01X,Q02X
D 6592-6	COIL, MICROTECH OUTPUT 414W1	1	L02

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DRAWN	LCD	05/30/97	DWG. NO. 102774	SHEET 2 CONT. ON SHEET 3	REV A
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102770-1	PWB, CT10A OUTPUT, ,	
C00	C 6807-9	.001UF 100V 10% AXL CER T/R	H 3
C01	C 6806-1	.01UF 100V AXIAL CER T/R 103	H 3
C02	C 6809-5	220PF 100V AXIAL CER T/R 221	N 4
C03	C 6810-3	180PF 100V AXIAL CER T/R 181	A 3
C04	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 4
C05	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C06	C 7697-3	.01 UF 500V 1.5" LEADS DISC	H 3
C07	C 8511-5	0.047UF 250V 5% FILM	H 3
C08	C 8426-6	.1UF 250V 10% MET POLY RADIAL	E 2
C09	C 8426-6	.1UF 250V 10% MET POLY RADIAL	J 2
D00	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 4
D01	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 4
D02	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D03	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	H 4
D04	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 2
D05	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	K 2
D06	C 2941-0	DIODE, 1N5402 3A 200V	C 3
D07	C 2941-0	DIODE, 1N5402 3A 200V	D 3
D08	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D09	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D10	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 3
D11	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D12	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D13	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	I 3
L00	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	E 4
L01	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	K 4
L02	D 6592-6	COIL, MICROTECH OUTPUT 414W1	G 2
P00	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	B 3
P01	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	M 3
Q00		INSTALLED ON NEXT ASSEMBLY	G 3
Q01	C10155-7	2SC4793 PWR NPN XSISTOR	B 4
Q01X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	B 4
Q02	C10156-5	2SA1837 PWR PNP XSISTOR	K 4
Q02X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	K 4
Q03		INSTALLED ON NEXT ASSEMBLY	E 3
Q04		INSTALLED ON NEXT ASSEMBLY	C 2
Q05		INSTALLED ON NEXT ASSEMBLY	E 2
Q06		INSTALLED ON NEXT ASSEMBLY	A 2
Q07		INSTALLED ON NEXT ASSEMBLY	J 3
Q08		INSTALLED ON NEXT ASSEMBLY	L 2
Q09		INSTALLED ON NEXT ASSEMBLY	I 2
Q10		INSTALLED ON NEXT ASSEMBLY	N 2
Q11		INSTALLED ON NEXT ASSEMBLY	F 3
Q12		INSTALLED ON NEXT ASSEMBLY	F 3
Q13		INSTALLED ON NEXT ASSEMBLY	G 2
Q14		INSTALLED ON NEXT ASSEMBLY	B 2

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DRAWN	LCD	05/30/97	DWG. NO.	SHEET 3	REV
PROJ.	MD360D0		102774	CONT. ON SHEET 4	A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q15		INSTALLED ON NEXT ASSEMBLY	I 3
Q16		INSTALLED ON NEXT ASSEMBLY	K 2
Q17		INSTALLED ON NEXT ASSEMBLY	H 2
Q18		INSTALLED ON NEXT ASSEMBLY	M 2
R00	A10266-2221	2.2 KOHM .25W 5% CF T/R	G 4
R01	A10266-3911	390. OHM .25W 5% CF T/R	H 3
R02	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	H 4
R03	A10266-5101	51.0 OHM .25W 5% CF T/R	B 4
R04	A10266-1331	13.0KOHM .25W 5% CF T/R	D 4
R05	A10266-7501	75.0 OHM .25W 5 CF T/R	D 4
R06	A10266-1331	13.0KOHM .25W 5% CF T/R	K 4
R07	A10266-7501	75.0 OHM .25W 5 CF T/R	K 4
R08	A10266-1011	100. OHM .25W 5% CF T/R	E 3
R09	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	E 3
R10	A10266-2201	22.0 OHM .25W 5 CF T/R	C 3
R11	A10266-2201	22.0 OHM .25W 5 CF T/R	E 3
R12	A10266-2201	22.0 OHM .25W 5 CF T/R	A 3
R13	C 6486-2	0.2 OHM 5W 5% WIRE	C 2
R14	C 6486-2	0.2 OHM 5W 5% WIRE	E 2
R15	C 6486-2	0.2 OHM 5W 5% WIRE	A 2
R16	C 6486-2	0.2 OHM 5W 5% WIRE	L 2
R17	C 6486-2	0.2 OHM 5W 5% WIRE	I 2
R18	C 6486-2	0.2 OHM 5W 5% WIRE	N 2
R19	A10266-1011	100. OHM .25W 5% CF T/R	J 3
R20	C 7779-9	22. OHM .25W 5% FU/FP T/R	J 3
R21	A10266-2R74	2.7 OHM 2W 5% CF T/R	G 3
R22	C10444-5	.02 OHM 5W 3% WW RES AXL MOUNT	H 1
R23	A10266-2R74	2.7 OHM 2W 5% CF T/R	E 2
R24	A10266-2R74	2.7 OHM 2W 5% CF T/R	J 1
R25	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	F 2
R26	C 6486-2	0.2 OHM 5W 5% WIRE	D 1
R27	C 6486-2	0.2 OHM 5W 5% WIRE	F 1
R28	C 6486-2	0.2 OHM 5W 5% WIRE	B 1
R29	C 7779-9	22. OHM .25W 5% FU/FP T/R	H 2
R30	C 6486-2	0.2 OHM 5W 5% WIRE	J 1
R31	C 6486-2	0.2 OHM 5W 5% WIRE	H 1
R32	C 6486-2	0.2 OHM 5W 5% WIRE	L 1
R33	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	I 3
R34	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R35	A10265-11301	113 OHM .25W 1% MF T/R	C 3
R36	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R37		DO NOT INSTALL	C 2
R38		DO NOT INSTALL	L 2
R39		DO NOT INSTALL	D 2
R40		DO NOT INSTALL	K 2
U00		INSTALLED ON NEXT ASSEMBLY	C 3

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DRAWN	LCD	05/30/97	DWG. NO.	SHEET 4	REV
PROJ.	MD360D0		102774	CONT. ON SHEET 5	A

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Z1	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	A 4
Z2	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	N 4
Z3	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	H 1
Z4	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	G 3
Z5	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	E 3
Z6	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	F 3
Z7	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	J 4
Z8	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	M 3
Z9	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	K 3
Z10	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	C 2
Z11	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 2
Z12	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 3
Z13	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 2
Z14	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 4

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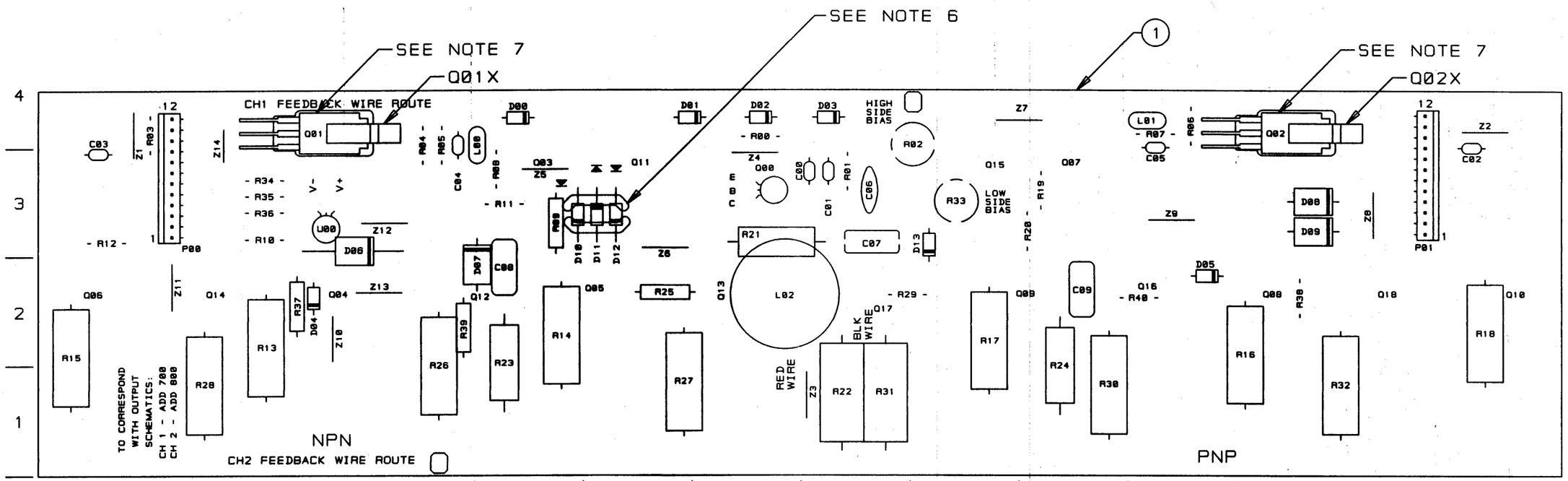
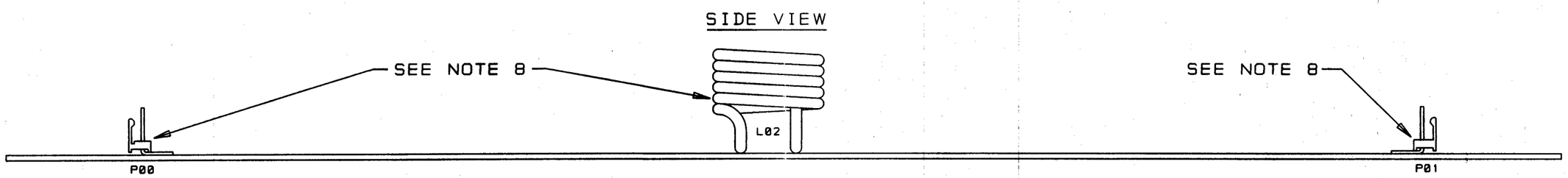
DRAWN	LCD	05/30/97	DWG. NO. 102774	SHEET 5 CONT. ON SHEET 6	REV A
PROJ.	MD360D0				

COMPONENT MAP

TOP VIEW



SIDE VIEW



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SCALE	NONE	DWG. NO. 102774	SHEET 6 CONT. ON SHEET -	REV A
PROJ	MD360D0			

E.C.N.	ZONE	REV.	DESCRIPTION	DATE	BY	APPROVALS CHK	ME	EE	PE
		A	INITIAL RELEASE	05/30/97	LCD	KW			TS
		B	ADDED Z16 AND Z17 0 OHM RESISTORS. NOTE 2 WAS 102770-1. NOTE 3 WAS 102774-1.	12/02/97	TLM				

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. SCHEMATIC DRAWING NUMBER 102773.
2. PWB PART NUMBER 102770-2.
3. PWA PART NUMBER 102774-2.
4. ALL LEADS SHALL BE TRIMMED ACCORDING TO ILLUSTRATION 2 OF DRAWING T10131-0 REV.A.
5. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
6. AFTER WAVE SOLDERING REMOVE BREAK OUT OVAL. SEE COMPONENT MAP.
7. AFTER WAVE SOLDERING, INSTALL COMPONENTS Q01, Q02, Q01X AND Q02X AS FOLLOWS:
   - LAY THE CIRCUIT BOARD ON 0.032" SPACERS THAT ARE PLACED ON A FLAT SURFACE.
   - PLACE THE TRANSISTOR IN THE OPENING OF THE PWB. WITH THE TRANSISTOR LAYING AGAINST THE FLAT SURFACE, FORM THE TRANSISTOR LEADS TO THE PWB. THIS WILL REDUCE THE STRAIN ON THE COMPONENT LEADS.
   - SOLDER THE TRANSISTOR LEADS TO THE PADS ON THE BOARD.
   - SOLDER Q01X AND Q02X HOLD DOWN CLIPS (D 6414-3) TO THE PADS ON THE PWB AS SHOWN ON THE COMPONENT MAP TOP VIEW.
8. AFTER WAVE SOLDERING INSTALL COMPONENTS P00, P01 AND L02 AS SHOWN ON COMPONENT MAP SIDE VIEW. NOTE ORIENTATION OF THE COMPONENTS.
9. THE CROWN PART NUMBER FOR THIS MODULE SHALL BE MARKED ON THE PRINTED CIRCUIT BOARD IN THE PROVIDED BOX AND SHALL BE PERMANENT.

CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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PRINTS: K

PWA CT810A/1610A OUTPUT

TOL. UNLESS SPECIFIED
X.XX = ± 0.020
X.XXX = ± 0.010
DRILLS = ± 0.003

DRAWN	LCD	05/30/97	APPROVED BY:			DO NOT SCALE PRINT
CHECKED	KW	05/30/97	ME			SUPERSEDES
SCALE	NONE		EE			E.C.N.
PROJ #	MD360D0		PE	TS	06/02/97	DWG. NO. 102774
NEXT ASSEMBLY						SHEET 1 CONT. ON SHEET 2

REV B

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PARTS LIST			
C.P.N.	DESCRIPTION	QTY	REFERENCE DESIGNATION
102770-2	PWB, CT10A OUTPUT, , ,	1	1
A10265-11301	113 OHM .25W 1% MF T/R	1	R35
A10266-1011	100. OHM .25W 5% CF T/R	2	R08,R19
A10266-1331	13.0KOHM .25W 5% CF T/R	2	R04,R06
A10266-2201	22.0 OHM .25W 5 CF T/R	3	R10,R11,R12
A10266-2221	2.2 KOHM .25W 5% CF T/R	1	R00
A10266-2721	2.7 KOHM .25W 5 CF T/R	2	R34,R36
A10266-2R74	2.7 OHM 2W 5% CF T/R	3	R21,R23,R24
A10266-3911	390. OHM .25W 5% CF T/R	1	R01
A10266-5101	51.0 OHM .25W 5% CF T/R	1	R03
A10266-7501	75.0 OHM .25W 5 CF T/R	2	R05,R07
C 2851-1	RECTIFIER, 1N4004 SILICON T/	10	D00,D01,D02,D03,D04,D05,
			D10,D11,D12,D13
C 2941-0	DIODE, 1N5402 3A 200V	4	D06,D07,D08,D09
C 3510-2	CHOKE, 10% AXIAL 470 UH TR	2	L00,L01
C 5868-2	0 OHM.25W 20 MILOHM MAX T/R	16	Z1,Z10,Z11,Z12,Z13,Z14,Z16,
			Z2,Z3,Z4,Z5,Z6,Z7,Z8,Z9,Z17
C 6486-2	0.2 OHM 5W 5% WIRE	12	R13,R14,R15,R16,R17,R18,
			R26,R27,R28,R30,R31,R32,
C 6806-1	.01UF 100V AXIAL CER T/R 103	3	C01,C04,C05
C 6807-9	.001UF 100V 10% AXL CER T/R	1	C00
C 6809-5	220PF 100V AXIAL CER T/R 221	1	C02
C 6810-3	180PF 100V AXIAL CER T/R 181	1	C03
C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	2	R02,R33
C 7697-3	.01 UF 500V 1.5" LEADS DISC	1	C06
C 7778-1	5.6 OHM .5W 5% FU/ FP T/	2	R09,R25
C 7779-9	22. OHM .25W 5% FU/FP T/R	2	R20,R29
C 8426-6	.1UF 250V 10% MET POLY RADIA	2	C08,C09
C 8511-5	0.047UF 250V 5% FILM	1	C07
C 9828-2	12 PIN MTA HDR, R/A PC MNT T	2	P00,P01
C10155-7	2SC4793 PWR NPN XSISTOR	1	Q01
C10156-5	2SA1837 PWR PNP XSISTOR	1	Q02
C10444-5	.02 OHM 5W 3% WW RES AXL MOU	1	R22
D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDO	2	Q01X,Q02X
D 6592-6	COIL, MICROTECH OUTPUT 414W1	1	L02

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DRAWN	LCD	05/30/97	DWG. NO. 102774	SHEET 2 CONT. ON SHEET 3	REV B
PROJ.	MD360D0				

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
1	102770-2	PWB, CT10A OUTPUT, .	
C00	C 6807-9	.001UF 100V 10% AXL CER T/R	H 3
C01	C 6806-1	.01UF 100V AXIAL CER T/R 103	H 3
C02	C 6809-5	220PF 100V AXIAL CER T/R 221	N 4
C03	C 6810-3	180PF 100V AXIAL CER T/R 181	A 3
C04	C 6806-1	.01UF 100V AXIAL CER T/R 103	D 4
C05	C 6806-1	.01UF 100V AXIAL CER T/R 103	K 4
C06	C 7697-3	.01 UF 500V 1.5" LEADS DISC	H 3
C07	C 8511-5	0.047UF 250V 5% FILM	H 3
C08	C 8426-6	.1UF 250V 10% MET POLY RADIAL	E 2
C09	C 8426-6	.1UF 250V 10% MET POLY RADIAL	J 2
D00	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 4
D01	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 4
D02	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	G 4
D03	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	H 4
D04	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	C 2
D05	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	K 2
D06	C 2941-0	DIODE, 1N5402 3A 200V	C 3
D07	C 2941-0	DIODE, 1N5402 3A 200V	D 3
D08	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D09	C 2941-0	DIODE, 1N5402 3A 200V	L 3
D10	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	E 3
D11	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D12	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	F 3
D13	C 2851-1	RECTIFIER, 1N4004 SILICON T/R	I 3
L00	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	E 4
L01	C 3510-2	CHOKE, 10% AXIAL 470 UH TR	K 4
L02	D 6592-6	COIL, MICROTECH OUTPUT 414W1	G 2
P00	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	B 3
P01	C 9828-2	12 PIN MTA HDR, R/A PC MNT TIN	M 3
Q00		INSTALLED ON NEXT ASSEMBLY	G 3
Q01	C10155-7	2SC4793 PWR NPN XSISTOR	B 4
Q01X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	B 4
Q02	C10156-5	2SA1837 PWR PNP XSISTOR	K 4
Q02X	D 6414-3	CLIP CT/MA/MT/PB PRED HOLDDOWN	K 4
Q03		INSTALLED ON NEXT ASSEMBLY	E 3
Q04		INSTALLED ON NEXT ASSEMBLY	C 2
Q05		INSTALLED ON NEXT ASSEMBLY	E 2
Q06		INSTALLED ON NEXT ASSEMBLY	A 2
Q07		INSTALLED ON NEXT ASSEMBLY	J 3
Q08		INSTALLED ON NEXT ASSEMBLY	L 2
Q09		INSTALLED ON NEXT ASSEMBLY	I 2
Q10		INSTALLED ON NEXT ASSEMBLY	N 2
Q11		INSTALLED ON NEXT ASSEMBLY	F 3
Q12		INSTALLED ON NEXT ASSEMBLY	D 2
Q13		INSTALLED ON NEXT ASSEMBLY	G 2
Q14		INSTALLED ON NEXT ASSEMBLY	B 2

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DRAWN	LCD	05/30/97	DWG. NO.	SHEET 3	REV
PROJ.	MD360D0		102774	CONT. ON SHEET 4	B

PARTS LIST			
REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Q15		INSTALLED ON NEXT ASSEMBLY	I 3
Q16		INSTALLED ON NEXT ASSEMBLY	K 2
Q17		INSTALLED ON NEXT ASSEMBLY	H 2
Q18		INSTALLED ON NEXT ASSEMBLY	M 2
R00	A10266-2221	2.2 KOHM .25W 5% CF T/R	G 4
R01	A10266-3911	390. OHM .25W 5% CF T/R	H 3
R02	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	H 4
R03	A10266-5101	51.0 OHM .25W 5% CF T/R	B 4
R04	A10266-1331	13.0KOHM .25W 5% CF T/R	D 4
R05	A10266-7501	75.0 OHM .25W 5 CF T/R	D 4
R06	A10266-1331	13.0KOHM .25W 5% CF T/R	K 4
R07	A10266-7501	75.0 OHM .25W 5 CF T/R	K 4
R08	A10266-1011	100. OHM .25W 5% CF T/R	E 3
R09	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	E 3
R10	A10266-2201	22.0 OHM .25W 5 CF T/R	C 3
R11	A10266-2201	22.0 OHM .25W 5 CF T/R	E 3
R12	A10266-2201	22.0 OHM .25W 5 CF T/R	A 3
R13	C 6486-2	0.2 OHM 5W 5% WIRE	C 2
R14	C 6486-2	0.2 OHM 5W 5% WIRE	E 2
R15	C 6486-2	0.2 OHM 5W 5% WIRE	A 2
R16	C 6486-2	0.2 OHM 5W 5% WIRE	L 2
R17	C 6486-2	0.2 OHM 5W 5% WIRE	I 2
R18	C 6486-2	0.2 OHM 5W 5% WIRE	N 2
R19	A10266-1011	100. OHM .25W 5% CF T/R	J 3
R20	C 7779-9	22. OHM .25W 5% FU/FP T/R	J 3
R21	A10266-2R74	2.7 OHM 2W 5% CF T/R	G 3
R22	C10444-5	.02 OHM 5W 3% WW RES AXL MOUNT	H 1
R23	A10266-2R74	2.7 OHM 2W 5% CF T/R	E 2
R24	A10266-2R74	2.7 OHM 2W 5% CF T/R	J 1
R25	C 7778-1	5.6 OHM .5W 5% FU/ FP T/R	F 2
R26	C 6486-2	0.2 OHM 5W 5% WIRE	D 1
R27	C 6486-2	0.2 OHM 5W 5% WIRE	F 1
R28	C 6486-2	0.2 OHM 5W 5% WIRE	B 1
R29	C 7779-9	22. OHM .25W 5% FU/FP T/R	H 2
R30	C 6486-2	0.2 OHM 5W 5% WIRE	J 1
R31	C 6486-2	0.2 OHM 5W 5% WIRE	H 1
R32	C 6486-2	0.2 OHM 5W 5% WIRE	L 1
R33	C 6844-2	250 OHM LNR VERT ADJ TRIMPOT	I 3
R34	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R35	A10265-11301	113 OHM .25W 1% MF T/R	C 3
R36	A10266-2721	2.7 KOHM .25W 5 CF T/R	C 3
R37		DO NOT INSTALL	C 2
R38		DO NOT INSTALL	L 2
R39		DO NOT INSTALL	D 2
R40		DO NOT INSTALL	K 2
U00		INSTALLED ON NEXT ASSEMBLY	C 3

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DRAWN	LCD	05/30/97	DWG. NO. 102774	SHEET 4 CONT. ON SHEET 5	REV B
PROJ.	MD360D0				

PARTS LIST

REF DES	C.P.N.	DESCRIPTION	MAP LOC.
Z1	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	A 4
Z2	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	N 4
Z3	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	H 1
Z4	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	G 3
Z5	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	E 3
Z6	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	F 3
Z7	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	J 4
Z8	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	M 3
Z9	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	K 3
Z10	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	C 2
Z11	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 2
Z12	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 3
Z13	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	D 2
Z14	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	B 4
Z16	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	I 1
Z17	C 5868-2	0 OHM. 25W 20 MILOHM MAX T/R	G 1

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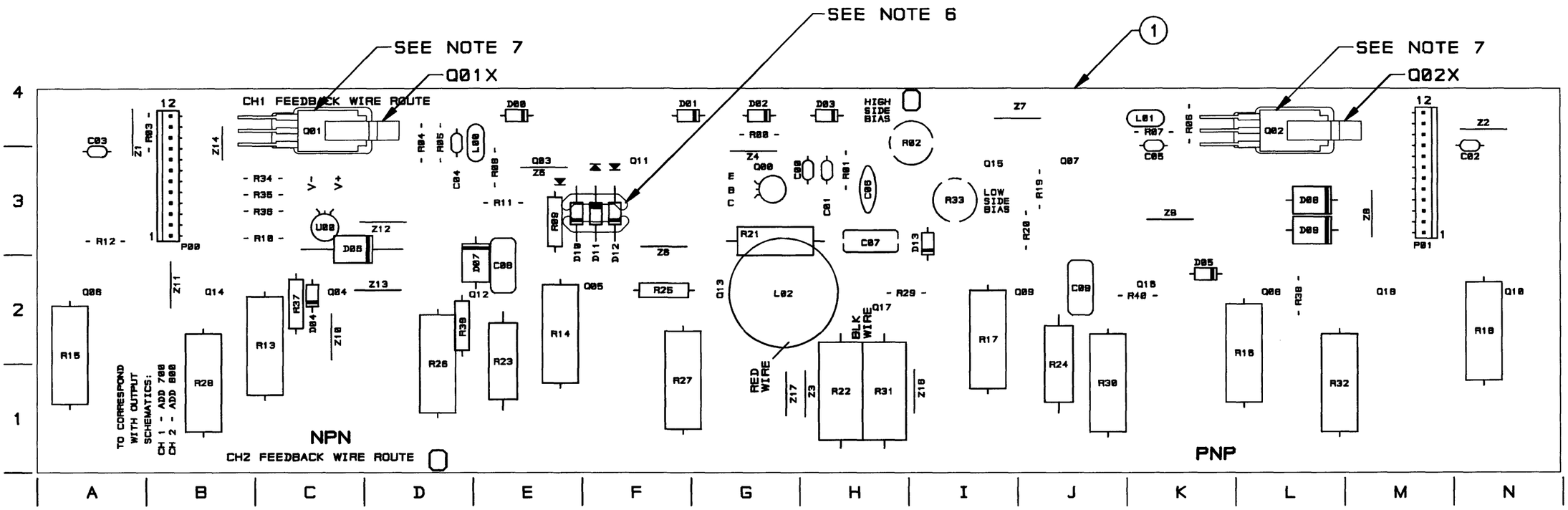
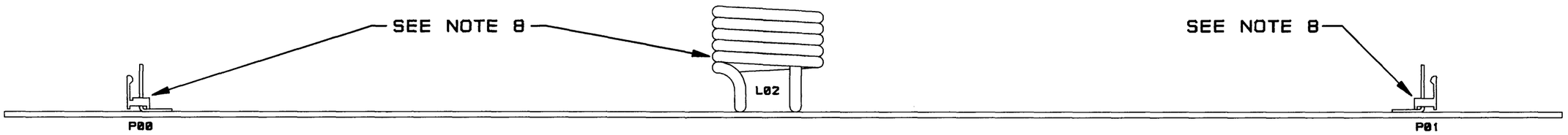
DRAWN	LCD	05/30/97	DWG. NO. 102774	SHEET 5 CONT. ON SHEET 6	REV B
PROJ.	MD360D0				

COMPONENT MAP

TOP VIEW



SIDE VIEW



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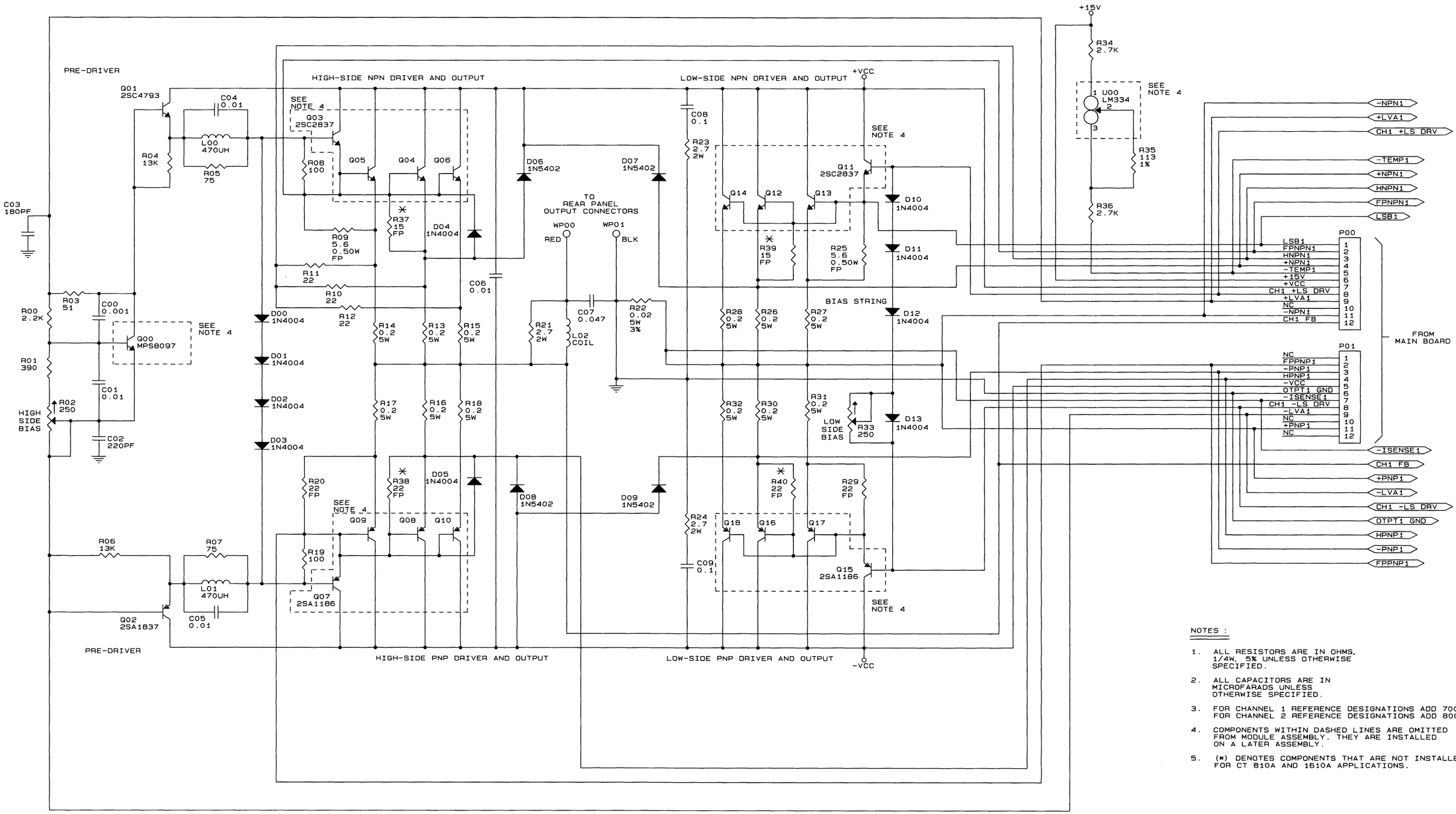
SCALE	NONE	DWG. NO.	SHEET 6 CONT. ON SHEET -	REV
PROJ	MD360D0	102774		B

DWG. NO. 102774 REV B

DWG. NO. 102773 REV (B)

E.C.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		(A)	INITIAL RELEASE	05/30/97	LCD	KW		PW	TS
		(B)	RECONNECTED R23 & R24 TO GROUND.	12-02-97	TLM				
		○							



NOTES :

1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
3. FOR CHANNEL 1 REFERENCE DESIGNATIONS ADD 700. FOR CHANNEL 2 REFERENCE DESIGNATIONS ADD 800.
4. COMPONENTS WITHIN DASHED LINES ARE OMITTED FROM MODULE ASSEMBLY. THEY ARE INSTALLED ON A LATER ASSEMBLY.
5. (*) DENOTES COMPONENTS THAT ARE NOT INSTALLED FOR CT 810A AND 1610A APPLICATIONS.

LAST USED	OBSOLETED
C09	
D13	
L02	
Q18	
R40	
U00	

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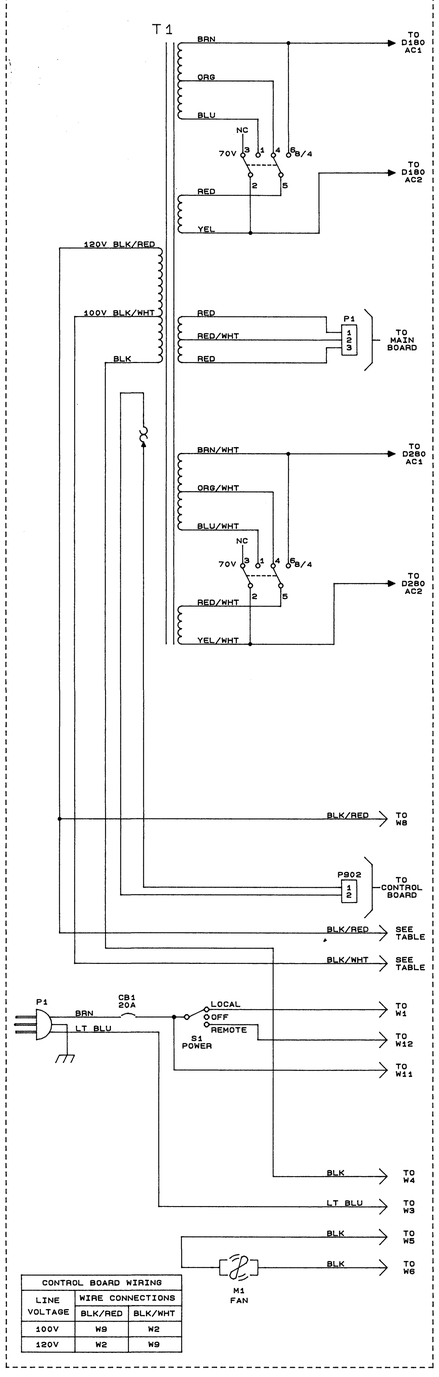
SCHEMATIC; CT810A/1610A OUTPUT

DRAWN	LCD	05/30/97	APPROVED BY :			DO NOT SCALE PRINT
CHECKED	KW	05-30-97	ME			SUPERSEDES
SCALE	NONE		EE	PW	06-02-97	E.C.
PROJ #	MD360D0		PE	TS	06-02-97	DWG. NO. SHEET 1 OF 1
FILENAME:	1027730B.SCM		NEXT ASSEMBLY:			102773 REV (B)

CT810 Interconnect Diagram

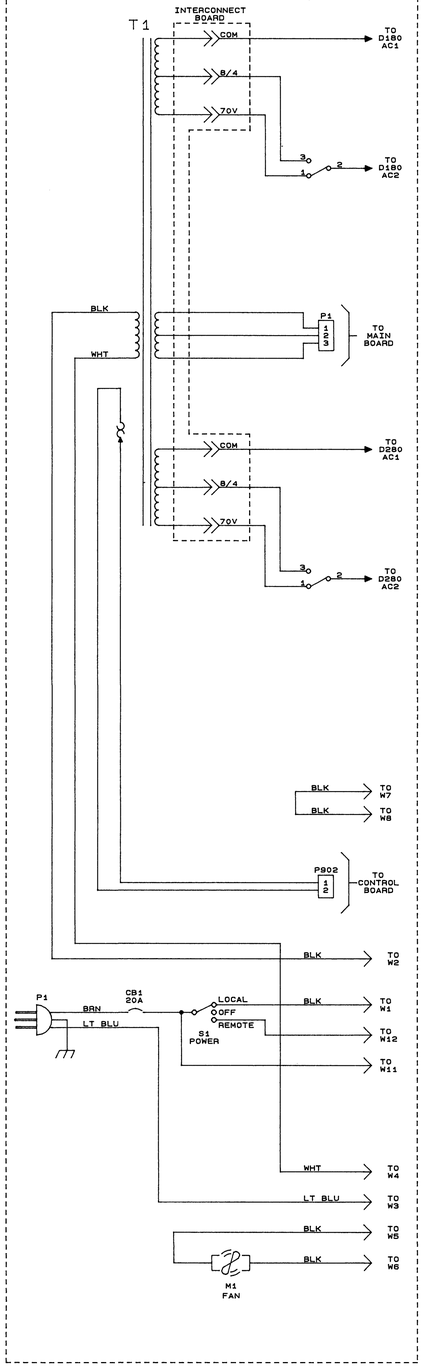
E.C.N.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	UPDATED MAIN & CONTROL BOARD SCM. FILENAMES.	11/11/96	TLM				TS
97-101		B	DELETED C1 (3 PLCS), S1 POWER SWITCH WAS SPST. ADDED W11 & W12 (3 PLCS), P903, RJ11.	02-18-97	KLW				

INTERNATIONAL 100V/120V WIRING



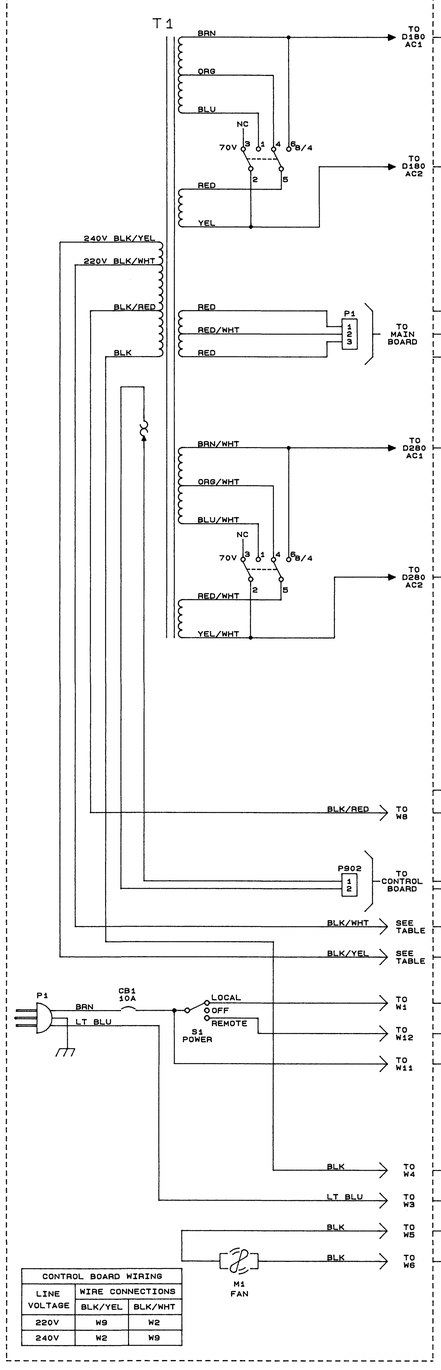
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/RED	BLK/WHT
100V	W9	W2
120V	W2	W9

120V 60Hz WIRING

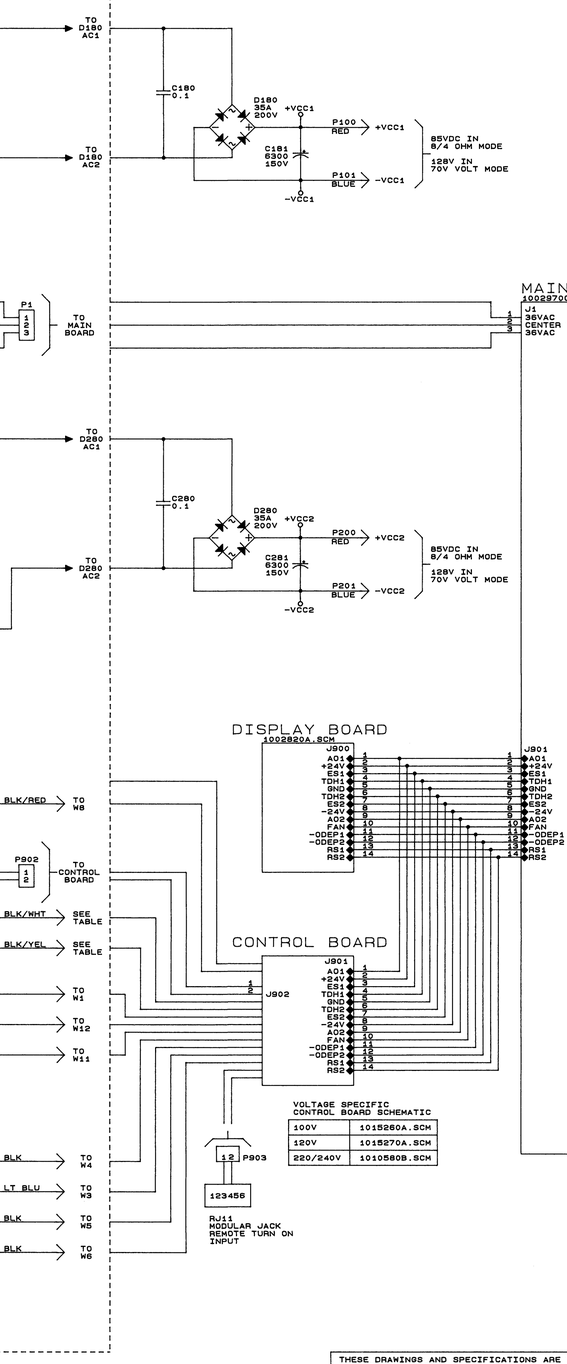


CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

INTERNATIONAL 240V WIRING SHOWN



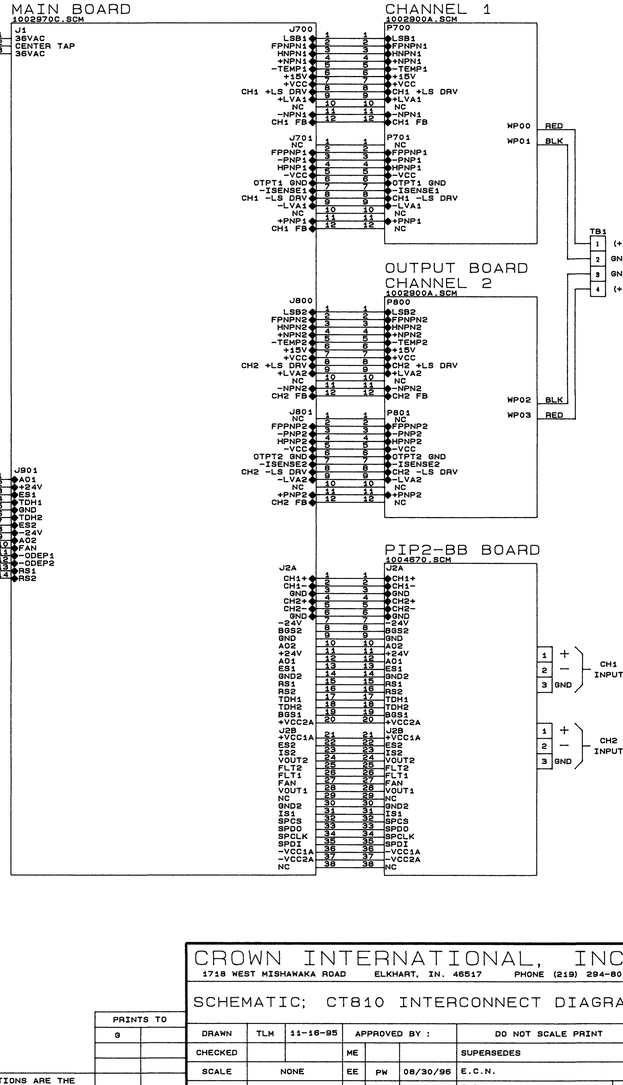
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9



NOTES:

1. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD CONDITION.

VOLTAGE SPECIFIC CONTROL BOARD SCHEMATIC	
100V	1015260A.SCM
120V	1015270A.SCM
220/240V	1010560B.SCM



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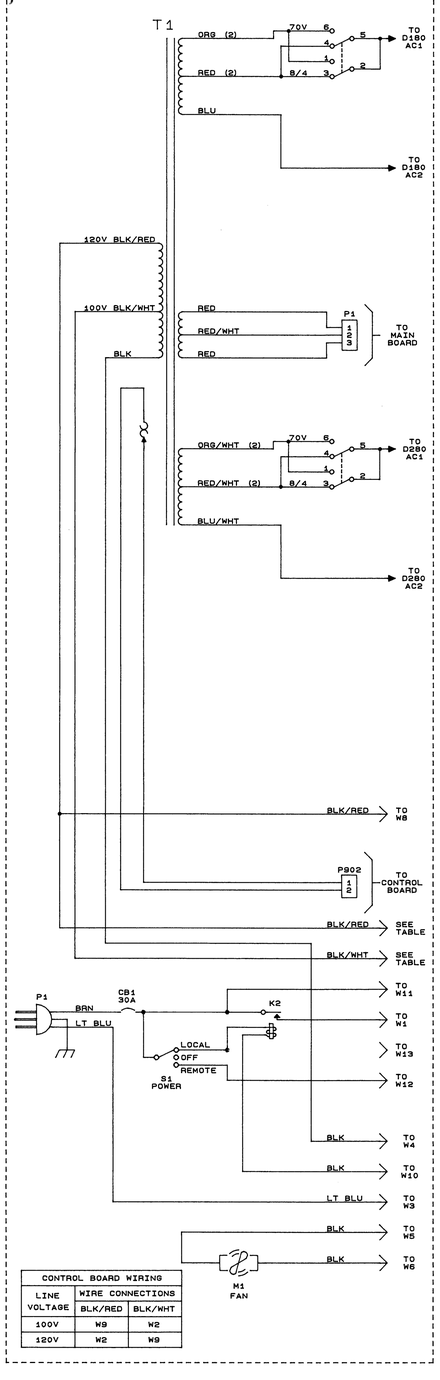
SCHEMATIC; CT810 INTERCONNECT DIAGRAM

DRAWN	TLM	11-16-95	APPROVED BY :			DO NOT SCALE PRINT
CHECKED			ME			SUPERSEDES
SCALE	NONE		EE	PW	08/30/96	E.C.N.
PROJ #	D360		PE	TS	08/30/96	C.P.N. SHEET 1 OF 1 REV
NEXT ASSEMBLY						J 0719-5 B

CT1610 Interconnect Diagram

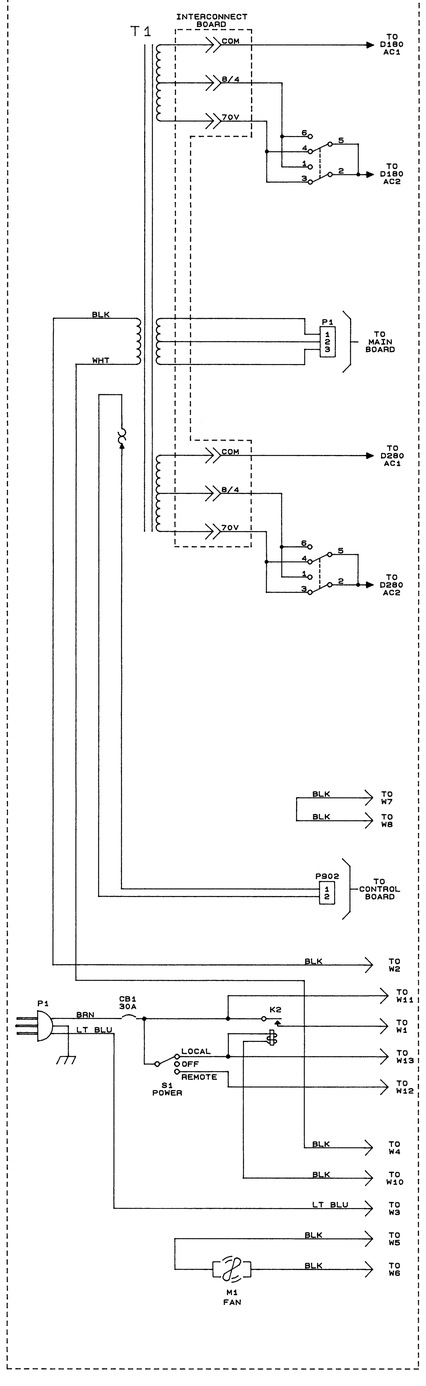
E.C.N.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	UPDATED MAIN & CONTROL BOARD SCH. FILENAMES.	11/11/96	TLM				TS
97-101		B	100V/120V WIRING: ADDED W11-W13, S1 WAS SPST. 220V/240V WIRING: ADDED W11 & W12, S1 WAS SPST. ADDED P903 AND RJ11.	02-18-97	KLW				

INTERNATIONAL 100V/120V WIRING



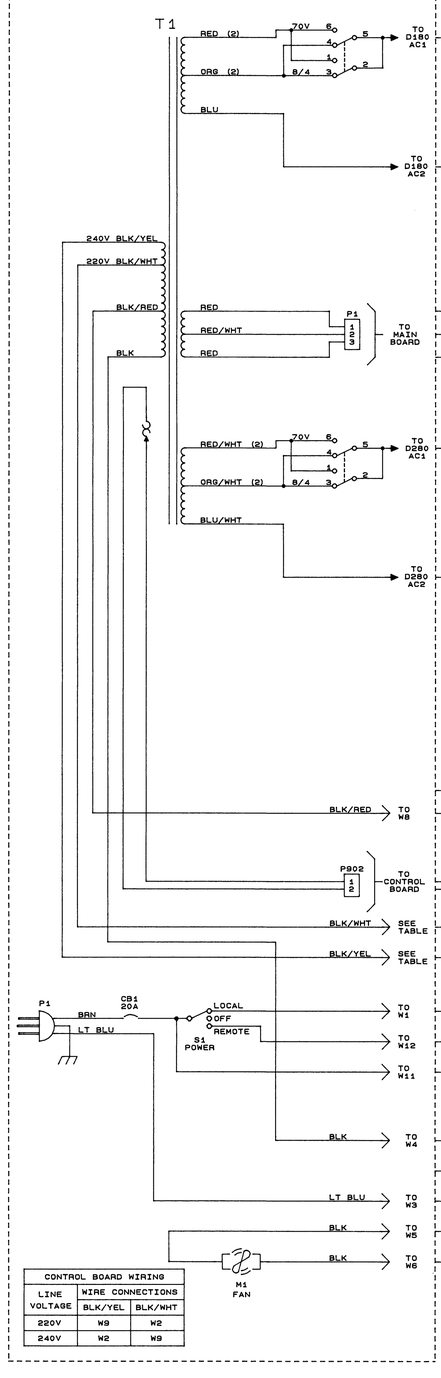
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/RED	BLK/WHT
100V	W9	W2
120V	W2	W9

120V 60Hz WIRING

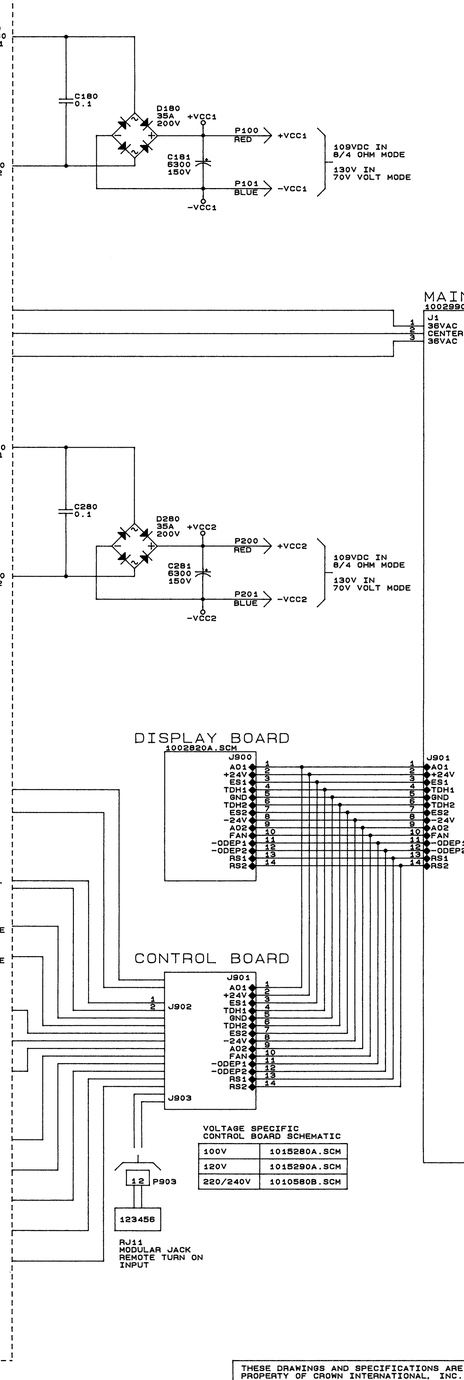


CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

INTERNATIONAL 220V/240V WIRING



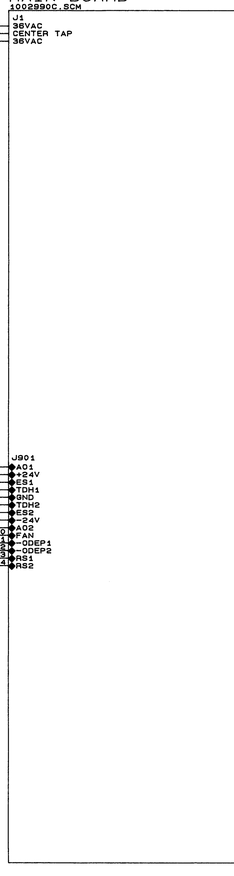
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9



NOTES:

1. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD CONDITION.

MAIN BOARD
1002990C.SCM



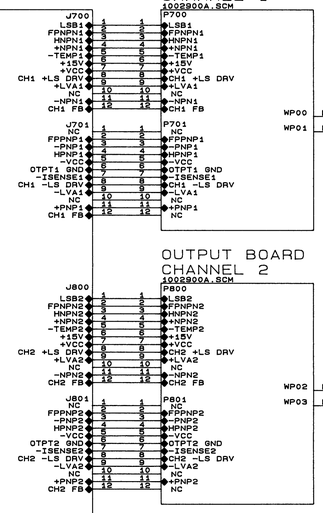
DISPLAY BOARD
1002820A.SCM

CONTROL BOARD

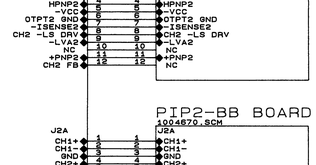
VOLTAGE SPECIFIC CONTROL BOARD SCHEMATIC	
100V	1015280A.SCM
120V	1015290A.SCM
220/240V	1010580B.SCM

RJ11 MODULAR JACK REMOTE TURN ON INPUT

CHANNEL 1
1002900A.SCM



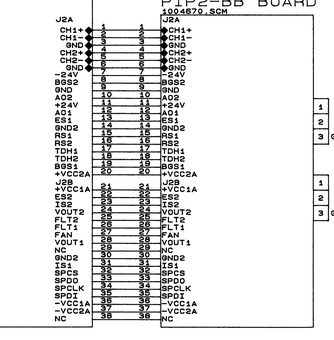
OUTPUT BOARD CHANNEL 2
1002900A.SCM



WP00 RED
WP01 BLK
WP02 BLK
WP03 RED

TB1: (1) (+) (2) GND (3) GND (4) (+)

PIP2-BB BOARD
1004670.SCM



CH1 INPUT: (1) + (2) − (3) GND

CH2 INPUT: (1) + (2) − (3) GND

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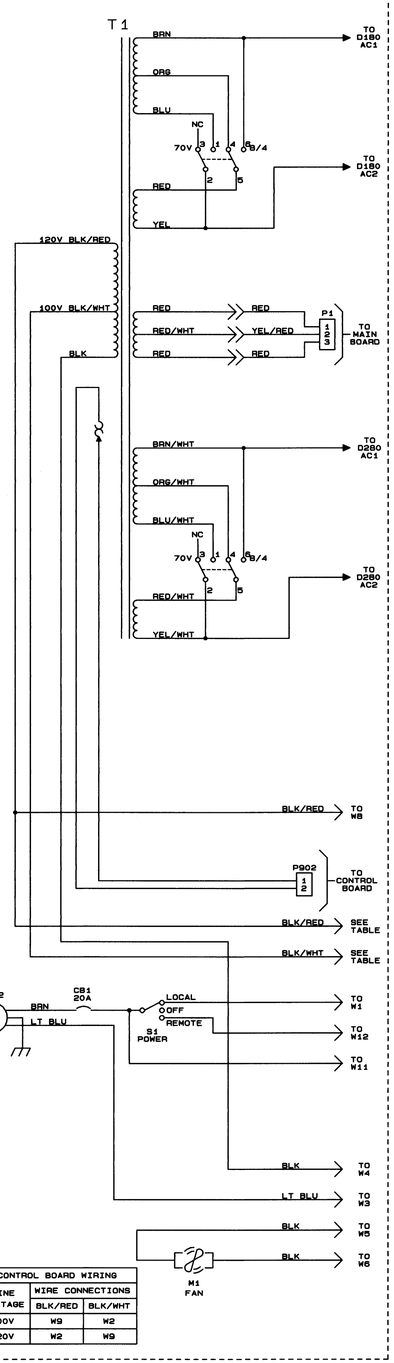
SCM; CT1610 INTERCONNECT DIAGRAM

DRAWN	TLM	11-18-95	APPROVED BY :			DO NOT SCALE PRINT
CHECKED			ME			SUPERSEDES
SCALE	NONE		EE	PW	08/30/96	E.C.N.
PROJ #	D360		PE	TS	08/30/96	C.P.N. SHEET 1 OF 1 REV
NEXT ASSEMBLY						J 0720-3 (B)

CT810A Interconnect Diagram

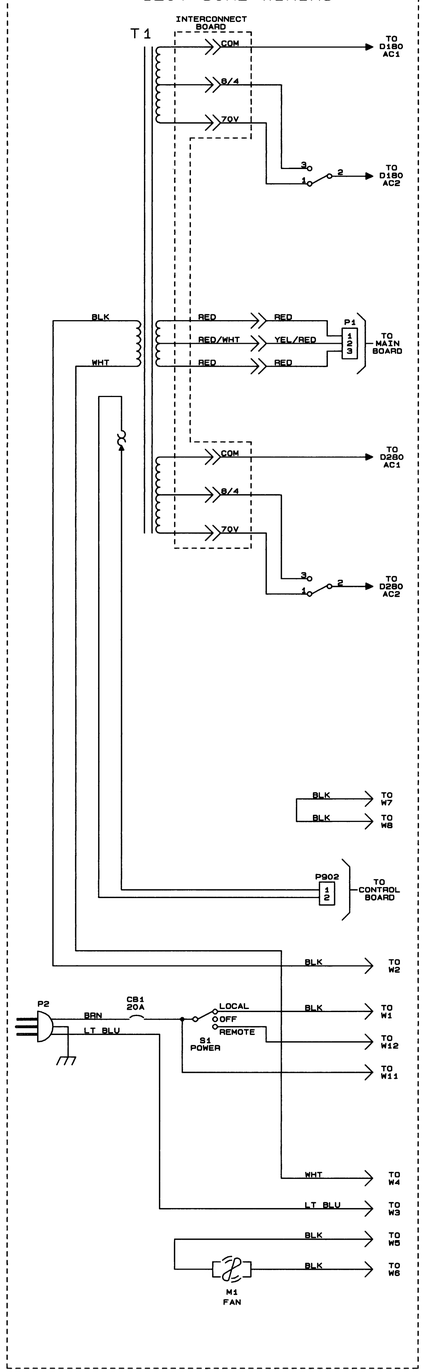
E.C.N.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	ME	EE	PE
		A	INITIAL RELEASE	06/05/97	LCD	KW			

INTERNATIONAL 100V/120V WIRING



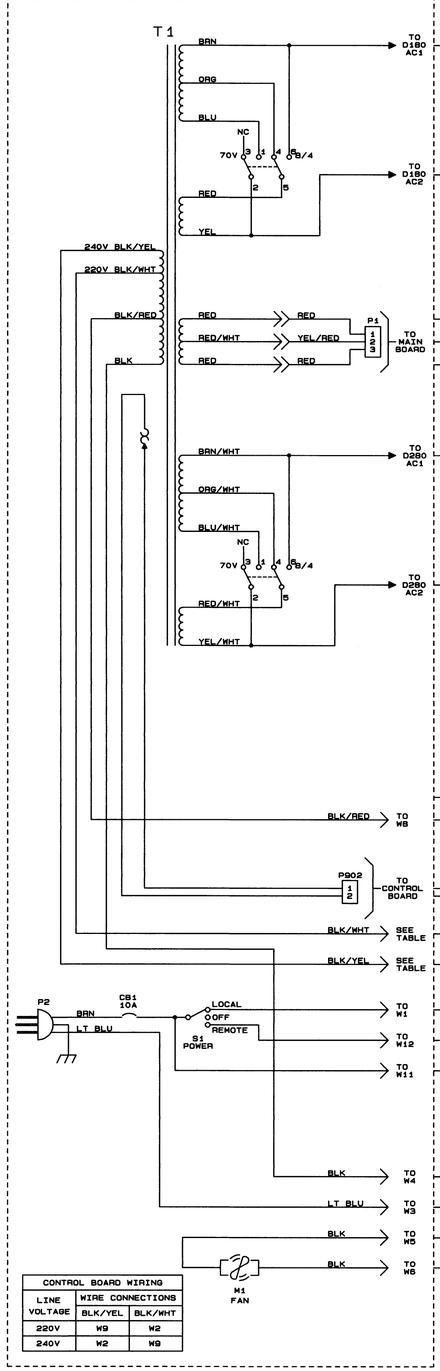
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/RED	BLK/WHT
100V	W9	W2
120V	W2	W9

120V 60Hz WIRING

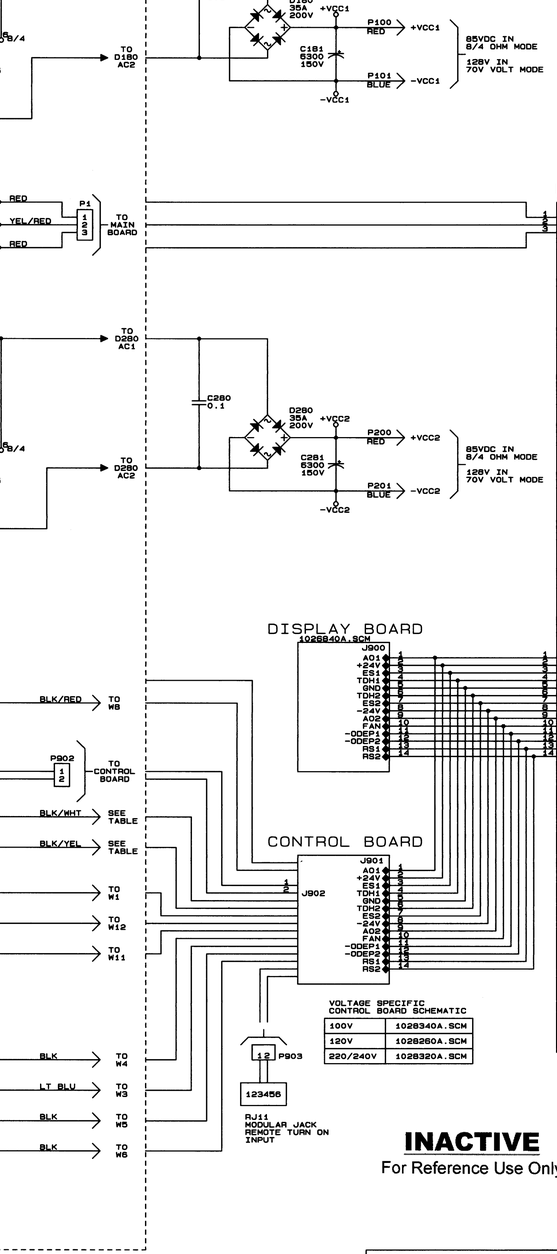


CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

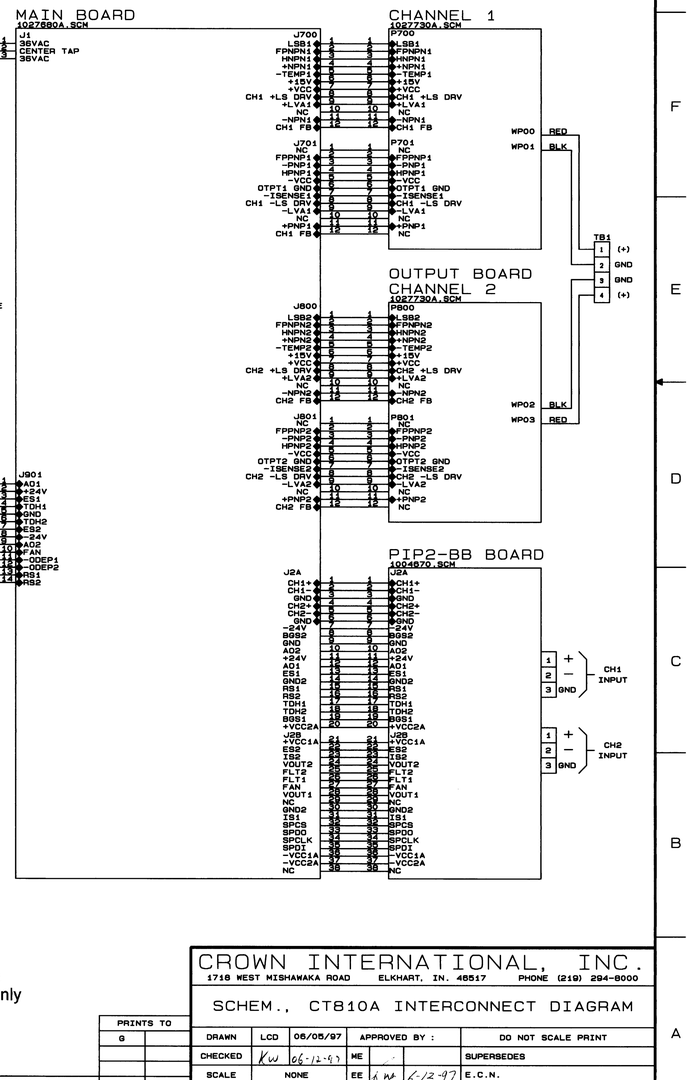
INTERNATIONAL 240V WIRING SHOWN



CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9



VOLTAGE SPECIFIC CONTROL BOARD SCHEMATIC	
100V	1028340A.SCH
120V	1028260A.SCH
220/240V	1028320A.SCH



NOTES:

1. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD CONDITION.

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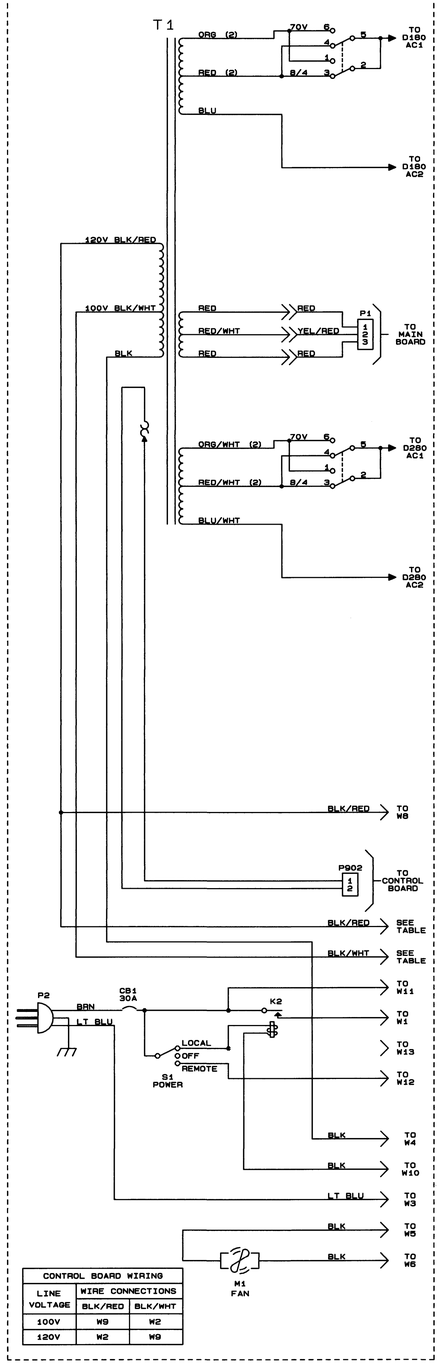
SCHEM., CT810A INTERCONNECT DIAGRAM

DRAWN	LCD	06/05/97	APPROVED BY :		DO NOT SCALE PRINT
CHECKED	KW	06-12-97	ME		SUPERSEDES
SCALE	NONE		EE	6-12-97	E.C.N.
PROJ #	MD360D0		PE	6-12-97	C.P.N. 102847 REV A
NEXT ASSEMBLY					

CT1610A Interconnect Diagram

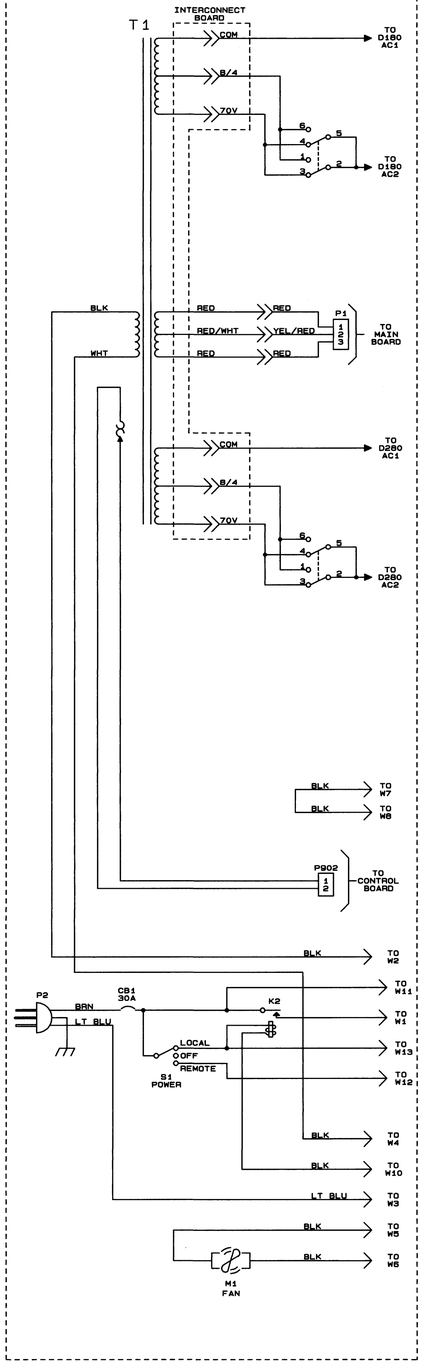
E.C.N.	ZONE	REV	DESCRIPTION	DATE	BY	APPROVALS CK	DE	EE	PE
		A	INITIAL RELEASE	06/05/97	LCD	KW			

INTERNATIONAL 100V/120V WIRING



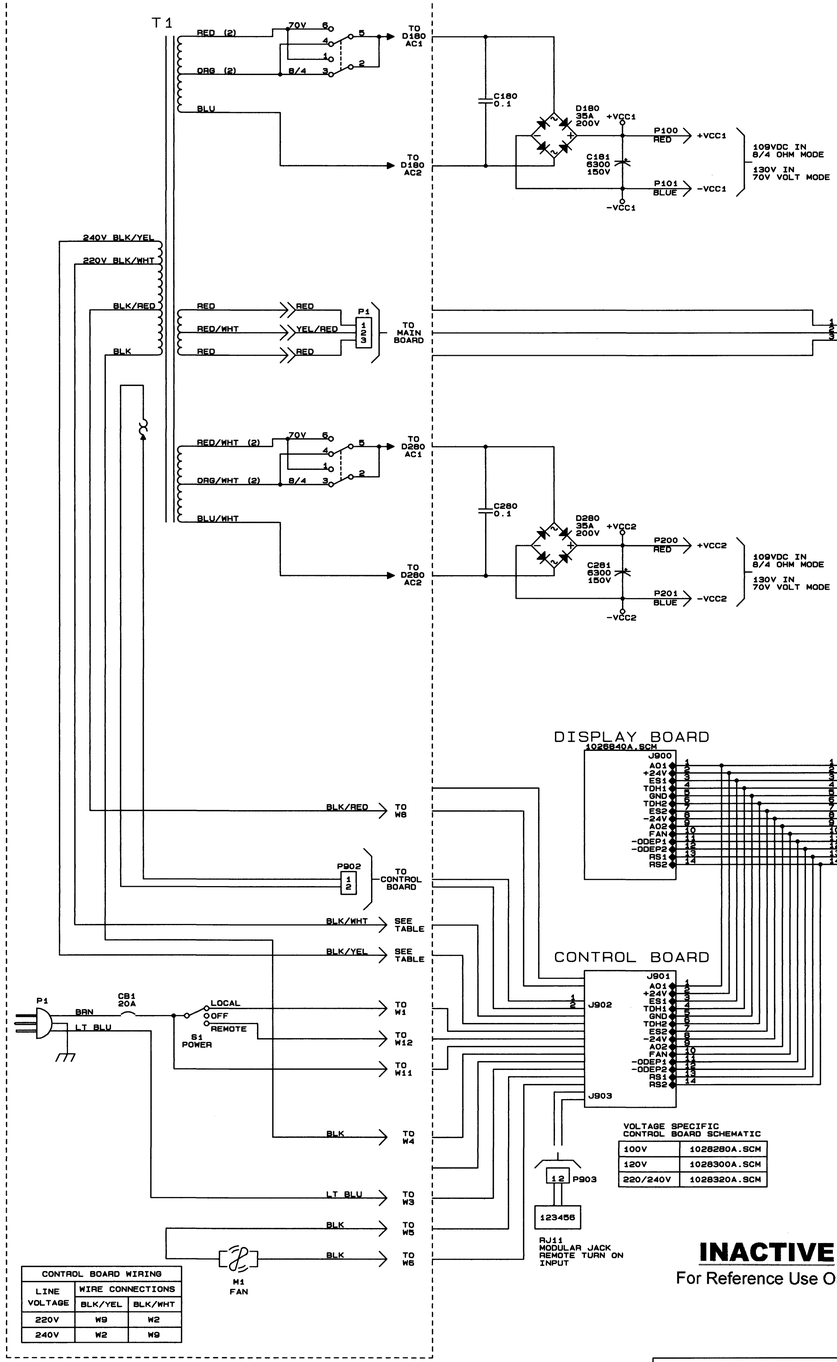
CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/RED	BLK/WHT
100V	W9	W2
120V	W2	W9

120V 60Hz WIRING



CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

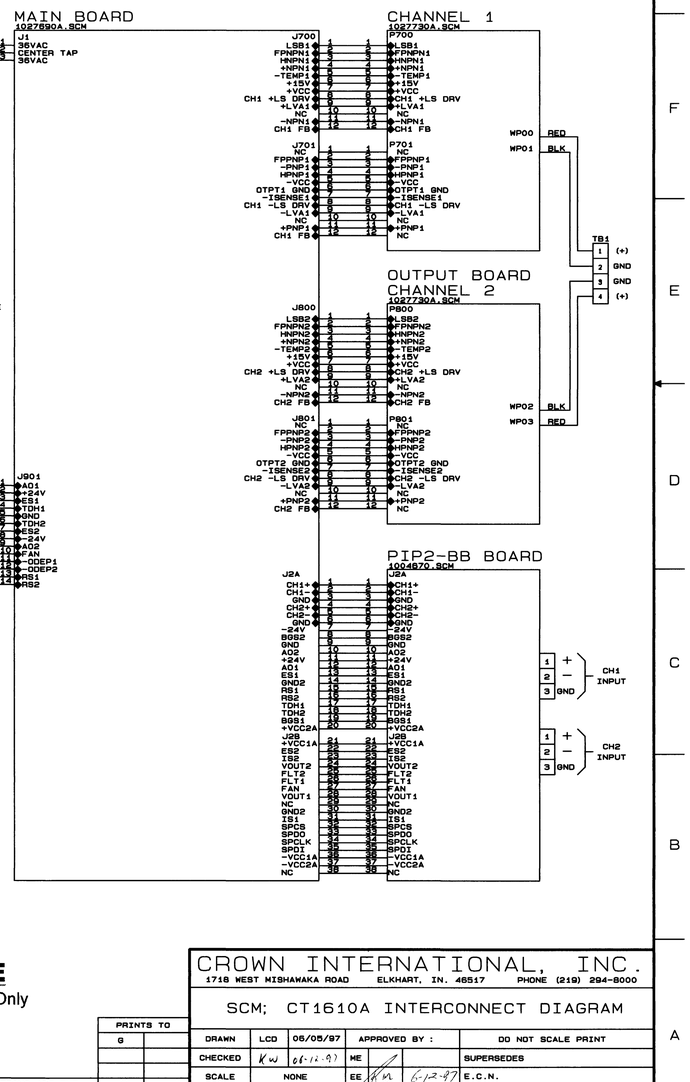
INTERNATIONAL 220V/240V WIRING



CONTROL BOARD WIRING		
LINE VOLTAGE	WIRE CONNECTIONS	
	BLK/YEL	BLK/WHT
220V	W9	W2
240V	W2	W9

NOTES:

1. POWER SUPPLY VOLTAGES SHOWN UNDER NO LOAD CONDITION.



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SCM; CT1610A INTERCONNECT DIAGRAM

DRAWN	LCD	06/05/97	APPROVED BY :	DO NOT SCALE PRINT
CHECKED	KW	06-12-97	ME	SUPERSEDES
SCALE	NONE		EE 6-12-97	E.C.N.
PROJ #	MD3500		PE 6-12-97	C.P.N. 102848 REV A
NEXT ASSEMBLY				