IQ-USM 810

The new IQ-USM 810 is a unique audio control device from Crown. It contains versatile feature sets that allow you not only to reduce the number of units you install into a sound system, but to greatly reduce the cost of the system. The USM-810 is a DSP processing unit that has been designed to be a "System in a Box". You'll get an extremely powerful DSP engine that delivers a great deal of processing power. And it also incorporates one of the most sophisticated automatic mixers available. With eight inputs and 10 outputs, you'll have a very versatile "palette" of system configurations and signal routing capabilities.

The IQ-USM 810 fits an infinite range of installations. From major sports facilities to the smallest houses of worship, the IQ-USM 810 can fill the need. It incorporates 32 user-definable presets that can be selected from the front panel, IQ for Windows software, switch closure, or can be scheduled from its internal real-time clock/calendar. You can easily configure the IQ-USM 810 for automatic room combining as well as "simple to use" wall station controls. All of this and more at a price you won't believe!

The IQ-USM 810 extends the Ultra Series of Crown IQ products. Along with the IQ-PIP USP2 module and Crown Com-Tech and Macro-Tech PIP2-compatible amplifiers, the IQ-USM 810 incorporates the best amplifier control system with the best signal processing. You get more control and versatility using a single computer or controller than ever before. IQ offers the greatest spectrum of connectivity while maintaining its simple approach. Plus, your investment is backed by Crown's unequaled Three-Year, No-Fault, Full Warranty that covers everything.

For more details about the Crown IQ-USM 810, contact the Crown Technical Support Group at 800-342-6939 or 219-294-8200. Also, visit the Crown Audio website at www.crownaudio.com.

Specifications
Description
The Crown IQ-USM 810 is an 8x10 processor/mixer with unique dual input processing paths. As an IQ component, it can be controlled by an IQ System, and with its distributed intelligence capability, continue to operate even when an IQ System is not connected. The IQ-USM 810 can also act as a system interface to other IQ components.

Features
- **Eight input, Ten output digital mixer with unique dual input processing paths provides ultimate flexibility.**
- **24-bit A/D and D/A converters for optimum dynamic range.**
- **Multiple 32-bit DSP processors provide filters, delay, full automixing, auto leveling, signal routing, as well as full ambient sensing and compensation.**
- **Up to seven different filter types are available for a total of 128 filters in-box.**
- **32 user-definable presets are accessible via the front panel, IQ for Windows software,** switch closures or a system controller such as a computer or touch screen system.
- **Internal real-time clock/calendar allows the IQ-USM 810 to configure automatically according to a pre-defined schedule.**
- **Reliable FLASH memory backs up all parameters.**
- **Can function as the IQ interface, eliminating extra cost.**
- **Free IQ for Windows software provides easy setup and monitoring of all IQ-USM 810 parameters.**
- **The best three-year "No-Fault" full warranty in the business!**

The IQ-USM 810 features high-quality 24-bit A/D and D/A converters along with 240MIPS of full 32-bit floating point DSP for optimum dynamic range.

Each audio input includes Filters and Delay. Each dual input processing path includes a full complement of signal processing features, including Delay, Input Gate, Auto-Leveler, Filters, Input Compressor and Automixing. Automixing functions include NOM Attenuation, Priority Ducking, and Adaptive Gating processing. A Muter/Inverter is also provided at each input processing path.

A full 8x8 Matrix Mixer allows any combination of routing and mixing from any input to any output. The Matrix Mixer outputs are routed to the two Main Audio Outputs and eight AUX Audio Outputs.

The Main and AUX Audio Output sections further process the signal with individually adjustable signal delay and filters along with an Ambient-Leveler and a high performance Output Limiter for system protection, a fader muter/inverter.

Each filter group can be configured for any combination of up to seven different filter types. Different filter types include Low-Pass Crossover Filter (1st-4th order), High-Pass Crossover Filter (1st-4th order), Parametric Equalization Filter (2nd order), Low-Pass Equalization Filter (2nd order), High-Pass Equalization Filter (2nd order), Low-Pass Shelving Equalization (1st order) and High-Pass Shelving Equalization (1st order). 32 filters per DSP processor are available for a total of 128 filters within the IQ-USM 810.

A Multi-Function Control Port implements analog and digital I/O for control and monitor by external circuits. Sixteen outputs and sixteen inputs along with power supply outputs and common grounds are provided. All sixteen (1-16) outputs are digital "logic outs." The upper eight inputs (9-16) are capable of monitoring digital and analog external signals.

All IQ-USM 810 parameters are backed up via FLASH memory. System configurations may be stored for recall from any of thirty-two system presets from the front panel control, switch closure, via IQ for Windows software or scheduled from the internal real-time clock/calendar.

General
Front Panel Controls: Front-panel switches select IQ Address, Baud Rate, factory default preset (P00), and any of 32 user-defined presets (P01-P32).

Rear-Panel Controls: A 3-position selector switch (mic/line/phantom) and a calibrated gain control for each input.

Connectors: Crown Bus: RJ-45 for input/ output, RJ-45 for daisy output, RS232: DB9F computer interface for both component and interface modes. Multi-function Port: DB37M for analog inputs, digital inputs, digital outputs, +5VDC, +10VDC and Ground. Audio Inputs and Outputs: 3-pin male removable barrier block connectors, Buchanan¨ type cable connector or equivalent supplied. AC Power: IEC320 connector for AC power cord.

Display: A blue front-panel Enable indicator lights to show that the unit is plugged in and AC power is being supplied. An amber front-panel Data Signal Presence Indicator (DATA) flashes whenever commands addressed to the IQ-USM810 are received. A green front-panel Interface indicator lights when the IQ-USM810 is being used as system interface. A

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three-segment digital display indicates the IQ-USM810's initialization sequence by displaying each processor's name as it comes online, indicates the presently selected preset, indicates the IQ address and baud rate while those parameters are being adjusted, indicates when a parameter has been stored in flash memory, and when any parameter is varied from its value within the currently selected preset. Ladder Display: A front panel, sixteen-segment LED display matrix can be set to three different operating modes: Level Meter, Gate Status, and Infinity Pattern (test).

Power Requirements: 100VAC to 240VAC, 35VA nominal.

Protection: if communication is lost, the unit will continue to function with the last commands received.

RS232 Data Communication
Baud Rate: Selectable to 19.2 K, 38.4 K, 57.6 K, or 115.2 K BAUD.

Data Format: Serial, binary, asynchronous; 1 start bit; 1 stop bit; 8 data bits; no parity.

Crown Bus Data Communication
Data Rate: 38.4 K BAUD.

Data Format: Serial, binary, asynchronous; 1 start bit; 1 stop bit; 8 data bits; no parity.

Crown Bus Interface Type: Optically isolated 20 mA current loop.

Operation: Half-duplex.

Transmission Distance: Variable from 200 to 3000 feet (61 to 914 meters)., depending upon wire capacitance. Typically 1000 feet (305 meters) using shielded twisted-pair wire, #26 AWG or larger. Can be extended with an IQ Repeater.

Audio
Phantom Voltage: +24VDC at 10 mA.

Input Gain Range: +20 dB to –12 dB.

Digital Sampling: 24 bit, 48 kHz.

Input Impedance: 20 kohms balanced, 10 kohms unbalanced.

Dynamic Range: Greater than 100 dB (A-weighted, 20 Hz-20 KHz).

Frequency Response: ± 0.5 dB, 20 Hz-20 kHz.

Common Mode Rejection: 50 dB at 60 Hz (typical).

Crosstalk: Greater than 80 dB at 10 kHz.

Total Harmonic Distortion: Less than 0.05% THD + N (1 kHz, 0 dBu).

Output Impedance: 100 ohms balanced, 50 ohms unbalanced.

Max Input Level: +32 dBu (line) or +7 dBu (mic).

Max Output Level: +20 dBu.

Control Port
Power Supply: +5VDC and +10VDC outputs are provided. The total output current is limited to 1A.

Outputs,

Logic Low: less than 0.1V.

Logic High: 10V (via internal pull-up).

Output Current is limited to 10ma max per pin.

Inputs,

Input Impedance: greater than 50kohm.

Logic Low: less than 0.5V.

Logic High: greater than 5V.

Analog Range: 0 to 10V (for inputs 9-16 only).

Max Input Voltage: 25V.

Mechanical
Weight: 13 pounds, 4 ounces (6.1 kg).

Dimensions: 19-inch (483-cm) standard rack mount width (EIA RS-310-B), 16-inch (40.6-cm) depth behind mounting surface, and 2 RU high (3.5-inches; 8.9-cm).