

# ComTech D Series

3<sup>rd</sup> Party Control Protocol Document

## 3rd Party Control

The protocol is available for third parties to query certain aspects of the ComTech D Series products. It is a text-based protocol using a JSON-like syntax. Simple commands can be used to query certain parameters.

TCP Port: 4197

### GET

The GET command is used to obtain information from the device. A simple GET command has the following syntax:

```
: get {"path": "$endpoint"}\n
```

All GET commands have responses. A response has the following syntax:

```
@get {"path": "$endpoint", "value": "$value"}
```

You can use telnet / putty to experiment with the command/response values. An example is shown below:

```
telnet 10.35.92.85 4197  
  
get {"path": "/configuration/device/name"}\n  
@get {"path": "/configuration/device/name", "value": "CTD-8125"}  
  
get {"path": "/configuration/network/interface/1/ipv4/ipaddress"}\n  
@get {"path": "/configuration/network/interface/#/ipv4/ipaddress", "value": "192.168.1.101"}
```

Enumerations can return either the string value or the index value of the enumerated value. Returns will depend on the format requested. By default the index value is returned:

```
get {"path":"/configuration/network/interface/1/ipv4/dhcp"}\n
@get {"path":"/configuration/network/interface/1/ipv4/dhcp","value":0}

get {"path":"/configuration/network/interface/1/ipv4/dhcp","format":"string"}\n
@get {"path":"/configuration/network/interface/1/ipv4/dhcp","format":"string","value":"DHCP"}
```

Float will return hexfloat by default, if no specific format is specified. The format can be specified to return alternate values:

```
get {"path":"/DSP/Analog Input/Channel/1/Gain"}\n
@get {"path":"/DSP/Analog Input/Channel/1/Gain","value":" 0x1.b333333333334p+1"}

get {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number"}\n
@get {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":3.4}
```

## SET

Parameters are set via the SET command. SETs generally have an immediate impact. The following command will change the Mute Status. The SET response will confirm the value that was set.

```
set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}\n
@set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}
```

Enumerations can return either the string value or the index value of the enumerated value. Returns will depend on the format requested. By default the index value is returned:

```
set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}\n
@set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}

set {"path":"/DSP/Analog Input/Channel/1/Mute","format":"string","value":"Enabled"}\n
@set {"path":"/DSP/Analog Input/Channel/1/Mute","format":"string","value":"Enabled"}
```

In some instances, the SET response may not match the value requested. This is generally due to scaling factors or out-of-range values in things like brightness, audio volume, etc. If the sending app is keeping state, then the local value should be updated to the value in the SET response.

```
set {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":100}\n@set {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":24}
```

## SUBSCRIBE

The SUBSCRIBE command will subscribe to any changes on a parameter or event. If the target is a parameter, it will also immediately publish a message to give the subscriber the current value. Always sent from the controller to the device.

```
subscribe {"path":"/Fault/LoadMonitoring"}\n@subscribe {"path":"/Fault/LoadMonitoring","value":0}\n\npublish {"path":"/Fault/LoadMonitoring","value":1}
```

## UNSUBSCRIBE

The UNSUBSCRIBE command will remove any subscriptions on a parameter. Always sent from the controller to the device.

```
unsubscribe {"path":"/Fault/LoadMonitoring"}
```

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>DEVICE CONFIGURATION</b>					
/configuration/device/serialnumber	Serial Number	String	GET		get {"path":"/configuration/device/serialnumber"}\n @get {"path":"/configuration/device/serialnumber","value":"XXXXXX"}
/configuration/device/name	Device Name	String	GET	SET	get {"path":"/configuration/device/name"}\n @get {"path":"/configuration/device/name","value":"CTD-8125"}\n set {"path":"/configuration/device/name","value":"CTD-8125"}\n @set {"path":"/configuration/device/name","value":"CTD-8125"}
<b>NETWORK</b>					
/configuration/network/interface/#/ipv4/ipaddress <i>where # = 1-2</i>	Network IP Address. This must be known in order to run any queries	String	GET	SET	get {"path":"/configuration/network/interface/1/ipv4/ipaddress"}\n @get {"path":"/configuration/network/interface/#/ipv4/ipaddress","value":"192.168.1.101"}\n set {"path":"/configuration/network/interface/1/ipv4/ipaddress","value":"192.168.1.101"}\n @set {"path":"/configuration/network/interface/1/ipv4/ipaddress","value":"192.168.1.101"}
/configuration/network/interface/#/ipv4/subnetmask <i>where # = 1-2</i>	Subnet Mask	String	GET	SET	get {"path":"/configuration/network/interface/1/ipv4/subnetmask"}\n @get {"path":"/configuration/network/interface/#/ipv4/subnetmask","value":"255.255.255.0"}\n set {"path":"/configuration/network/interface/1/ipv4/subnetmask","value":"255.255.255.0"}\n @set {"path":"/configuration/network/interface/1/ipv4/subnetmask","value":"255.255.255.0"}
/configuration/network/interface/#/ipv4/gateway <i>where # = 1-2</i>	Gateway IP	String	GET		get {"path":"/configuration/network/interface/1/ipv4/gateway"}\n @get {"path":"/configuration/network/interface/#/ipv4/gateway","value":"192.168.1.1"}
/configuration/network/interface/#/ipv4/dhcp <i>where # = 1-2</i>	DHCH or Static 0 = DHCP 1 = Static	Enum	GET	SET	get {"path":"/configuration/network/interface/1/ipv4/dhcp"}\n @get {"path":"/configuration/network/interface/1/ipv4/dhcp","value":0}\n set {"path":"/configuration/network/interface/1/ipv4/dhcp","value":1}\n @set {"path":"/configuration/network/interface/1/ipv4/dhcp","value":1}
/configuration/network/interface/#/ipv4/dnsserver/% <i>where # = 1-2</i> <i>where % = 1-2</i>	DNS Address	String	GET	SET	get {"path":"/configuration/network/interface/1/ipv4/dnsserver/1"}\n @get {"path":"/configuration/network/interface/#/ipv4/dnsserver/1","value":"8.8.8.8"}\n set {"path":"/configuration/network/interface/1/ipv4/dnsserver/1","value":"8.8.8.8"}\n @set {"path":"/configuration/network/interface/1/ipv4/dnsserver/1","value":"8.8.8.8"}
/configuration/network/interface/#/mac <i>where # = 1-2</i>	MAC Address	String	GET		get {"path":"/configuration/network/interface/1/mac"}\n @get {"path":"/configuration/network/interface/#/mac","value":"00:30:d6:3f:7a:36"}
<b>FAULT STATUS</b>					
/Fault/Thermal	Thermal Fault Status 0 = OKEY 1= ERROR	Enum	Subscribe	Unsubscribe	subscribe {"path":"/Fault/Thermal"}\n @subscribe {"path":"/Fault/Thermal","value":0}\n publish {"path":"/Fault/Thermal","value":1}\n\n unsubscribe {"path":"/Fault/Thermal"}
/Fault/PowerSupply	Power Supply Fault Status 0 = OKEY 1 = ERROR	Enum	Subscribe	Unsubscribe	subscribe {"path":"/Fault/PowerSupply"}\n @subscribe {"path":"/Fault/PowerSupply","value":0}\n publish {"path":"/Fault/PowerSupply","value":1}\n\n unsubscribe {"path":"/Fault/PowerSupply"}
/Fault/IncomingPilotTone	IncomingPilotTone Status 0 = OFF 1 = OKEY 2 = ERROR	Enum	Subscribe	Unsubscribe	subscribe {"path":"/Fault/IncomingPilotTone"}\n @subscribe {"path":"/Fault/IncomingPilotTone","value":0}\n publish {"path":"/Fault/IncomingPilotTone","value":1}\n\n unsubscribe {"path":"/Fault/IncomingPilotTone"}
/Fault/LoadMonitoring	Load Monitoring Fault Status 0 = OFF 1 = OKEY 2 = ERROR	Enum	Subscribe	Unsubscribe	subscribe {"path":"/Fault/LoadMonitoring"}\n @subscribe {"path":"/Fault/LoadMonitoring","value":0}\n publish {"path":"/Fault/LoadMonitoring","value":1}\n\n unsubscribe {"path":"/Fault/LoadMonitoring"}

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>FAN CONTROL &amp; STANDBY MODE</b>					
/Fan Control/Fan Control	Fan Control Mode 0 = Normal 1 = Whisper	Enum	GET	SET	<pre>get {"path":"/Fan Control/Fan Control"}\n @get {"path":"/Fan Control/Fan Control","value":0}  set {"path":"/Fan Control/Fan Control","value":"1"}\n @set {"path":"/Fan Control/Fan Control","value":"1"}</pre>
/Power Supply/Mode	Power Standby Mode 0 = Enabled 1 = Disabled	Enum	GET	SET	<pre>get {"path":"/Power Supply/Mode"}\n @get {"path":"/Power Supply/Mode","value":0}  set {"path":"/Power Supply/Mode","value":"1"}\n @set {"path":"/Power Supply/Mode","value":"1"}</pre>
/Power Supply/Time	Time to Standby 0 to 60 mins	Integer	GET	SET	<pre>get {"path":"/Power Supply/Time"}\n @get {"path":"/Power Supply/Time","value":30}  set {"path":"/Power Supply/Time","value":30}\n @set {"path":"/Power Supply/Time","value":30}</pre>
<b>AMBIENT TEMPERATURE FOR TIME DELAY</b>					
/DSP/Delay Temp/Ambient TempC	Ambient Temperature in DegC -40 to 70	Float	GET	SET	<pre>get {"path":"/DSP/Delay Temp/Ambient TempC","format":"number"}\n @get {"path":"/DSP/Delay Temp/Ambient TempC","format":"number","value":22}  set {"path":"/DSP/Delay Temp/Ambient TempC","format":"number","value":25}\n @set {"path":"/DSP/Delay Temp/Ambient TempC","format":"number","value":25}</pre>
<b>ANALOG / DANTE INPUT</b>					
/DSP/% Input/Channel/#/name <i>where % = Analog or Dante where # = 1-8</i>	Channel Name	String	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/name"}\n @get {"path":"/DSP/Analog Input/Channel/1/name","value":"Channel 1"}  set {"path":"/DSP/Analog Input/Channel/1/name","value":"Channel 1"}\n @set {"path":"/DSP/Analog Input/Channel/1/name","value":"Channel 1"}</pre>
/DSP/% Input/Channel/#/Stereo Link <i>where % = Analog or Dante where # = 1-8</i>	Stereo Link 0 = Off 1 = On	Enum	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/Stereo Link"}\n @get {"path":"/DSP/Analog Input/Channel/1/Stereo Link","value":0}  set {"path":"/DSP/Analog Input/Channel/1/Stereo Link","value":1}\n @set {"path":"/DSP/Analog Input/Channel/1/Stereo Link","value":1}</pre>
/DSP/% Input/Channel/#/Polarity <i>where % = Analog or Dante where # = 1-8</i>	Polarity 0 = Not Inverted 1 = Inverted	Enum	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/Polarity"}\n @get {"path":"/DSP/Analog Input/Channel/1/Polarity","value":0}  set {"path":"/DSP/Analog Input/Channel/1/Polarity","value":1}\n @set {"path":"/DSP/Analog Input/Channel/1/Polarity","value":1}</pre>
/DSP/% Input/Channel/#/Mute <i>where % = Analog or Dante where # = 1-8</i>	Mute 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/Mute"}\n @get {"path":"/DSP/Analog Input/Channel/1/Mute","value":0}  set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}\n @set {"path":"/DSP/Analog Input/Channel/1/Mute","value":1}</pre>
/DSP/% Input/Channel/#/Gain <i>where % = Analog or Dante where # = 1-8</i>	Gain	Float	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number"}\n @get {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":3.4}  set {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":22}\n @set {"path":"/DSP/Analog Input/Channel/1/Gain","format":"number","value":22}</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>ANALOG / DANTE INPUT</b>					
/DSP/% Input/Channel/#/HPF/State where % = Analog or Dante where # = 1-8	HPF State 0 = Off 1 = On	Enum	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/HPF/State"}\n @get {"path":"/DSP/Analog Input/Channel/1/HPF/State","value":0}  set {"path":"/DSP/Analog Input/Channel/1/HPF/State","value":1}\n @set {"path":"/DSP/Analog Input/Channel/1/HPF/State","value":1}</pre>
/DSP/% Input/Channel/#/HPF/Frequency where % = Analog or Dante where # = 1-8	Frequency 20Hz to 20000Hz	Float	GET	SET	<pre>get {"path":"/DSP/Analog Input/Channel/1/HPF/Frequency","format":"number"}\n @get {"path":"/DSP/Analog Input/Channel/1/HPF/Frequency","format":"number","value":20}  set {"path":"/DSP/Analog Input/Channel/1/HPF/Frequency","format":"number","value":150}\n @set {"path":"/DSP/Analog Input/Channel/1/HPF/Frequency","format":"number","value":150}</pre>
/DSP/% Input/Channel/#/Meter/RMS/Level where % = Analog or Dante where # = 1-8	RMS Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/RMS/Level","format":"number"}\n @subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/RMS/Level","format":"number","value":-92} publish {"path":"/DSP/Analog Input/Channel/1/Meter/RMS/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Analog Input/Channel/1/Meter/RMS/Level","format":"number"}\n</pre>
/DSP/% Input/Channel/#/Meter/Peak/Level where % = Analog or Dante where # = 1-8	Peak Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Peak/Level","format":"number"}\n @subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Peak/Level","format":"number","value":-92} publish {"path":"/DSP/Analog Input/Channel/1/Meter/Peak/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Peak/Level","format":"number"}\n</pre>
/DSP/% Input/Channel/#/Meter/Clip/Level where % = Analog or Dante where # = 1-8	Clip Indicator 0 = Off 1 = On	Enum	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Clip/Level"}\n @subscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Clip/Level","value":0} publish {"path":"/DSP/Analog Input/Channel/1/Meter/Clip/Level","value":1}  unsubscribe {"path":"/DSP/Analog Input/Channel/1/Meter/Clip/Level"}\n</pre>
/DSP/% Input/Channel/#/Pilot Tone Monitoring/Indicator/State where % = Analog or Dante where # = 1-8	Incoming Pilot Tone State 0 = OFF 1 = OKEY 2 = ERROR	Enum	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Analog Input/Channel/1/Pilot Tone Monitoring/Indicator/State"}\n @subscribe {"path":"/DSP/Analog Input/Channel/1/Pilot Tone Monitoring/Indicator/State","value":0} publish {"path":"/DSP/Analog Input/Channel/1/Pilot Tone Monitoring/Indicator/State","value":1}  unsubscribe {"path":"/DSP/Analog Input/Channel/1/Pilot Tone Monitoring/Indicator/State"}\n</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>DANTE OUTPUT</b>					
/DSP/Dante Output/Channel/#/Pick-off Point where # = 1-8	Dante Output Pick-off Point 0 = None 1 = Input 1 Pre-processing 2 = Input 2 Pre-processing 3 = Input 3 Pre-processing 4 = Input 4 Pre-processing 5 = Input 5 Pre-processing 6 = Input 6 Pre-processing 7 = Input 7 Pre-processing 8 = Input 8 Pre-processing 9 = Output 1 Pre-Speaker processing 10 = Output 2 Pre-Speaker processing 11 = Output 3 Pre-Speaker processing 12 = Output 4 Pre-Speaker processing 13 = Output 5 Pre-Speaker processing 14 = Output 6 Pre-Speaker processing 15 = Output 7 Pre-Speaker processing 16 = Output 8 Pre-Speaker processing 17 = Output 1 Post-Speaker processing 18 = Output 2 Post-Speaker processing 19 = Output 3 Post-Speaker processing 20 = Output 4 Post-Speaker processing 21 = Output 5 Post-Speaker processing 22 = Output 6 Post-Speaker processing 23 = Output 7 Post-Speaker processing 24 = Output 8 Post-Speaker processing	Enum	GET	SET	<pre>get {"path":"/DSP/Dante Output/Channel/1/Pick-off Point"}\n @get {"path":"/DSP/Dante Output/Channel/1/Pick-off Point","value":0}  set {"path":"/DSP/Dante Output/Channel/1/Pick-off Point","value":1}\n @set {"path":"/DSP/Dante Output/Channel/1/Pick-off Point","value":1}</pre>
/DSP/Dante Output/Channel/#/Meter/RMS/Level where # = 1-8	RMS Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/RMS/Level","format":"number"}\n @subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/RMS/Level","format":"number","value":-92} publish {"path":"/DSP/Dante Output/Channel/1/Meter/RMS/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Dante Output/Channel/1/Meter/RMS/Level","format":"number"}\n</pre>
/DSP/Dante Output/Channel/#/Meter/Peak/Level where # = 1-8	Peak Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Peak/Level","format":"number"}\n @subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Peak/Level","format":"number","value":-92} publish {"path":"/DSP/Dante Output/Channel/1/Meter/Peak/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Peak/Level","format":"number"}\n</pre>
/DSP/Dante Output/Channel/#/Meter/Clip/Level where # = 1-8	Clip Indicator 0 = Off 1 = On	Enum	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Clip/Level"}\n @subscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Clip/Level","value":0} publish {"path":"/DSP/Dante Output/Channel/1/Meter/Clip/Level","value":1}  unsubscribe {"path":"/DSP/Dante Output/Channel/1/Meter/Clip/Level"}\n</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>SIGNAL AND PILOT TONE GENERATOR</b>					
/DSP/Signal Generator/Type	Signal Generator Type 0 = Pink 1 = White 2 = Sine Wave	Enum	GET	SET	<pre>get {"path":"/DSP/Signal Generator/Type"}\n @get {"path":"/DSP/Signal Generator/Type","value":0}  set {"path":"/DSP/Signal Generator/Type","value":1}\n @set {"path":"/DSP/Signal Generator/Type","value":1}</pre>
/DSP/Signal Generator/Sine/Frequency	Signal Generator Frequency 20Hz to 20000Hz	Float	GET	SET	<pre>get {"path":"/DSP/Signal Generator/Sine/Frequency","format":"number"}\n @get {"path":"/DSP/Signal Generator/Sine/Frequency","format":"number","value":20}  set {"path":"/DSP/Signal Generator/Sine/Frequency","format":"number","value":150}\n @set {"path":"/DSP/Signal Generator/Sine/Frequency","format":"number","value":150}</pre>
/DSP/Pilot Tone Generator/Sine/Frequency	Pilot Tone Generator Frequency 10Hz to 22000Hz	Float	GET	SET	<pre>get {"path":"/DSP/Pilot Tone Generator/Sine/Frequency","format":"number"}\n @get {"path":"/DSP/Pilot Tone Generator/Sine/Frequency","format":"number","value":20}  set {"path":"/DSP/Pilot Tone Generator/Sine/Frequency","format":"number","value":150}\n @set {"path":"/DSP/Pilot Tone Generator/Sine/Frequency","format":"number","value":150}</pre>
<b>OUTPUT</b>					
/DSP/Output/Channel/#/name <i>where # = 1-8</i>	Channel Name	String	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/name"}\n @get {"path":"/DSP/Output/Channel/1/name","value":"Channel 1"}  set {"path":"/DSP/Output/Channel/1/name","value":"Channel 1"}\n @set {"path":"/DSP/Output/Channel/1/name","value":"Channel 1"}</pre>
/DSP/Output/Channel/#/Stereo Link <i>where # = 1-8</i>	Stereo Link 0 = Off 1 = On	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Stereo Link"}\n @get {"path":"/DSP/Output/Channel/1/Stereo Link","value":0}  set {"path":"/DSP/Output/Channel/1/Stereo Link","value":1}\n @set {"path":"/DSP/Output/Channel/1/Stereo Link","value":1}</pre>
/DSP/Output/Channel/#/Polarity <i>where # = 1-8</i>	Polarity 0 = Not Inverted 1 = Inverted	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Polarity"}\n @get {"path":"/DSP/Output/Channel/1/Polarity","value":0}  set {"path":"/DSP/Output/Channel/1/Polarity","value":1}\n @set {"path":"/DSP/Output/Channel/1/Polarity","value":1}</pre>
/DSP/Output/Channel/#/Mute <i>where # = 1-8</i>	Mute 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Mute"}\n @get {"path":"/DSP/Output/Channel/1/Mute","value":0}  set {"path":"/DSP/Output/Channel/1/Mute","value":1}\n @set {"path":"/DSP/Output/Channel/1/Mute","value":1}</pre>
/DSP/Output/Channel/#/Gain <i>where # = 1-8</i>	Gain	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Gain","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/Gain","format":"number","value":3.4}  set {"path":"/DSP/Output/Channel/1/Gain","format":"number","value":-22}\n @set {"path":"/DSP/Output/Channel/1/Gain","format":"number","value":-22}</pre>
/DSP/Output/Channel/#/Meter/RMS/Level <i>where # = 1-8</i>	RMS Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Output/Channel/1/Meter/RMS/Level","format":"number"}\n @subscribe {"path":"/DSP/Output/Channel/1/Meter/RMS/Level","format":"number","value":-92} publish {"path":"/DSP/Output/Channel/1/Meter/RMS/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Output/Channel/1/Meter/RMS/Level","format":"number"}\n</pre>
/DSP/Output/Channel/#/Meter/Peak/Level <i>where # = 1-8</i>	Peak Level Meter	Float	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Output/Channel/1/Meter/Peak/Level","format":"number"}\n @subscribe {"path":"/DSP/Output/Channel/1/Meter/Peak/Level","format":"number","value":-92} publish {"path":"/DSP/Output/Channel/1/Meter/Peak/Level","format":"number","value":-90}  unsubscribe {"path":"/DSP/Output/Channel/1/Meter/Peak/Level","format":"number"}\n</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>OUTPUT</b>					
/DSP/Output/Channel/#/Meter/Clip/Level <i>where # = 1-8</i>	Clip Indicator 0 = Off 1 = On	Enum	Subscribe Unsubscribe		<pre>subscribe {"path":"DSP/Output/Channel/1/Meter/Clip/Level"}\n @subscribe {"path":"DSP/Output/Channel/1/Meter/Clip/Level","value":0} publish {"path":"DSP/Output/Channel/1/Meter/Clip/Level","value":1} unsubscribe {"path":"DSP/Output/Channel/1/Meter/Clip/Level"}\n</pre>
/DSP/Output/Channel/#/1st Source <i>where # = 1-8</i>	Source Selection 0 = A1 Channel 1 1 = A2 Channel 2 2 = A1 & A2 Channel 1 & Channel 2 3 = A3 Channel 3 4 = A4 Channel 4 5 = A3 & A4 Channel 3 & Channel 4 6 = A5 Channel 5 7 = A6 Channel 6 8 = A5 & A6 Channel 5 & Channel 5 9 = A7 Channel 7 10 = A8 Channel 8	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/1st Source"}\n @get {"path":"/DSP/Output/Channel/1/1st Source","value":0} set {"path":"/DSP/Output/Channel/1/1st Source","value":1}\n @set {"path":"/DSP/Output/Channel/1/1st Source","value":1}</pre>
/DSP/Output/Channel/#/2nd Source <i>where # = 1-8</i>	11 = A7 & A8 Channel 7 & Channel 8 12 = D1 Channel 1 13 = D2 Channel 2 14 = D1 & D2 Channel 1 & Channel 2 15 = D3 Channel 3 16 = D4 Channel 4 17 = D3 & D4 Channel 3 & Channel 4 18 = D5 Channel 5 19 = D6 Channel 6 20 = D5 & D6 Channel 5 & Channel 6 21 = D7 Channel 7 22 = D8 Channel 8 23 = D7 & D8 Channel 7 + Channel 8	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/2nd Source"}\n @get {"path":"/DSP/Output/Channel/1/2nd Source","value":0} set {"path":"/DSP/Output/Channel/1/2nd Source","value":1}\n @set {"path":"/DSP/Output/Channel/1/2nd Source","value":1}</pre>
/DSP/Output/Channel/#/Source Priority/Priority Mode <i>where # = 1-8</i>	Priority Mode 0 = Off 1 = Mix 2 = Backup	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Priority Mode"}\n @get {"path":"/DSP/Output/Channel/1/Priority Mode","value":0} set {"path":"/DSP/Output/Channel/1/Priority Mode","value":1}\n @set {"path":"/DSP/Output/Channel/1/Priority Mode","value":1}</pre>
/DSP/Output/Channel/#/Source Priority/Active Source <i>where # = 1-8</i>	Active Source 0 = 1st 1 = 2nd 2 = 1st + 2nd Source	Enum	GET		<pre>get {"path":"/DSP/Output/Channel/1/Active Source"}\n @get {"path":"/DSP/Output/Channel/1/Active Source","value":0}</pre>
/DSP/Output/Channel/#/Source Priority/Force 2nd Source <i>where # = 1-8</i>	Force 2nd Source to Output 0 = Off 1 = On	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Force 2nd Source"}\n @get {"path":"/DSP/Output/Channel/1/Force 2nd Source","value":0} set {"path":"/DSP/Output/Channel/1/Force 2nd Source","value":1}\n @set {"path":"/DSP/Output/Channel/1/Force 2nd Source","value":1}</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>OUTPUT</b>					
/DSP/Output/Channel/#/Source Priority/Source Gain/1st Source Gain <i>where # = 1-8</i>	Gain -60 to 0dB	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/1st Source Gain","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/1st Source Gain","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/1st Source Gain","format":"number","value":-22}\n @set {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/1st Source Gain","format":"number","value":-22}</pre>
/DSP/Output/Channel/#/Source Priority/Source Gain/2nd Source Gain <i>where # = 1-8</i>	Gain -60 to 0dB	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/2nd Source Gain","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/2nd Source Gain","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/2nd Source Gain","format":"number","value":-22}\n @set {"path":"/DSP/Output/Channel/1/Source Priority/Source Gain/2nd Source Gain","format":"number","value":-22}</pre>
/DSP/Output/Channel/#/Signal Generator Route/Enable <i>where # = 1-8</i>	Signal Generator 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Signal Generator Route/Enable"}\n @get {"path":"/DSP/Output/Channel/1/Signal Generator Route/Enable","value":0}  set {"path":"/DSP/Output/Channel/1/Signal Generator Route/Enable","value":1}\n @set {"path":"/DSP/Output/Channel/1/Signal Generator Route/Enable","value":1}</pre>
/DSP/Output/Channel/#/Signal Generator Route/Gain <i>where # = 1-8</i>	Gain -60 to 0dB	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/Signal Generator Route/Gain","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/Signal Generator Route/Gain","format":"number","value":-60}  set {"path":"/DSP/Output/Channel/1/Signal Generator Route/Gain","format":"number","value":-22}\n @set {"path":"/DSP/Output/Channel/1/Signal Generator Route/Gain","format":"number","value":-22}</pre>
/DSP/Output/Channel/#/Load Monitoring/Indicator/State <i>where # = 1-8</i>	Load Monitoring State 0 = OFF 1 = OKEY 2 = ERROR	Enum	Subscribe Unsubscribe		<pre>subscribe {"path":"/DSP/Output/Channel/1/Load Monitoring/Indicator/State"}\n @subscribe {"path":"/DSP/Output/Channel/1/Load Monitoring/Indicator/State","value":0} publish {"path":"/DSP/Output/Channel/1/Load Monitoring/Indicator/State","value":1}  unsubscribe {"path":"/DSP/Output/Channel/1/Load Monitoring/Indicator/State"}\n</pre>
/DSP/System Configuration/Channel/#/Mode Select <i>where # = 1-8</i>	Output Mode 0 = Lo-Z 1 = Hi-Z 70V 2 = Hi-Z 100V	Enum	GET	SET	<pre>get {"path":"/DSP/System Configuration/Channel/1/Mode Select"}\n @get {"path":"/DSP/System Configuration/Channel/1/Mode Select","value":0}  set {"path":"/DSP/System Configuration/Channel/1/Mode Select","value":1}\n @set {"path":"/DSP/System Configuration/Channel/1/Mode Select","value":1}</pre>
<b>OUTPUT ROOM TUNING</b>					
/DSP/Output/Channel/#/User/Room PEQ/Master/Enable <i>where # = 1-8</i>	Master Enable 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Master/Enable"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Master/Enable","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Master/Enable","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Master/Enable","value":1}</pre>
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Enable <i>where # = 1-8</i> <i>where % = 1-6</i>	Enable 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Enable"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Enable","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Enable","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Enable","value":1}</pre>
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Type <i>where # = 1-8</i> <i>where % = 1-6</i>	PEQ Type 0 = Bell 1 = Variable Low Shelf 2 = Variable High Shelf 3 = Low Pass 1 4 = High Pass 1 5 = Low Pass 2 6 = High Pass 2 7 = All Pass 1 8 = All Pass 2	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Type"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Type","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Type","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Type","value":1}</pre>

Path	Description	Data Type	Get / Subscribe	Set	Example
<b>OUTPUT ROOM TUNING</b>					
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Frequency <i>where # = 1-8</i> <i>where % = 1-6</i>	Frequency 20Hz to 20000Hz	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Frequency","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Frequency","format":"number","value":20}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Frequency","format":"number","value":150}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Frequency","format":"number","value":150}</pre>
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Q <i>where # = 1-8</i> <i>where % = 1-6</i>	Q 0.1 to 32	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Q","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Q","format":"number","value":4}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Q","format":"number","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Q","format":"number","value":1}</pre>
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Gain <i>where # = 1-8</i> <i>where % = 1-6</i>	Gain -24 to 24dB	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Gain","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Gain","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Gain","format":"number","value":3}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Gain","format":"number","value":3}</pre>
/DSP/Output/Channel/#/User/Room PEQ/Band/%/Slope <i>where # = 1-8</i> <i>where % = 1-6</i>	Slope 0 = 3dB/Oct 1 = 6dB/Oct 2 = 9dB/Oct 3 = 12dB/Oct 4 = 18dB/Oct 5 = 24dB/Oct	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Slope"}\n @get {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Slope","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Slope","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room PEQ/Band/1/Slope","value":1}</pre>
/DSP/Output/Channel/#/User/Room Delay/Enable <i>where # = 1-8</i> <i>where % = 1-6</i>	Enable 0 = Disabled 1 = Enabled	Enum	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room Delay/Enable"}\n @get {"path":"/DSP/Output/Channel/1/User/Room Delay/Enable","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room Delay/Enable","value":1}\n @set {"path":"/DSP/Output/Channel/1/User/Room Delay/Enable","value":1}</pre>
/DSP/Output/Channel/#/User/Room Delay/Time <i>where # = 1-8</i> <i>where % = 1-6</i>	Delay Time 0 to 100ms	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room Delay/Time","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room Delay/Time","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room Delay/Time","format":"number","value":30}\n @set {"path":"/DSP/Output/Channel/1/User/Room Delay/Time","format":"number","value":30}</pre>
/DSP/Output/Channel/#/User/Room Delay/Distance (m) <i>where # = 1-8</i> <i>where % = 1-6</i>	Delay in meters 0 to 34.41 m	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (m)","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (m)","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (m)","format":"number","value":3}\n @set {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (m)","format":"number","value":3}</pre>
/DSP/Output/Channel/#/User/Room Delay/Distance (ft) <i>where # = 1-8</i> <i>where % = 1-6</i>	Delay in feet 0 to 112.92 ft	Float	GET	SET	<pre>get {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (ft)","format":"number"}\n @get {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (ft)","format":"number","value":0}  set {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (ft)","format":"number","value":3}\n @set {"path":"/DSP/Output/Channel/1/User/Room Delay/Distance (ft)","format":"number","value":3}</pre>

## Executing Commands

### EXEC

Using Bump Command to adjust the volume control can be useful. The step for the bump

Example: Bump up 1 dB for Output Channel 1

```
exec {"path":"/bump","command":"bump","arguments":{"path":"<paramPath>","mult":"<value>"}}  
  
exec {"path":"/bump","command":"bump","arguments":{"path":"/DSP/Output/Channel/1/Gain","mult":"1"}}
```

Using Recall Command to recall a Scene Preset. The step for the recall

Example: Recall Scene Preset with name Preset 1

```
exec {"path":"/Preset/recall","command":"recall","arguments":{"name":"<preset name>"}}  
  
exec {"path":"/Preset/recall","command":"recall","arguments":{"name":"Preset 1"}}
```