ClearOne®

Q-PLUG for BMA 360D Module

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Notices

Q-Plug BMA 360D Reference Manual

ClearOne Part Number: DOC-0587-001v1.1 July 2024

Contents

1. Description of the Modules UCI user interface.

1.1 The Beam Channels Tab:

Enabled: (Button and status indicator) An Enabled beam is allowed to be reported as "Active" and allowed to pass audio.
Active: (Status indicator) An Active beam is the beam detecting speech audio and is the beam passing audio to the SmartMix audio output.
Silenced: (Button and Status indicator) A Silenced beam is allowed to activate, but audio will not be passed to the SmartMix audio output.
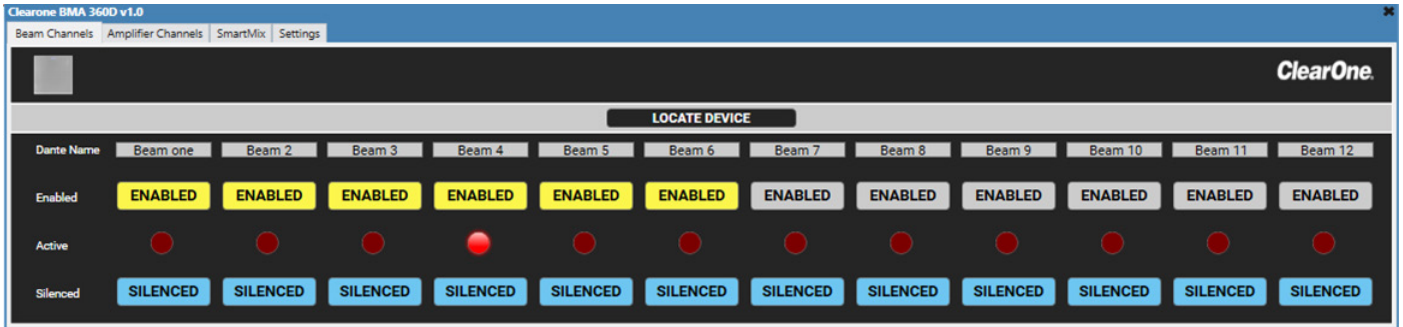
1.2 The Amplifier Channels Tab:

Gain: (Slider/text input field meter and indicator) Control to adjust signal levels delivered to the integrated BMA 360D amplifier channel.
Mute: (Button and status indicator) Control to mute or unmute signal delivered to the integrated BMA 360D amplifier channel.

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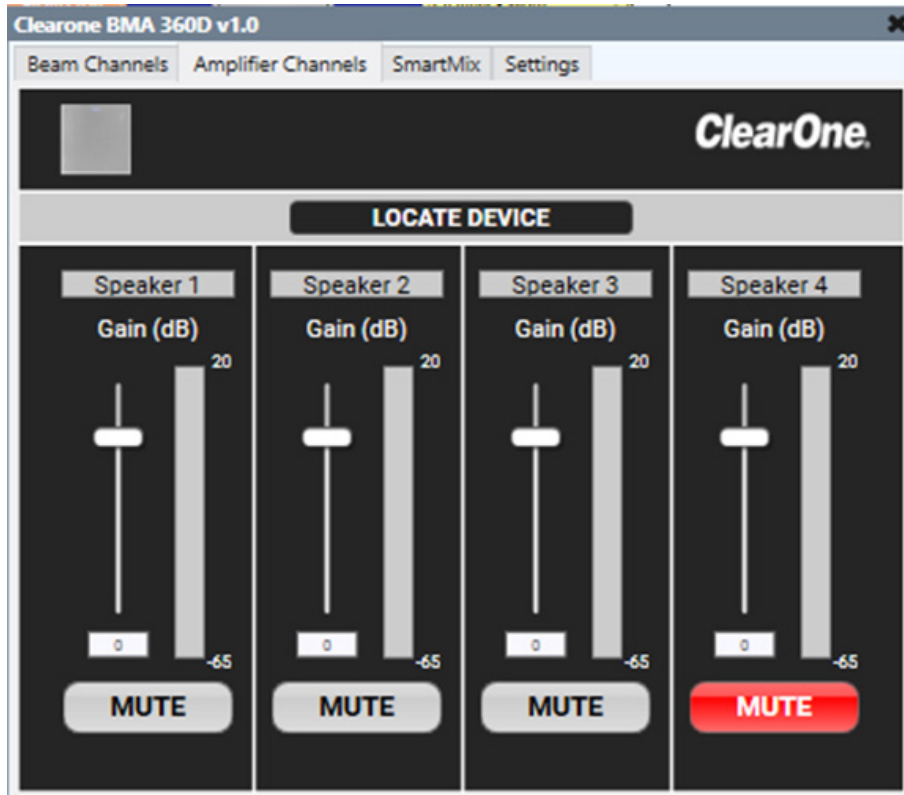
1.3 The SmartMix Tab:

AEC: (Button and status indicator) Control to enable or disable the Acoustic Echo Cancellation processing of the SmartMix audio output.

AEC Ref Gain: (Slider control and meter) Control gain levels of the reference audio signal delivered to the Echo Cancellation processor.

ERL: (Meter) Indicates the Echo Return Loss, which is a measurement of acoustic coupling between speaker output levels delivered to the microphone array and the AEC Ref sampling level. Lower values are generally indicative of better system performance.

ERLE: (Meter) Indicated the Echo Return Loss Enhancement, which is a measurement of the effective echo reduction delivered by AEC processing. Lower values are generally indicative of better system performance.

NC: (Button, indicator and slider level control) Control to enable or disable Noise Cancellation processing of the SmartMix audio output. Slider level control will increase or decrease the amount of noise removed.

SmartMix Mute: (Button and Indicator) Control to enable or disable SmartMix audio output.

ALC: (Button and Indicator) Control to enable or disable Automatic Level Control processing on the SmartMix audio output.

SmartMix Volume Slider: (Slider and Meter) Control and metering to adjust output volume of the SmartMix audio.
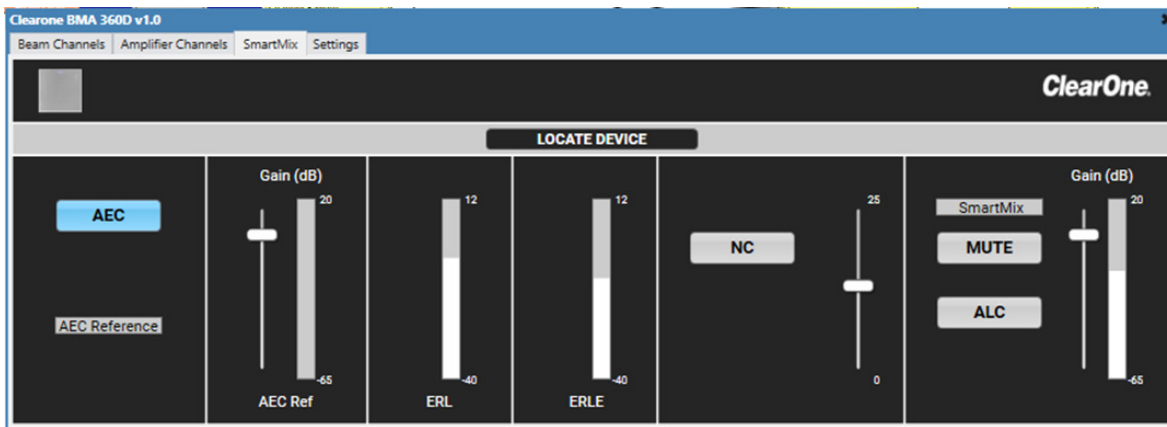

1.4 The Settings Tab:

IP Address: (Editable text field) Field for inputting the Control IP address of the BMA 360D.

Connection Status: (Indicator/Data report) Field that reports the status of the data connection with the BMA 360D.

General: (Data Report) Provides general information regarding the connected BMA 360D, such as the Device Name, Serial Number and Firmware Version.

Audio Network: (Data Report) Provides data relevant to Dante connectivity such as Dante interface IP address and the MAC address of the Dante interface.

LED Settings: (Selection lists) Controls to adjust LED Brightness, color and Blink mode for the BMA 360D LED panel in both Muted and Unmuted states.
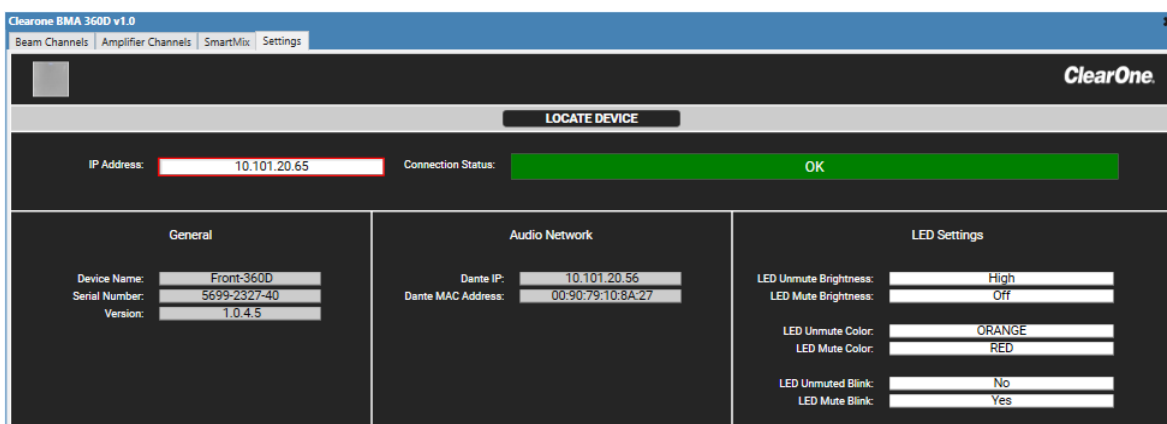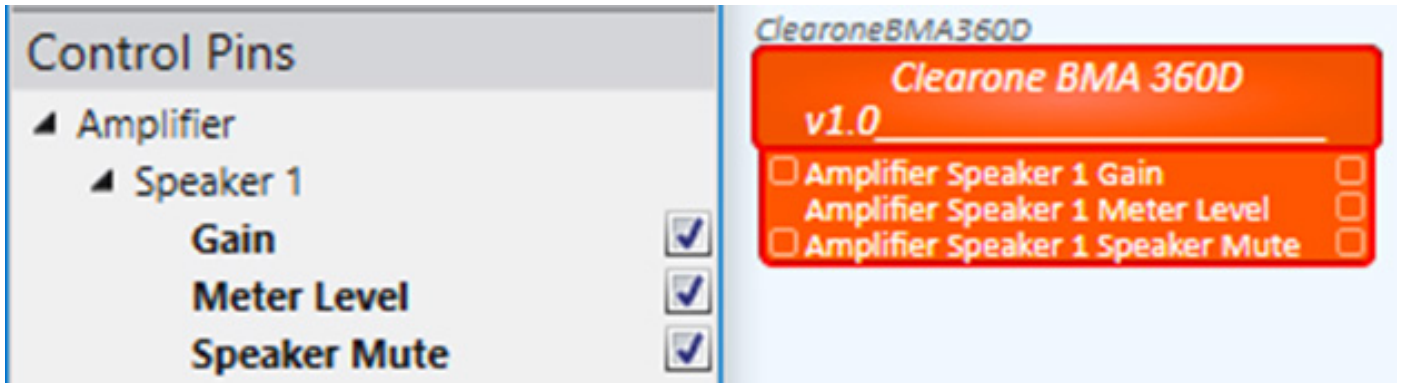
2. Description of the modules control pin interface.

2.1 Amplifier Control pins:

Gain: (Input and Output Pin (value -65 – 20)) Delivers a number from -65 to 20.
Meter Level: (Output Pin (value -100 – 20)) Delivers Meter values from -100 to 20.
Speaker Mute: (Input and Output Pin (Boolean)) Provides control and status of the channels mute state.


2.2 Individual Beam Channel Pins:

Channel Active: (Output Pin (Boolean)) Indicates when the related Beam detects speech audio in its zone of coverage.
Channel Enabled: (Input and Output Pin (Boolean)) An Enabled beam is allowed to be reported as "Active" and allowed to pass audio.
**Channel Silenced**: (Input and Output Pin (Boolean)) A Silenced beam is allowed to activate, but audio will not be passed to the SmartMix audio output.
Dante Name: (Output Pin (text)) Reports the assigned Dante Name in plain text.
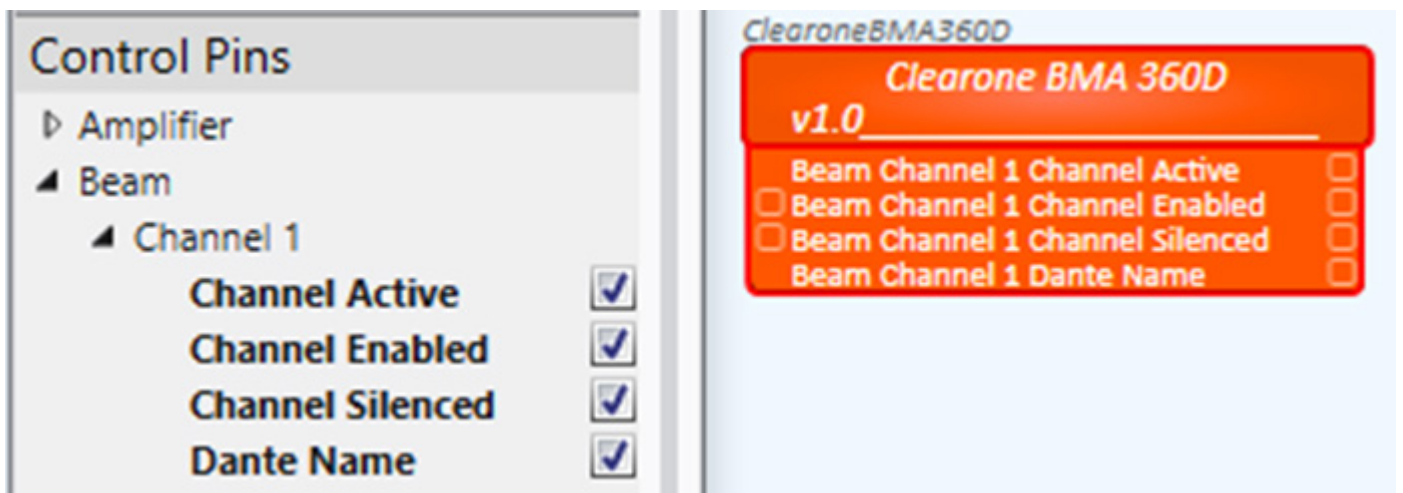
2.3 LED Lighting Control Pins:

Mute Blink: (Input and Output Pin (Boolean)) Enable or disable the LED bar blinking upon being muted.
Mute Brightness: (Input and Output Pin (value 0-3)) Adjust brightness of LED bar when muted: 0=Off 1=High 2=Medium 3=Low
Mute Color: (Input and Output Pin (value 1-8)) Control LED color when muted: 1=Red 2=Orange 3=Yellow 4=Green 5=Blue 6=Indigo 7=Violet 8=White
Unmute Blink: (Input and Output Pin (Boolean)) Enable or disable the LED bar blinking upon being unmuted.
Unmute Brightness: (Input and Output Pin (value 0-3)) Adjust brightness of LED bar when unmuted: 0=Off 1=High 2=Medium 3=Low
Unmute Color: (Input and Output Pin (value 1-8)) Control LED color when unmuted: 1=Red 2=Orange 3=Yellow 4=Green 5=Blue 6=Indigo 7=Violet 8=White
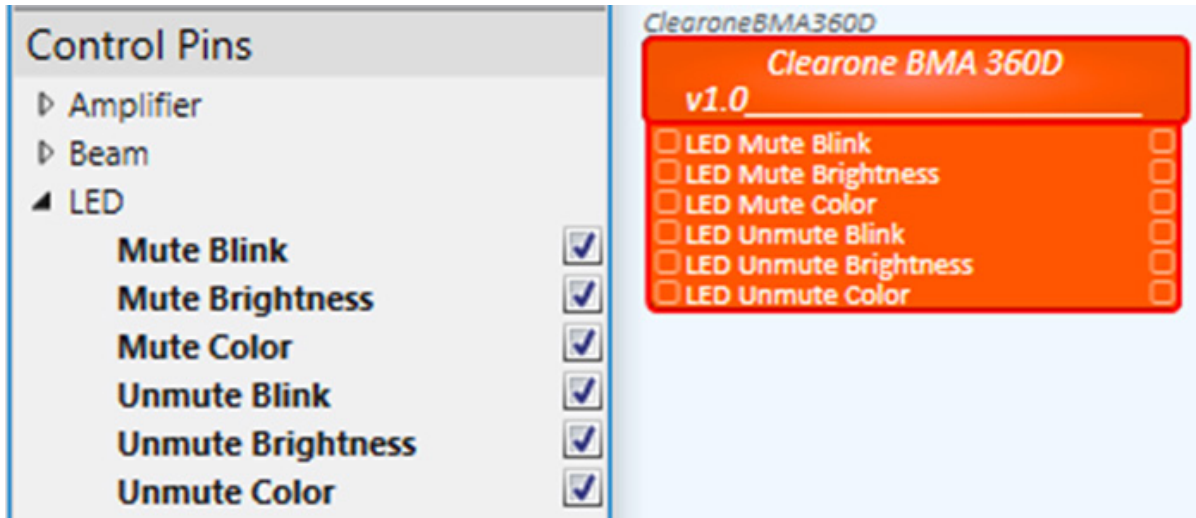

2.4 General Settings Pins:

Dante IP Address: (Output Pin (text)) Reports the assigned Dante IP Address.
Dante MAC Address: (Output Pin (text)) Reports the assigned Dante MAC Adress.
Device Name: (Output Pin (text)) Reports the assigned Dante Name in plain text.
Enter Unit IP: (Input and Output Pin (text)) Assign or read the Control IP address of the BMA 360D.
Locate Device: (Input and Output Pin (Boolean)) Enable or disable Locate flashing of the BMA 360D LED bar.
Serial Number: (Output Pin (text)) Reports the BMA 360D Serial number.
Status: (Output Pin (text)) Reports the connection status of the BMA 360D.
Version: (Output Pin (text)) Reports the firmware version number of the BMA 360D.
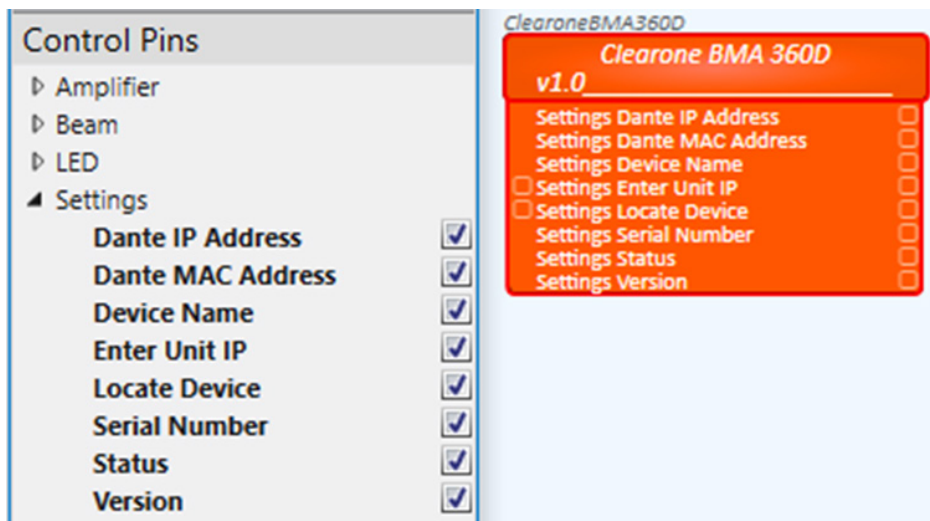
2.5 SmartMix and related Audio Processing Pins:

AEC Dante Name: (Output Pin (text)) Reports the assigned Dante Name in plain text.
AEC Enabled: (Input and Output Pin (Boolean)) Assign or read the AEC Enable or Disable status.
AEC Ref Gain: (Input and Output Pin (Value -65 - 20)) Delivers a number from -65 to 20.
AEC Ref Meter Level: (Output Pin (Value -100 – 20)) Delivers Meter values from -100 to 20.
ALC Enabled: (Input and Output Pin (Boolean)) Assign or read if ALC processing is enabled on the SmartMix audio output.
ALC Fader Level: (Output Pin (Value -65 - 20)) Delivers a gain setting from -65 to 20.
ALC Meter Level: (Output Pin (Value -65 - 20)) Delivers a gain setting from -65 to 20.
ERL Meter Level: (Output Pin (Value -100 – 20)) Delivers Meter values from -100 to 20.
ERLE Meter Level: (Output Pin (Value -100 – 20)) Delivers Meter values from -100 to 20.
NC Fader Level: (Output Pin (Value 0 - 25)) Delivers a number indication Noise Cancellation depth from 0 to 25.
NC Muted: (Input and Output Pin (Boolean)) Assign or read if NC processing is enabled on the SmartMix audio output.
Smart Mix Muted: (Input and Output Pin) Provides control and status of the channels mute state.
SmartMix Dante Name: (Output Pin) Reports the assigned Dante Name in plain text.
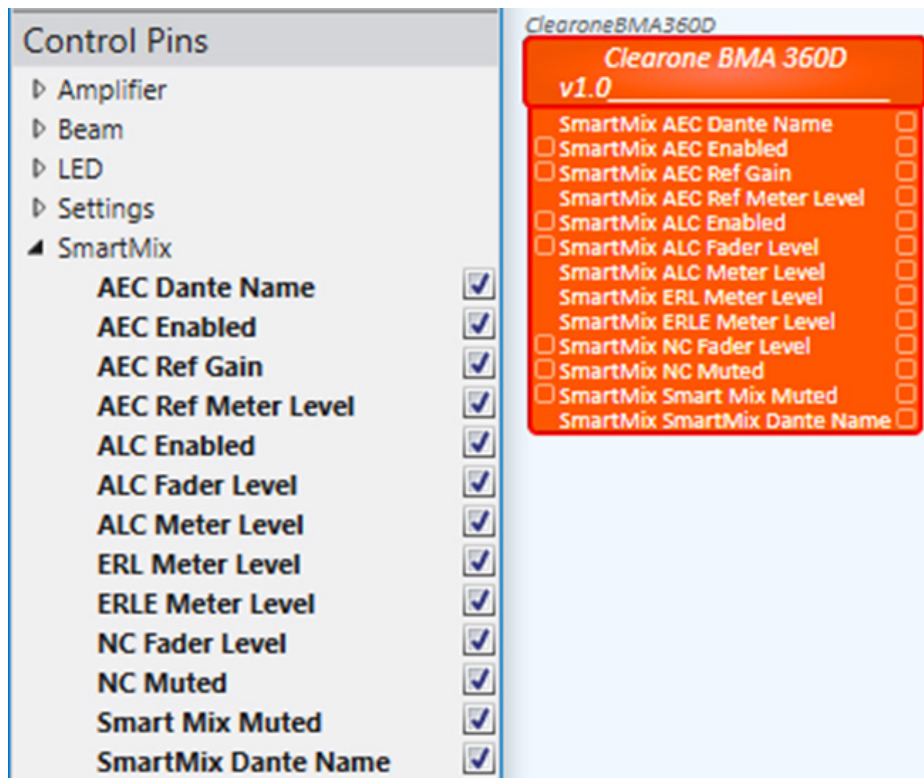
2.6 The Disable Pin:

Disable: (Input and Output Pin) QSC module command to enable or disable the BMA 360D module functions.