**Manufacturer: Bose**
**Model: EX Series**
**Device Type: Digital Signal Processor**

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## GENERAL INFORMATION

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| **SIMPLWINDOWS NAME:** | Bose EX Series Basic LevelMute Control v3.1 |
| **CATEGORY:** | Conferencing |
| **VERSION:** | 3.1 |
| **SUMMARY:** | The Basic LevelMute Control component combines the functionality of a level component and state component to offer a single component for a common point of control when controlling DSPs. |
| **GENERAL NOTES:** | IMPORTANT: While this module suite supports the majority of the Bose EX Series family, there may be certain modules or module attributes that are not supported by certain devices. Please refer to the Bose ControlSpace Serial Control Protocol v5.10 documentation for more information regarding which controls are supported for the device you are using. |
| **CRESTRON HARDWARE REQUIRED:** | Crestron 3-Series or 4-Series processor. |
| **VENDOR FIRMWARE:** | v2.520 |

## PARAMETERS:

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| **Module_Name** | Set to the name of the module to be controlled. |
| **Module Type** | A list for the user to select which type of module is being controlled. Selections include: Input, Output, Gain Module, Standard Mixer Input, Standard Mixer Output, PSTN Input, PSTN Output, VoIP Input, VoIP Output, USB Input, USB Output, AMM Input and AMM Output. |
| **Module_Channel** | Set to the channel of the module that the component will control. If there is only one channel to be controlled, it should be set to 1d. |
| **Upper_Limit** | Defines the upper limit of the volume control in decibels. |
| **Lower_Limit** | Defines the lower limit of the volume control in decibels. |
| **Level_Step** | Defines the step size in decibels that the level in increase or decrease when the Level_Up or Level_Down signals are pulsed or held. |
| **Command_Processor_ID** | The unique identifier for the command processor module this module will register with. |

## CONTROL:

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| **Level_Up** | D | Pulse to raise level by the amount indicated in the 'Level_Step' parameter. Holding this signal high will continuously ramp up the level. |
| **Level_Down** | D | Pulse to lower level by the amount indicated in the 'Level_Step' parameter. Holding this signal high will continuously ramp down the level. |
| **Mute_On** | D | Pulse to turn on the mute state of the controlled attribute. |
| **Mute_Off** | D | Pulse to turn off the mute state of the controlled attribute. |
| **Mute_Toggle** | D | Pulse to toggle the mute state of the controlled attribute. |
| **New_Level_Percent** | A | Set to the desired level percentage of the specified control. Valid values include 0 to 65535 representing 0% to 100% where 0% is the value of the Lower_Limit parameter and 100% is the value of the Upper_Limit parameter. |
| **Set_New_Level_Percent** | D | Pulse to push to new level percentage value of the New_Level_Percent signal to the EX Series device. |
| **New_Level_dB** | A | Set to the desired decibel value of the specified control. The valid range is the range set with the Upper_Limit and Lower_Limit parameters. This is a signed integer value. |
| **Set_New_Level_dB** | D | Pulse to push to new level decibel value of the New_Level_dB signal to the EX Series device. |
| **Enable** | D | Latch high to enable this component. |

## FEEDBACK:

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| **Is_Initialized** | D | Indicates the module is registered to the command processor and is synchronized with current device state when the signal is high, or not synchronized with current device state when the signal is low. |
| **Mute_Is_On** | D | Indicates that the current mute state of the controlled attribute is on. |
| **Mute_Is_Off** | D | Indicates that the current mute state of the controlled attribute is off. |
| **Volume_Level_Percent** | A | Indicates current volume level as a percentage in relation to the Upper_Limit and Lower_Limit parameters. |
| **Volume_Level_dB** | A | Indicates the current volume level in decibels. |
| **Is_Quarantined** | D | Indicates that there was a problem getting this component initialized due to a configuration issue when the signal is high, or that no initialization issue occurred when the signal is low. A quarantined component will not prevent the command processor or other components from getting initialized. |

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## TESTING:

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|---|---|
| **OPS USED FOR TESTING:** | CP3 1.8001.4666.20418<br>MC4 2.8000.00017 |
| **SIMPL WINDOWS USED FOR TESTING:** | 4.2000.00 |
| **CRES DB USED FOR TESTING:** | 214.0000.001.00 |
| **DEVICE DATABASE:** | 200.23000.001.00 |
| **SYMBOL LIBRARY USED FOR TESTING:** | 1176 |
| **SAMPLE PROGRAM:** | Bose EX Series v3.1 IP Demo.smw<br>Bose EX Series v3.1 RS232 Demo.smw |
| **REVISION HISTORY:** | v3.0 – Initial Release<br>v3.1 – Fixed bug with multiple modules controlling level and mute attributes of multiple ControlSpace blocks. |