

Bose Professional PowerMatch Q-SYS Plugin

Version 1.0 – Revised 03/01/2019

Introduction

This document describes the basic functionality of the Bose Professional PowerMatch Q-SYS Plugin. This plugin communicates and/or controls the Bose Professional PowerMatch series of amplifiers from a QSC Q-SYS system.

Compatibility

The plugin software was created and tested using PowerMatch PM8500N and PM4500N amplifiers, however they may be compatible with other 8- and 4-channel versions of the amplifiers with similar features. For the purposes of this document, only the 8-channel modules are described. The 4-channel modules will act as described with the only exception being the lower channel count.

The plugin may be used in emulation mode or deployed to a Q-SYS Core with full functionality in both cases.

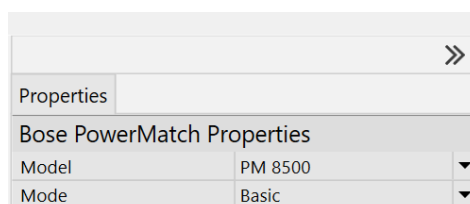
Installation

The PowerMatch Q-SYS Plugin can be installed by double clicking the **.qplug** or **.qplugx** files on a Windows computer that has Q-SYS Designer software installed. To use the **.qplugx** file type, Q-SYS Designer must be version 7.0.0 or later.

After installation, the Q-SYS Designer software must be relaunched. After relaunching the software, the plugin will appear in the **User** folder of the **Plugins** section in the bottom-right corner of the Q-SYS Designer software.

Properties

After the PowerMatch plugin has been added to a Q-SYS design and the plugin is selected, the plugin properties will appear in the top-right corner of the Q-SYS Designer software.



Model — PM8500N/PM4500N — Selects the appropriate model to set the plugin for communication with a 4-channel or 8-channel amplifier.

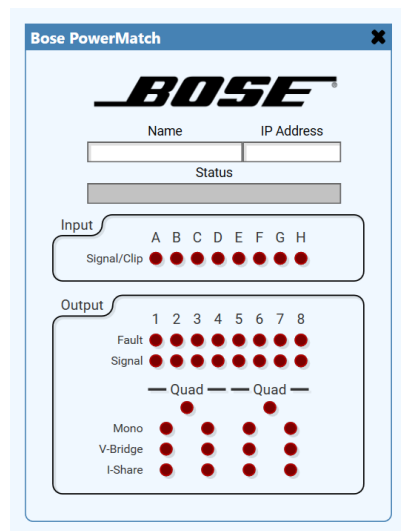
Mode — Basic/Advanced — Selects the mode necessary to meet your requirements. See following sections for details on Basic and Advanced mode functionality.

Basic Mode

The basic mode is intended to provide core monitoring functionality in the Q-SYS environment. No user control of the amplifier is provided; for user control please see the Advanced module.

User Interface

Double-clicking the plugin opens the plugin user interface.



Below is a description of each aspect of the user interface.

Name: Editable at runtime, a descriptive name the user should update. When the plugin writes messages to the Q-SYS log, it prepends each message with this name, allowing the user to easily denote which amplifier caused the message.

IP Address: Editable at runtime, the IPv4 address of the amplifier the plugin will communicate with. It is recommended for each amplifier to be set to a static IP address so this field will not require updating once set.

Status: Displays the current state of the amplifier. Similar to the Status field on most Q-SYS hardware, it will display the following states.

OK – Green

Compromised – Orange

Fault – Red

Not Present – Gray

Missing – Red

Initializing – Blue

Input Signal/Clip: Denotes the signal level for each input of the amplifier. Updated approximately 4x per second, the colors will fill with the following values (rounding to the nearest dB for readability).

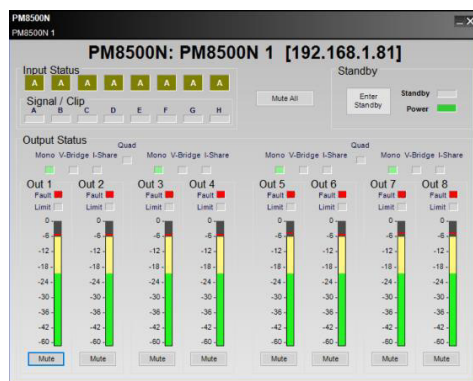
-60 dB or below – Gray **-59 dB to -19 dB** – Green **-20 dB to -7 dB** – Yellow
-6 dB to -3dB – Orange **-2 dB to 0 dB** – Red

Output Fault: Denotes the fault state for each channel of the amplifier. When illuminated, a message will be written to the Q-SYS log using the **Name** field as well as the severity and details. The clear state of the fault will also be logged. For information on how to clear the fault indicators, please see the amplifier's user documentation or ControlSpace Designer software help.

Output Signal: Denotes the signal level for each output of the amplifier. Updated approximately 4x per second, the colors will fill with the following values (rounding to the nearest dB for readability).

-60 dB or below – Gray **-59 dB to -19 dB** – Green **-20 dB to -7 dB** – Yellow
-6 dB to -3dB – Orange **-2 dB to 0 dB** – Red

Mode: The amplifier channels may be configured by using ControlSpace Designer or the front panel of the amplifier. The Mode indicators in the plugin identify and track the status of each channel configuration. Each pair of channels denotes Mono, V-Bridge and I-Share settings. Each set of 4 channels has an additional Quad indicator.



Upon initial connection to the amplifier, the module will update the Mode indicators and disable channels that are ganged together. For example: in Quad mode, Channel 1 will be active, while Channels 2, 3 and 4 will disable. Note: Disabled channels will continue to update.

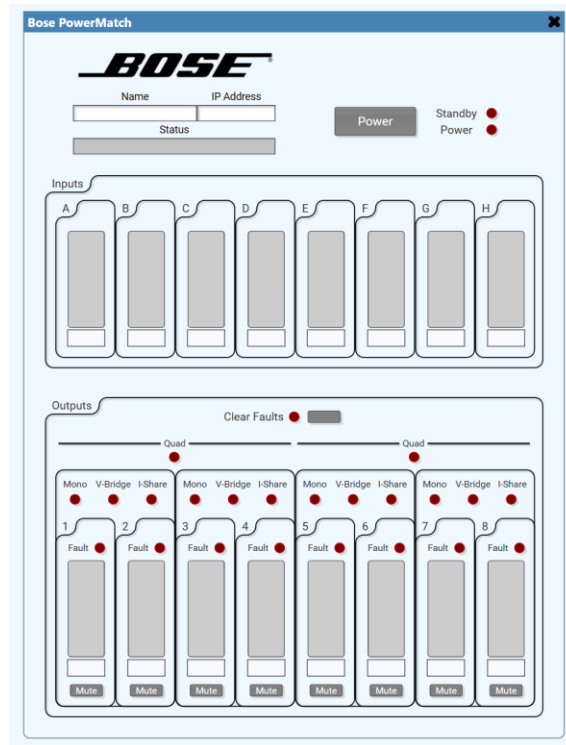
If the amplifier encounters a change after initial connection, the Mode indicators should update within 15 seconds of the amplifier reconnecting.

Advanced Mode

The advanced mode is intended to provide core monitoring and control functionality in the Q-SYS environment. The user controls of the amplifier provided are intended to provide only the most common functions required from Q-SYS.

User Interface

Double-clicking the plugin opens the plugin user interface.



Below is a description of each aspect of the user interface.

Name: Editable at runtime, a descriptive name the user should update. When the plugin writes messages to the Q-SYS log, it prepends each with this name, allowing the user to easily denote which amplifier caused the message.

IP Address: Editable at runtime, the IPv4 address of the amplifier the plugin will communicate with. It is recommended for each amplifier to be set to a static IP address so this field will not require updating once set.

Status: Displays the current state of the amplifier. Similar to the Status field on most Q-SYS hardware, it will display the following states.

OK – Green

Compromised – Orange

Fault – Red

Not Present – Gray

Missing – Red

Initializing – Blue

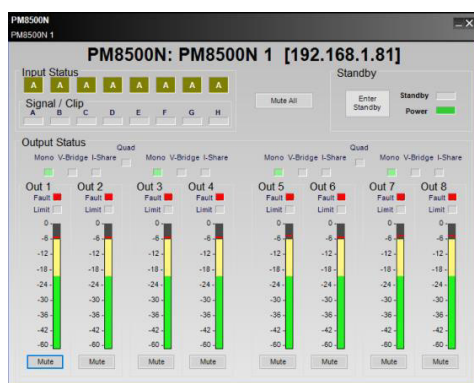
Power: Allows the user to press the button to toggle the amplifier power state between Standby and Powered On.

Standby: Illuminates if the current state of the amplifier is Standby. When changed via another source, this indicator may take up to 5 seconds to reflect the change.

Power: Illuminates if the current state of the amplifier is powered On. When changed via another source, this indicator may take up to 5 seconds to reflect the change.

Inputs: Denotes the signal level for each input of the amplifier. This control updates approximately 4x per second.

Mode: The amplifier channels may be configured by using ControlSpace Designer or the front panel of the amplifier. The Mode indicators in the plugin identify and track the status of each channel set. Each pair of channels denotes Mono, V-Bridge and I-Share settings. Each set of 4 channels has an additional Quad indicator.



Upon initial connection to the amplifier, the module will update the Mode indicators and disable channels that are ganged together. For example: in Quad mode, Channel 1 will be active, while Channels 2, 3 and 4 will disable. Disabled channels will continue to update.

If the amplifier encounters a change after initial connection, the Mode indicators should update within 15 seconds of reconnection to the amplifier.

Clear Faults: Cumulative fault/alarm indicator. Will denote True/On if a fault/alarm exists on any channel of the amplifier or if the amplifier has a fault not specific to a channel (Example: temperature). Pressing the Clear Faults button will signal the amplifier to clear all faults which may be reflected in the Q-SYS module as well as in ControlSpace Designer and the corresponding logs in each application.

Output Fault: Denotes the fault state for each channel of the amplifier. When illuminated, a message is written to the Q-SYS log using the 'Name' field as well as the severity and details. The clear state of the fault will also be logged. For information on how to clear the fault indicators, please see the amplifier's user documentation or ControlSpace Designer software help.

Output Signal: Denotes the signal level for each output of the amplifier. This control updates approximately 4x per second.

Mute: Pressing the Mute button will toggle the mute state for the respective channel. When changed via another source, the indicator may take up to 5 seconds to reflect the change.

Control Pins

The Q-SYS environment utilizes control pins to allow designers the ability to implement logic functions. The Bose Professional PowerMatch Plugin supports all controls via control pins.

Control pins may be enabled on the right side of Q-SYS Designer when the plugin is selected. All status indicators are available as outputs. User controls such as Power, Mute and Clear Faults are available as inputs. The available control pins will change depending on the mode and model set in properties.

