Marshall

AR-AM4-BG-2

Multichannel Analog Audio Monitor

User Manual

Table of Contents

1. Features

High Performance Audio

- Matches or exceeds many larger 2RU designs
- Enough "punch" for the noisiest server rooms

Multiple Inputs

- 4 Analog XLR Balanced – 4 Inputs x 2 Channels Each

Outputs

- 1 Analog XLR Balanced - 2 Channel

LED VU Display

- Provides active indication of audio input activity

Controllable via RS-232 Serial

- Remote control application downloadable from Marshall website
- Select sources, mute, solo, volume, etc.

Compact 1RU Design Saves Rack Space

- Minimum size
- Low power consumption, low heat into rack
- Compact size which does not compromise audio volume

2. Package Contents

- AR-AM4 Main Chassis

- 12-volt Universal Power supply (120/240V – 50/60Hz)

- Remote Control Application (free download from website)

3. Front Panel Description

1. **Speakers**

   Provides sound from two channels except when Solo buttons are pressed

2. **Headphone Jack**

3. **Volume Knob / Mute Button**

   Turn the knob to adjust the sound level out of both speakers

   Press in on the knob to instantly mute the speaker

4. **Headphone Jack**

   Designed to accept stereo headphones with 3.5mm plug

5. **Input and Solo Left/Right Select Buttons**

   Select either channel for monitoring from both speaker

6. **LED VU Meter Display**

7. **LED Indicator Lights**

   - Phase – Indicates audio in-phase / out-of-phase conditions
   - Mute – Indicates when speakers have been muted

8. **Balance Knob**

   Select either speaker or adjust balance between them

4. Control Button Detail

1. **Input Select**

   Press one of these four buttons to monitor the corresponding input

2. **Solo Left & Solo Right**

   Press isolate either the left or right channel only

   Note: Sound will come out of both speakers when Solo is selected but will originate from a single source.

5. Rear Panel Description

1. Power Switch

2. 12-Volt DC Power Input – Coaxial, Center Positive

3. RS-232 Serial Control 9-pin D-Sub Port and Loop Out

4. Analog Balanced XLR +4dBu Output Pair (2 channels)

5. Four Analog Balanced XLR +4dBu Input Pairs (8 channels)

6. Operation

Controls on the AR-AM4-BG-2 are designed to be user-friendly and straight-forward. Simply press one of the four Input buttons to select the desired source, then adjust the volume knob to the desired listening level. Pressing in on the Volume knob will instantly mute both speakers. A red LED next to the Balance knob will light whenever the audio is muted.

Press either Solo Left or Solo Right to hear sound from only the Left or Right channel. The selected source will be heard from BOTH speakers.

Adjust the Balance knob to hear the sound from just one speaker or to match Left and Right sound levels. A slight detent "bump" can be felt as the knob is rotated through the middle point to indicate that balance is centered.

Note: The audio from the two Output connectors on the rear panel is affected only by the four input selector buttons. Other controls such as Solo, Volume, Balance, and Mute will not affect the Output.

7. Metering and Indicators

The front panel has two LED VU meters. They are calibrated to indicate "0" when the audio input is +4dBu broadcast standard level.

(+4dBu is defined as a 1KHz tone at 1.23 Volts RMS or 3.47 Volts peak-to-peak across pins 2 & 3 of the input XLR connector).
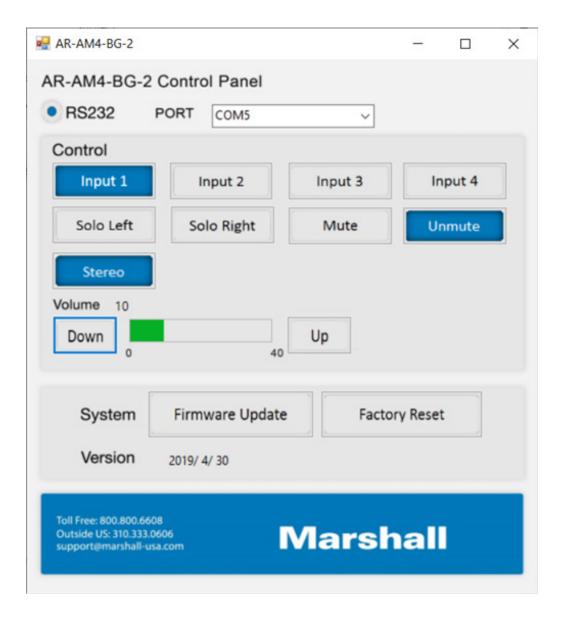
8. Software - Control App

Download

A free application is available for download from the Marshall Electronics website at:

www.marshall-usa.com/

The AR-AM4-BG-2 may be operated and configured from a Windows® computer by a Serial (RS-232) link.

Download, unzip and extract the file "AR-AM4-BG-2.exe" to a folder or to the desktop. Double-click the file and it will open immediately and look like this:

9. Serial Connection

To control the AR-AM-4 using an RS-232 serial link, first select the port number. The correct port number will likely be the one with the highest numeric value.

Note: A serial connection will require either a serial port on the PC or a serial adapter device most likely attached to the computer by USB. The most common connector type will be a 9-pin D-Sub similar to the one on the back of the AR-DM51-B. When that is the case, a successful connection can be made by using a straight through cable (not a "Null Modem Cable"). It is only necessary to make the three connections shown here.
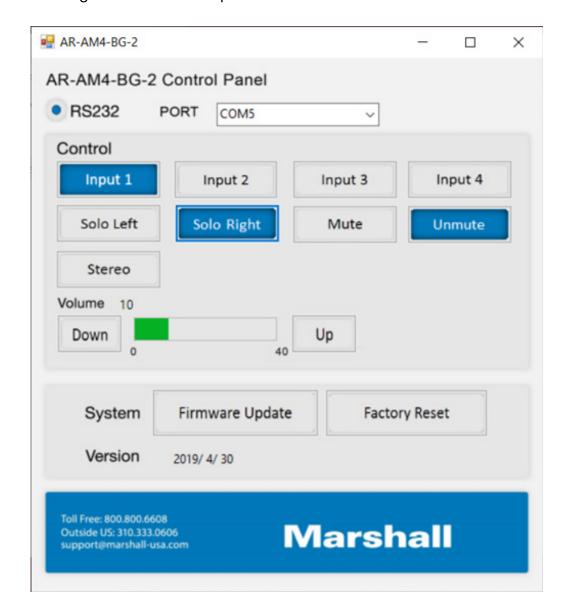
Computer   **AR-DM51-B**

Pin 2 ---------------- Pin 2   (Tx)

Pin 3----------------- Pin 3   (Rx)

Pin 5 ---------------- Pin 5   (Ground)

10. Operation

Once a connection has been established between the control application and the AR-AM4-BG-2, operation is simply a matter of clicking on the desired functions.

All of the front panel functions can be operated through the control application screen with the exception of the Balance control.

In the example below, Input 1 has been selected, the speakers are unmuted and the sound from the Right channel is being heard from both speakers.
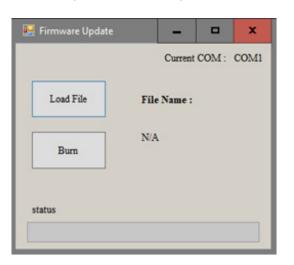
11. Updating

When a firmware update is issued for the AR-AM4-BG-2, it will be posted on the www.Marshall-USA.com website. Simply download the file and save it to a location on the computer.

the Firmware Update button starts the update process and the window shown below appears.

Click on "Load File", then browse to the location of the saved update file.

Next, click on "Burn" which will transfer the file to the AR-AM4-BG-2 and start the update process. Do not turn off the unit until the update has completed.

12. Specifications

Feature	AR-AM4-BG-2
Interfaces	
Audio Inputs	Analog Balanced x 8 XLR Female
Audio Outputs	Analog Balanced x 2 XLR Male
Headphone Output	3.5mm Stereo Phone Jack (plugging in headphone mutes speakers)
Serial Control Connector	9-pin D-Sub supports RS-232 control and updates
Controls and Displays	
Input Select	Four buttons, each selects one input pair
Solo Left, Solo Right	Select to monitor Left or Right channel individually
Volume Knob	Rotate to change speaker volume level, Push knob in to Mute speakers
Balance Knob	Rotate to change the volume ratio between left and right speakers
Phase LED	Green = Left / Right In-Phase, Red = 180° Phase, Blinking = Changing Phase
VU Meter	"0" mark indicates +4dBU (1.23 Volts RMS, 3.47 Volts P-P) input level
Mechanical & Electrical	
Housing	Metal enclosure
Dimensions (Depth Includes Connectors) [H x W x D]	1.75" X 19" x 8.5" / 4.45 cm x 48.25 cm x 21.6 cm
Weight	7.3 lbs / 3.3 Kg
Mounting	Chassis includes "ears" for standard 19" rack mount
Included Power supply	12 Volts DC, 5 Amps Coaxial Connector, Center Positive Accepts 100 – 240 Volts AC, 50/60 Hz Line
DC Power consumption	3 Watts at Typical Listening Level, Less than 2 Watts Silent

Operation temperature	0~40°C [32~104°F]
Storage temperature	-20~60°C [-4~140°F]
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
Relative humidity	20~90% RH [no condensation]

Warranty

For Warranty information please refer to Marshall website page:
https://marshall-usa.com/company/warranty.php

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