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*PreSonus* and *MOTU* sections are not included in the provided content.
Introduction

Thank you for choosing the Waves BR1 SoundGrid-to-AVB Network Bridge. Before you use this product, we recommend that you read this user guide completely. We also suggest that you become familiar with the Support Section of the Waves website. It provides useful setup and troubleshooting information.

SoundGrid Networks and AVB Networks

Waves SoundGrid is a networking protocol that links and controls audio devices (e.g., I/O devices, servers, hosts). It enables routing between devices and offloading plugin processing to a dedicated server. This results in extremely low processing latency. The SoundGrid network is managed by the MultiRack SoundGrid or the SuperRack SoundGrid application— they are used to configure the network, assign I/Os, controllers and servers, and to patch audio throughout the system.

AVB is an open source networking standard for connecting AVB-compatible devices, especially between devices from different manufacturers.

Enabling AVB Connections

- **PreSonus**: Use the native Mac AVB Manager application. Relevant AVB settings in AVB Manger are accessed through the PreSonus Universal Control software.

- **MOTU**: Use the Pro Audio Driver Software to establish AVB connections.

SoundGrid and AVB networks cannot communicate directly, so Waves developed the BR1 SoundGrid-to-AVB Network Bridge. This bridge enables an AVB network to add a SoundGrid network and its inventory to its existing system.

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1 AVB Manager is available on Mac OS as native app (mac OS 10.10 or later) and on Windows through a third-party app at [https://www.riedel.net](https://www.riedel.net).
System Layout

A SoundGrid network can offload plugin processing from the host computer to a DSP server. This greatly increases processing power so far more super-low-latency channels with significantly more plugins are possible. At minimum, a SoundGrid BR1 system consists of these elements:

- MultiRack SoundGrid or SuperRack SoundGrid application in the host computer
- SoundGrid DSP server (a second server can be added for redundancy)
- SoundGrid BR1 interface (additional I/O devices can be added to the network)
- AVB switch (not required for MOTU single device setup)

For details about AVB configurations, please contact PreSonus directly: https://www.presonus.com/

PRESONUS SETUP
MOTU SINGLE DEVICE SETUP

MOTU MULTIPLE DEVICES SETUP
Configuring SoundGrid BR1

**Hardware Connections**

⚠️ Use Cat 5e or Cat 6 Ethernet cables or higher for all connections.

### AVB CONNECTIONS

**PreSonus**
1. Connect the AVB port and Control port on the console to the AVB switch, using two Ethernet cables.
2. Connect the AVB Port on the SoundGrid BR1 to the AVB switch, using an Ethernet cable.
3. Connect AVB Manager Host to the AVB Switch using an Ethernet cable.

**MOTU**

**Single Device Setup**
Connect MOTU’s AVB port to the AVB Port on the SoundGrid BR1 using Ethernet cable.

**Multiple Devices Setup**
1. Each MOTU I/O has a single AVB port. When connecting multiple AVB I/O devices, each MOTU AVB port must be connected to the AVB switch, using Ethernet cables.
2. Connect the AVB port on the SoundGrid BR1 to the AVB switch, using Ethernet cable.

### SOUNDGRID CONNECTIONS

1. Connect the SG port on the SoundGrid BR1 to the SG switch using Ethernet cable.
2. Connect the MultiRack SoundGrid or SuperRack SoundGrid host computer to the SG switch using Ethernet cable.
3. Connect the SoundGrid DSP server to the SG switch using Ethernet cable.

You can connect a second SoundGrid DSP server to the SG Switch for redundancy.

An up-to-date list of SoundGrid compatible hardware is available at [www.waves.com/hardware](http://www.waves.com/hardware)
**Ports**

The SoundGrid BR1 is equipped with two Ethernet ports marked as “AVB Port for console connection” and “SG Port for MultiRack SoundGrid of SuperRack SoundGrid connection.”

There is a status LED next to each port:

- Blinking red: No network connected
- Steady blue: Network connected
- Yellow: Boot mode

**Download and Activate**

1. Download and install [Waves Central](#).
2. Log on to Waves Central using your Waves user name and password.
3. Move your licenses from your Waves license cloud to your host computer or attach a USB key with your licenses to the host.
Configuring the MultiRack SoundGrid Computer

1. Open the SoundGrid Driver control panel and choose the network adapter used for SG connection.
2. Close the control panel
3. Power up the SoundGrid BR1, SoundGrid switch, and SoundGrid server.
4. Open MultiRack SoundGrid.
5. Open the Audio Menu and select SoundGrid Inventory.
Set Up SG Inventory

1. The Inventory should list the SoundGrid BR1; assign it to Number 1 in the Device column. Click OK.
2. Under the Audio menu, select SoundGrid Connections.
3. Create and enable two connections:
   - SoundGrid BR1 to MultiRack SoundGrid channels 1–16
   - MultiRack to SoundGrid BR1 channels 1–16
4. Return to SoundGrid Inventory and click Settings next to SoundGrid BR1. The SoundGrid BR1 Control Panel will open.
Configuring the SuperRack SoundGrid Computer

Power up the SoundGrid BR1, SoundGrid switch, and SoundGrid server.

1) Open SuperRack and go to Setup window, Inventory page.
2) Select the network adaptor (port) that the BR1 is connected to.
3) In the I/O devices rack, click the + (plus) symbol in an empty rack slot and select BR1 from the list of available network devices.
4) Go to the Rack window. In the Input section of a rack, select a rack configuration and then assign BR1 from the list of input devices.
Alternatively, you can set up all racks to desired configuration and then use the “Auto-Route All Racks” command (Rack menu).

Learn more in the SuperRack user guide.
14. In the Source drop-down menu, select Digital as clock source. SoundGrid BR1 is now using the incoming AVB stream for clock.
PreSonus

Configuring AVB Manager Host

The following example shows how AVB Manager is configured on Mac. To access correct AVB Manager settings on Mac, use PreSonus Universal Control. Download and install Universal Control software here: https://www.presonus.com/products/UC-Surface/downloads

Basic Configuration

1. Power up the console, AVB Switch, and the AVB Manager host.
2. Start the Universal Control software.
3. Open the Settings menu and select AVB Audio Configuration.
The AVDECC Entity Controller will open and list all connected devices:

- SoundGrid BR1
- StudioLive 32 console
- AVB Manger Host computer

4. Go to the Window menu and select AVDECC Connection Matrix. This displays inputs and outputs for all available devices.
5. Click to turn on the following connections:
   - SL32 Sends 1-8 to SoundGrid BR1 Input Stream 1–8
   - SL32 Sends 9-16 to SoundGrid BR1 Input Stream 9–16
   - SoundGrid BR1 Output Stream 1-8 to SL32 Return 1–8
   - SoundGrid BR1 Output Stream 9-16 to SL32 Return 9–16

6. Go to MultiRack SoundGrid or SuperRack SoundGrid and open the SoundGrid BR1 Control Panel: Audio Menu > SoundGrid Inventory (below).

7. Select the Monitor tab. If all connections are properly established, the AVB Switch Status will display “Locked” and Link State “Up.”
Configuring MOTU Pro Audio Driver

In this connection example we use a MOTU 112D. The MOTU I/O will serve as the master clock source. BR1 clock source will be set to Digital, meaning BR1 will receive the clock data from AVB input stream.

1. Power up and connect all devices in your configuration.
2. Go to the SG Host Inventory page and open BR1 settings. In the SG Port column, under Source, select Digital. Select the correct sample rate from the Sample Rate drop-down menu. This value must match the sample rate of MOTU I/O.
3. Open the MOTU Pro Audio Driver control panel. Your connected AVB devices will be auto-discovered and listed under Devices Column.
4. Choose 112D in the Devices section. Select your Sample Rate and set the Clock Mode to Internal.
5. Go to SoundGrid BR1 and connect MOTU 112D:1 to Input Stream 1 under AVB Stream Connections.

6. Go to Routing, under AVB Configuration > Input Connections and assign SoundGrid BR1:1 to Input Connect 1.

Now you can route MOTU I/Os to and from BR1.
Inserting Plugins on a Channel

**IN MULTIRACK SOUNDGRID OR SUPERRACK SOUNDGRID**
1. Add a mono rack.
2. Route the rack’s I/O to SG BR1 Input 1 and Output 1.
3. Add a plugin or chain.

**ON THE CONSOLE**
In this example, we will insert a plugin on Channel 1 of the console.
4. If the console uses local preamps, connect a microphone to channel 1.
5. In the Input Menu, select Input Source 1 in the Analog column as **Analog 1** and adjust the gain.
6. Change Input Source 1 in the Network column to **AVB1**.
7. Under the Digital Send Options, select **Pre**.
8. Under Digital Send Source, select **Analog**.
You’re set. Channel 1 is now routed through the MultiRack or SuperRack.

Inserting Plugins on the Master Buss

**IN MULTIRACK SOUNDGRID OR SUPERRACK SOUNDGRID**
1. Add a Stereo Rack.
2. Route Rack’s I/O to SG BR1 Input and Output 15-16.
3. Add a plugin or chain.

**ON THE CONSOLE**
4. Select the **Master Buss**.
5. Under Input Source, select the Network tab. Select the left channel and assign it to AVB 15. Select the left channel and assign it to AVB 16.
7. **Select AVB Sends** on the left column and assign AVB 15 to Available Source Main L and AVB 16 to Available Source Main R.
Master audio now passes through the MultiRack or SuperRack.
Adding Parallel FX

In this example, we will add reverb to Mix 1.

**IN MULTIRACK SOUNDGRID OR SUPERRACK SOUNDGRID:**
Route the rack’s I/O to SG BR1 Input 11 and Output 11-12.
Add a reverb plugin or chain.

**ON THE CONSOLE**
Press **Mix/FX Master** and select Aux 1.
Under **Aux Pre Mode**, select Post.
Navigate to Home > Audio Routing > Digital Patching.
Select AVB Sends on the Left column and assign AVB 11 to Mix 1.
Press AUX Inputs and press Select on FX A Return.
Under **Input Source**, select the **Network** column and select AVB 11 for Left channel and AVB 12 for Right Channel.
That’s it. Now Mix 1 audio goes through the MultiRack and returns to FX 1 Return.

In the next example, we will add an effect to the Master channel.

**ON THE CONSOLE**
1. Under Input Source select the **Network** tab. Select L channel and assign it to AVB 15. Select R channel and assign it to AVB 16.
2. Navigate to Home > Audio Routing > Digital **Patching**.
3. Select AVB Sends on the Left column and assign AVB 15 to Available Source Main L and AVB 16 to Available Source Main R
You are set; now MASTER audio goes through the MultiRack SoundGrid or SuperRack SoundGrid.

For advanced routing options please consult the StudioLive manual or PreSonus Tech Support.
### Troubleshooting SoundGrid BR1

The **System** tab displays important information about your SoundGrid BR1 device. This information should be used when troubleshooting the device.

![SoundGrid BR1 System Tab](image)

- **Mac address**: A unique device address that is used to connect to the SoundGrid network.
- **Firmware version**: The device has two sets of firmware: boot and program. Both numbers are required when contacting Technical Support for assistance.
- **Control module version**: A version number for Control Panel Software that is used to interface with the device through SoundGrid host.