

TesiraXEL 1200.1 AMPLIFIER

Installation & Operation Guide



4-channel, 1200W Network Amplifier

The TesiraXEL1200.1 is an AVB/TSN enabled, digital networked, four-channel amplifier that allows users to distribute 1-100% of available power to any channel via a single asymmetric power bank. The TesiraXEL 1200.1 supports selectable impedance (4Ω, 8Ω, 70V, or 100V) and delay equalization per channel.

The TesiraXEL1200.1 is equipped with an audible locate function on the front panel to validate connected loudspeaker runs without requiring the amplifier to be configured.

The TesiraXEL 1200.1 comes with a software-configurable media interface, allowing designers to choose their preferred network topology. Redundancy, daisy chain, single-cable, or separate control and AVB are all supported.

The TesiraXEL 1200.1 also supports 802.1X authentication for added security requirements.

Features

- 100% asymmetrical loading per channel
- Selectable impedance per channel: 4Ω, 8Ω, 70V, 100V
- Configurable media interface
- Audible locate
- Configurable via Tesira Software
- Auto standby mode
- Delay equalization per channel
- Port authentication via IEEE 802.1X

Asymmetric Power Bank

The TesiraXEL 1200.1 amplifier features a single Asymmetric Power Bank which allows customized distribution of power to loudspeaker channels, allowing for greater flexibility and efficiency in sound system design.

Network Interface

The TesiraXEL 1200.1 amplifier is equipped with two network interface ports (RJ-45 connectors) that may be configured as a redundant pair, separated media network and control, or used for daisy-chaining multiple devices.

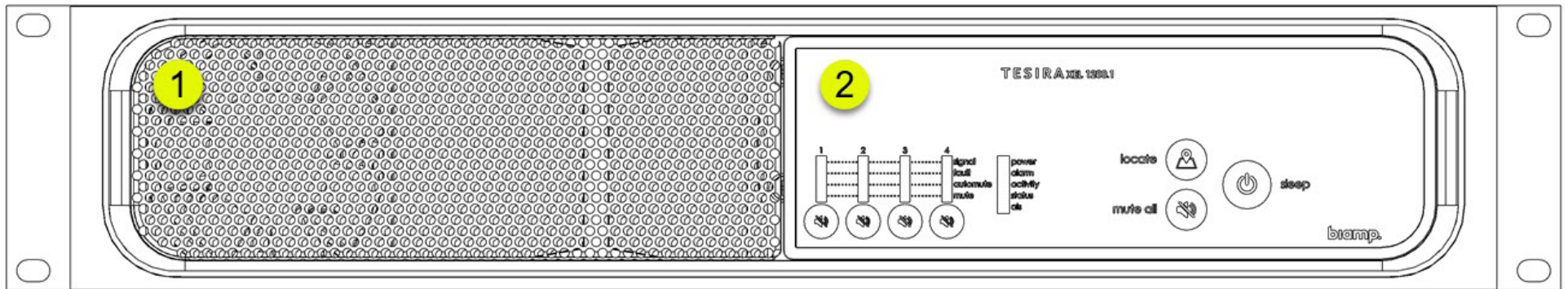


A: 9300 S.W. Gemini Drive Beaverton, OR 97008 USA

T: +1 503.641.7287

W: www.biamp.com

MAY 2019



Amplifier Front Panel

1. Ventilation Fan Cover

The amplifier has a perforated cover to allow cool air into the chassis. Two variable speed, temperature-controlled fans allow air to circulate through the unit from front to back.

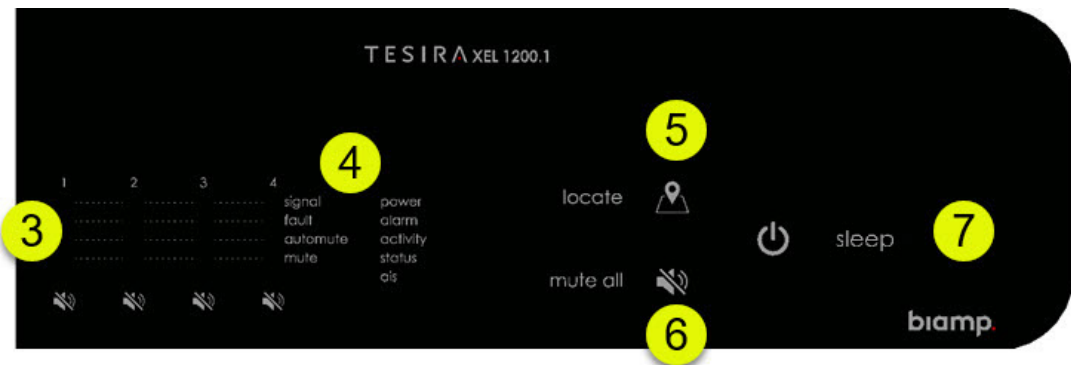
2. Front Control Panel

The amplifier front panel displays information about the amplifier status as well as allowing numerous functions for configuration and operation.

The front panel may be locked or unlocked by pressing and holding any two single-channel mute buttons simultaneously for two seconds. The front panel may also be locked in software, but doing so will disable the ability to unlock the control directly from the front panel.

3. Per-Channel Mute Buttons

Each audio output channel may be muted individually. A red LED will indicate when a channel is muted. Holding any mute button for two seconds will activate or deactivate the mute-all function.



4. LED Status Indicators

Per-channel and overall system status is indicated by multi-colored LEDs on the front panel. Table 1 gives information about the status LED indications and table 2 gives information about the per-channel LEDs.

5. Locate

Pressing the locate button will play an audible signal that cycles through each connected output. Device status LEDs will flash green when locate is initiated.

6. Mute All

Pressing the mute all button will mute all audio on the amplifier.

7. Power Status

The amplifier has two power states that may be enabled or disabled from the front panel: Operating and Sleep. In sleep mode the amplifier will not be discoverable nor will it respond to network traffic. Unconfigured devices will not enter sleep mode.

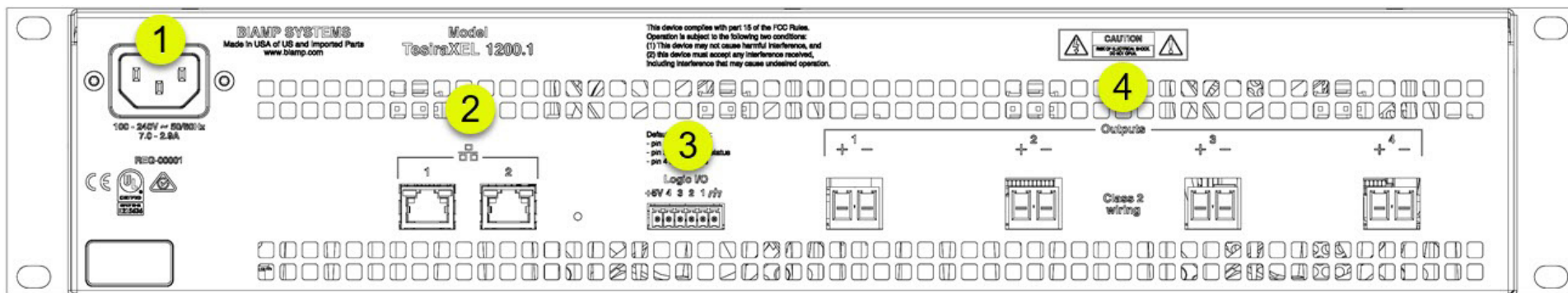
TesiraXEL 1200.1 Amplifier Front Panel - LED Status Tables

Table 1 - Status LEDs

LED	Off	Green	Yellow	Red
Power	Unit is not powered	Unit is powered	Unit is in sleep mode	N/A
Alarm	No fault	N/A	Minor fault present	Major fault present
Activity	N/A	Device is active and properly configured and audio has been started	N/A	Device is an inactive part of a system (audio is stopped)
Status	N/A	Device is configured and is part of a system or ready to participate in a system	Device is unconfigured and ready to receive configuration	Device not ready to receive its configuration
Alarm in System (AIS)	No fault active in any device in the system	N/A	Minor fault is active in a device in the system	Major fault is active in a device in the system

Table 2 - Per-Channel LEDs

LED	Off	Green	Yellow	Red
Signal	Digital input signal not present	Digital input signal present	Input signal present; output attenuating	Input signal present; output clipping detected
Fault	Device is in standby or operating normally	N/A	Channel is attenuated for device protection	Channel is muted for device protection
Automute	Channel is not in automute	N/A	Channel is in automute	N/A
Mute	Channel is not muted or device is in standby	N/A	N/A	Channel mute is activated



Amplifier Rear Panel

1. AC Power Connection

Allows for connecting an appropriate power cord. Each amplifier uses a switch mode power supply that has an operating voltage of 100-240V at 50/60 Hz.

CAUTION

Do not remove or defeat the ground prong on the power cord, as this will constitute a shock hazard. Equipment should be connected to a mains socket outlet with a protective earthing connection. This plug is the main disconnecting device and should remain readily operable. There are no user interchangeable parts. Please contact Biamp Technical Support or your local distributor for all service requirements.

2. Combined AVB/Control Ports

Two gigabit RJ-45 ports allow connections for numerous network topologies. Ethernet cables must be Cat 5e or better.

Supported network topologies are documented at support.biamp.com

3. Logic IO

A standard 6-pin logic I/O may be used as a general purpose logic I/O as well as allowing the amplifier to enter or exit sleep mode. Functions are defined in the Tesira software. The illustration below gives the GPIO pin functions:

6	GROUND
1	CHASSIS MUTE INPUT (MUTES ON SHORT TO GROUND)
2	NO FUNCTION
3	SLEEP/WAKE STATE MONITOR TTL OUTPUT (+5V WAKE 0V SLEEP)
4	SLEEP/WAKE STATE TTL INPUT (+5V WAKE 0V SLEEP EDGE-DRIVEN)
+5V	+5V (INACTIVE DURING SLEEP)

4. Amplifier Output Connections

Four powered speaker connections allow for audio output. Mating plugs are included.

To minimize power loss, use a speaker cable of appropriate gauge for the load impedance. For long speaker cables, choose a low capacitance cable to minimize high frequency loss.

If stranded speaker wire is used, be sure to incorporate all strands into the connector. Stray strands can short to the adjacent terminal or chassis.

Do not leave excessive bare wire outside the terminals, as this can lead to shorts. Ensure wire insulation is not crimped by the screw terminal.

Amplifier Rack Installation

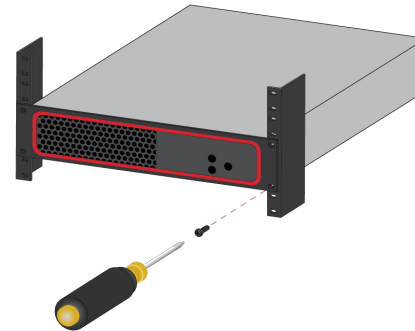
The TesiraXEL 1200.1 model amplifier is a standard rack-mount device which requires 2 RU of installation space. Always install the lower chassis rack-mount screws first (and remove last) as shown in the illustrations on the following page.

CAUTION

Do not exceed the ambient operating temperature of 95° F (35°C). Be aware of conditions in an enclosed rack that may cause the temperature to exceed ambient room conditions.

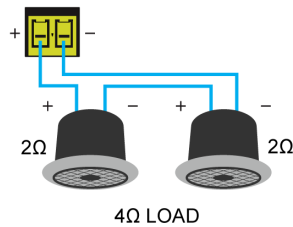
Installation and Connections

Always install the lower attachment hardware first to avoid damaging equipment:

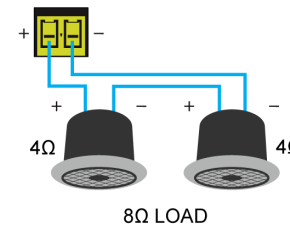


See the following illustrations for examples of typical series and parallel speaker connections.

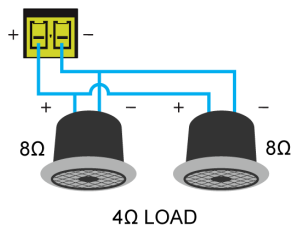
Two x 2 Ohm Speakers in Series



Two x 4 Ohm Speakers in Series



Two x 8 Ohm Speakers in Parallel



Two x 16 Ohm Speakers in Parallel

