biamp.

# Tesira®

## Audio Expanders

## EX-AEC, EX-IN, EX-OUT & EX-IO

## OPERATION MANUAL

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BIAMP SYSTEMS 9300 SW GEMINI DRIVE, BEAVERTON, OREGON 97008 U.S.A. 503.641.7287 BIAMP.COM

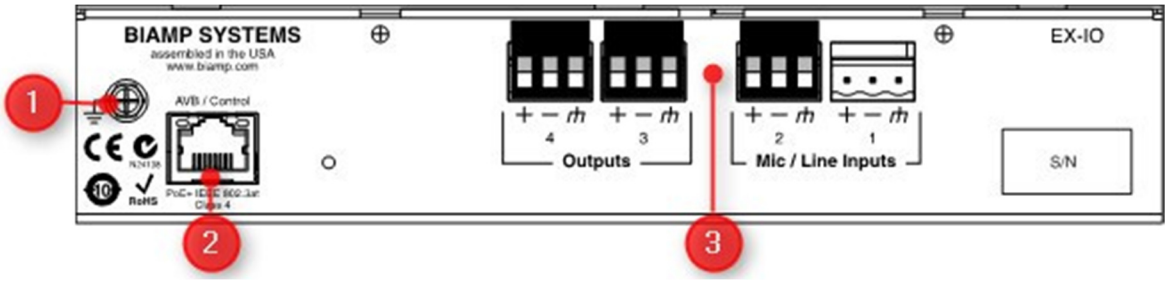
The Tesira® EX-IN, EX-AEC, EX-OUT, and EX-IO are half-rack expander units for use with Tesira SERVER, SERVER-IO, and TesiraFORTÉ AVB devices. Each expander provides a total of 4 channels of analog audio. The EX-IN is a 4-channel mic/line level input expander, and the EX-AEC is a 4-channel mic/line level input expander with AEC (acoustic echo cancellation). The EX-OUT is a 4-channel mic/line level output expander, and the EX-IO provides two channels of mic/line level input and two channels of mic/line level output. The expanders communicate with the Tesira AVB network for audio networking, configuration and control, and are powered by PoE+.


**Setup and Use**
The Tesira software provides an intuitive interface for setup and programming of the audio expanders. The information supplied by this manual relates to physical connections and device setup. For more details on software setup, please consult the Tesira Help File.

**LED Status Indicators**
Four multi-color LEDs on the front panel of the device provide information about the status of the device and the greater Tesira system.

- Power – Reports power of the host device and Front Panel Display.
- Alarm – Reports abnormal conditions local to the host device.
- Activity – Reports the activity of host device within the greater system.
- Status – Reports the status of host device.

| LED | Off | Green | Yellow | Red |
|---|---|---|---|---|
| **Power** | Unit is not powered | Unit is powered | Not applicable | Not applicable |
| **Alarm** | No fault is active in the device | Not applicable | Minor fault is active in the device | Major fault is active in the device |
| **Activity** | Not applicable | The host device is an active part of an active system | Not applicable | The host device is part of an inactive system (Audio is stopped) or host device is not part of a system |
| **Status** | Not applicable | Device has received its configuration and is ready to participate in the system | Device is ready and waiting to receive a configuration | Device is not ready to receive its configuration |




**EX-IO expander pictured. The type and number of inputs and outputs will vary depending on expander model**

**1. Grounding pin**

This pin is for grounding the chassis of the expander

**2. AVB/Control Connection**

Uses a standard RJ-45 connector with CAT-5, CAT-5e, CAT-6 or CAT-7 cabling.

This connection is for PoE+, sending and receiving AVB audio signals as well as sending and receiving data between the expander device and the Tesira system. An expander will not operate if it is not on a network that includes a Server-Class Tesira device.

The maximum distance between any unit and an Ethernet switch is 328 feet (100 meters).

**3. Audio Connections**

The connections are electrically balanced and are configured for use with shielded-twisted-pair wiring. The wires are to be terminated in the three-pin removable
connectors according to the wiring diagram shown on the unit. The wiring diagram is also
displayed on the connectors themselves. The connectors may then be inserted into the mating connectors on the expander. In the illustration above, channel one is shown without the
removable connector inserted.

Input connections (channels 1 or 2 on the EX-IO and channels 1-4 on the EX-IN and EX-AEC) are for
connecting analog mic or line level audio signals to the Tesira system. The connections are
balanced and can provide Phantom power if necessary by software control.

Output connections (channels 3 or 4 on the EX-IO and channels 1-4 on the EX-OUT) are for sending analog audio signals from the Tesira system to other audio devices at either mic level or scalable line level.