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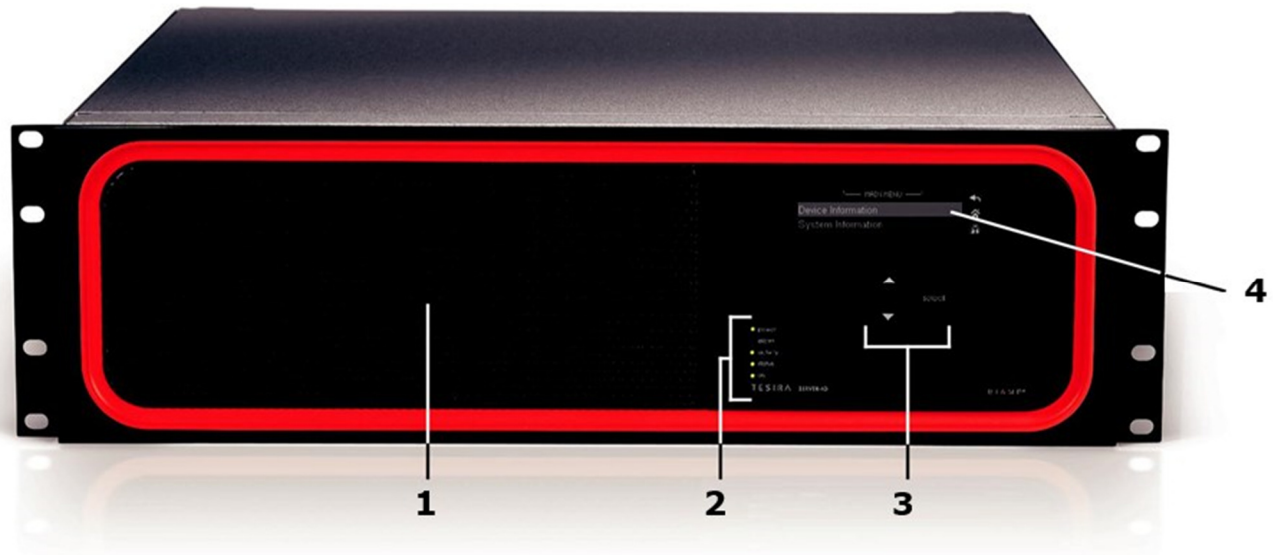
Tesira®

SERVER
SERVER IO
OPERATION MANUAL

April 2019
585.0278.90C

The Tesira SERVER is a digital network server. It is factory configured with one DSP-2 card and can accept up to a total of eight DSP-2 cards. The SERVER is also factory configured with one AVB-1 card and has a second slot that can be outfitted with an additional AVB-1 card, a 32 x 32 channel SCM-1 CobraNet card, a 64 x 64 channel DAN-1 Dante™ card, or a standard I/O card for four channels of local I/O. The SERVER is the core of a Tesira digital audio system and can be used with Tesira expanders to form a highly scalable audio network. Two Tesira SERVERs can also be designed as a redundant pair, carrying identical processing and card configurations. The secondary SERVER stays 'live' with the primary, updating runtime parameters. If the primary SERVER should need maintenance, the secondary takes over with no loss of continuity or downtime.

The Tesira SERVER-IO is a digital network server. It is factory configured with one DSP-2 card and is capable of handling up to two additional DSP-2 cards. The SERVER-IO has capacity for up to three total audio networking cards per server. The combinations of networking cards can include up to two AVB-1 Audio Video Bridging network cards, up to two SCM-1 CobraNet network cards, and up to two DAN-1 Dante network cards in any configuration. The SERVER-IO can support up to 12 standard Tesira I/O cards for up to 48 channels of audio I/O (e.g. mic and line level, VoIP, and telephone interface). The SERVER-IO can be used as a standalone or with Tesira expanders to form a highly scalable audio network.



Tesira SERVER and SERVER IO front panel (identical)

- 1 – Ventilation fan cover
- 2 – LED status indicators
- 3 – Display navigation buttons
- 4 – OLED display

Ventilation fan cover

Each device has a perforated cover to allow cool air into the chassis. A variable speed temperature controlled fan allows air into the front of the unit and out of the rear left side. Ensure that nothing obstructs the front or side of the unit. The filter should be cleaned periodically. To access the filter, the front panel should be removed by locating the indentations on sides of the unit's front panel.

LED Status Indicators

Five 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.
- AIS (Alarm in System) – Reports abnormal conditions within the greater system.

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
AIS (Alarm In System)	No fault is active in any device in the system	Not applicable	Minor fault is active in a device in the system	Major fault is active in a device in the system

Display Navigation Buttons

Capacitive-touch buttons allow navigation through the OLED display menu to view and configure device and networking information, as well as see system-wide faults. Navigating the display is accomplished by touch-sensitive UP and DOWN and SELECT buttons.

OLED Display

The OLED display provides information about the server device as well as the Tesira system that is connected to the server. The OLED display is read-only.

Home Screen

The home screen is the default screen that shows the overview of the device. If the text is too long to fit on the entire display, it will scroll to the left. Menus at the bottom allow other selections. By default the main menu icon will be selected.

Some menu icons double as status indicators. They change depending on the status of the device. The fault status icon only appears if there is an active fault in the system.

After a period of inactivity, the Front Panel Display will transition back to this home screen.

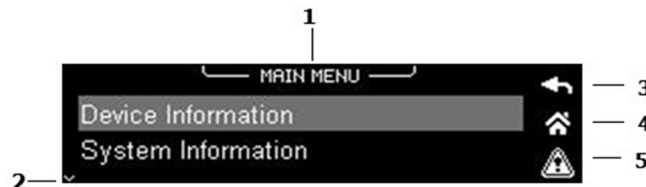
1. Device and Host name
2. Main Menu
3. Settings Menu
4. Network Menu / Status
5. Audio Menu / State
6. Fault Menu / Status



To open any of the menus, use the UP and DOWN buttons to highlight the menu icon desired, then press the SELECT button.

Menu Screen

1. Menu title bar
2. Scroll indicator
3. Previous screen
4. Home screen
5. Fault menu



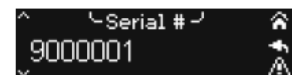
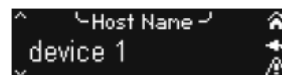
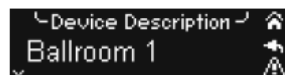
A menu screen containing a list of items that are used to navigate to other menus can be accessed from the home screen. On the right are icons that provide quick navigation to other screens. Pressing the select button on an item will transition to the screen that displays that information. A scroll indicator at the left shows if there is more information to show by scrolling down.

The previous screen icon goes up one menu level in the menu structure. The home screen icon transitions back to the home screen. If a fault is active in the system, the fault icon will appear and can be selected to view active faults

Device Information

The device information screen shows the following information:

- Device description
- Host name
- Serial number
- Firmware revision



System Information

The system information screen shows the following information:

- Device audio state (on/off)
- System description

Network Parameters

The network parameters screen shows the following information

- Host name
- IP address
- Subnet mask
- Gateway

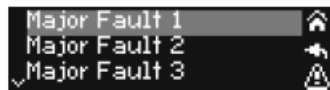
Display Settings

The display settings operations include the following:

- Change brightness and contrast
- Change timeouts

Faults

If a fault is present in the system an exclamation icon is shown on the lower right of the screen. Each unique fault in the system will be listed.

**Edit Timeouts****Dim Mode**

The display has a screensaver mode where it will dim the display brightness. Pressing any button will bring the screen back to the original brightness and respond to the control movement.

Sleep Mode

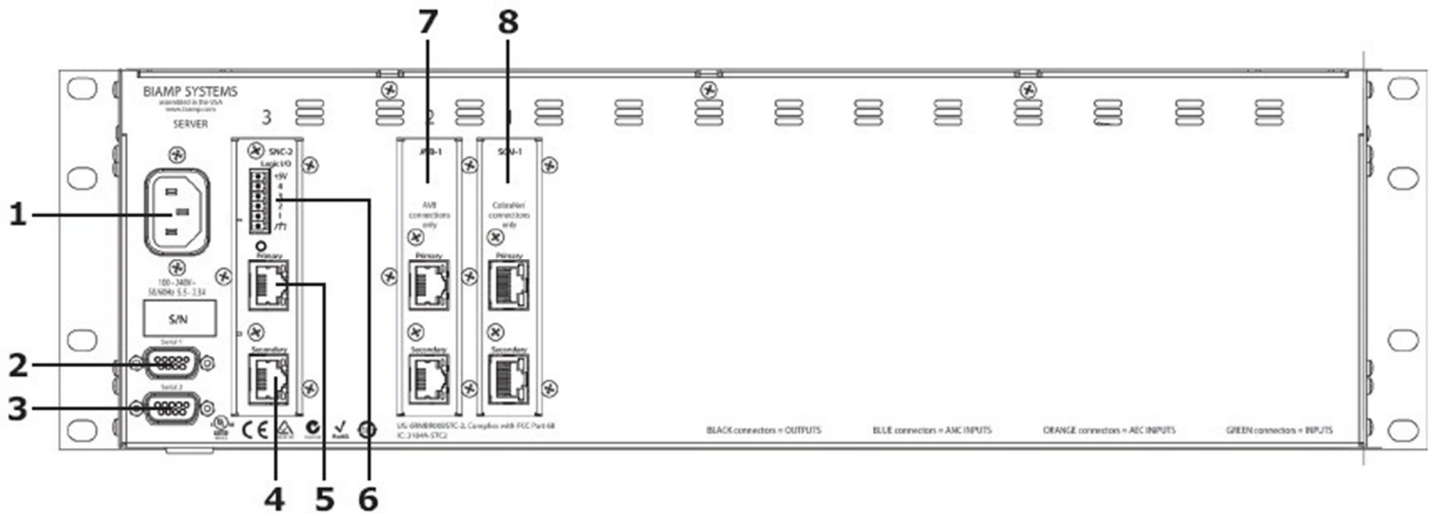
After the display timeout is reached the display will go blank. The device will still have power in this state even though the display appears blank.

Localization

All menus and error messages are displayed in English by default. Descriptive icons are used to avoid the need for messages in specific languages. Text entered (e.g. Device Description) is displayed in the language as entered in the software.

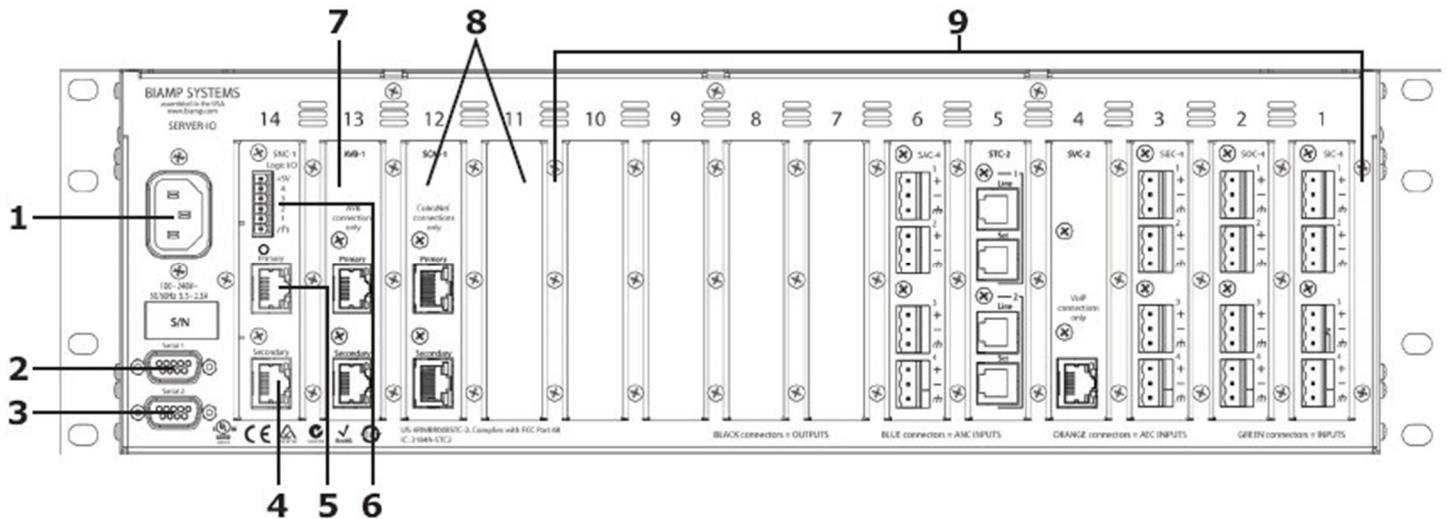
The following alphabets are supported:

- Latin-1 (ISO/IEC 8859-1) and Latin-2 (ISO/IEC 8859-2)
- Cyrillic (Russian alphabet only)
- Simplified Chinese
- Japanese – Hiragana, Katakana, Kanji
- Thai



Tesira SERVER

1. AC Power inlet
2. Serial Port 1
3. Serial Port 2
4. Secondary Ethernet control port (RJ-45)
5. Primary Ethernet control port (RJ-45)
6. GPIO connections
7. Slot 2; always loaded with AVB-1 digital audio networking card for AVB
8. Slot 1; optional slot that can be factory loaded or field loaded with any server card



Tesira SERVER IO

1. AC Power inlet
2. Serial Port 1
3. Serial Port 2
4. Secondary Ethernet control port (RJ-45)
5. Primary Ethernet control port (RJ-45)
6. GPIO connections
7. Slot 13; optional slot that can be factory loaded or field loaded with AVB-1 digital audio networking card for AVB or SCM-1 digital audio networking card for CobraNet
8. Slot 12 and Slot 11; optional slot that can be factory loaded or field loaded with SCM-1 digital audio networking card for CobraNet, any telephone card or any analog audio card
9. Slot 10 through Slot 1; optional slots that can be factory loaded or field loaded with any telephone card (STC-2, SVC-2) or any analog audio card (SIC-4, SEC-4, SAC-4 or SOC-4).

SIC-4

The Tesira SIC-4 is a modular analog input card for use with Tesira SERVER and SERVER-IO devices. Each SIC-4 provides four channels of mic or line level audio input. The inputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each input includes gain with clip indicator, +48V phantom power, mute, level and signal invert.

SEC-4

The Tesira SEC-4 is a modular analog input card for use with Tesira SERVER or SERVER-IO devices. Each SEC-4 provides four channels of mic or line level audio input with Acoustic Echo Cancellation. The SEC-4 utilizes the next generation of the proprietary Sona™ algorithm and also features two new Biamp algorithms, SpeechSense and AmbientSense which enhance speech processing by more accurately distinguishing between human speech and other noises.

SAC-4

The Tesira SAC-4 is a modular analog input card for use with Tesira SERVER or SERVER-IO devices. Each SAC-4 provides four channels of mic or line level audio input with Ambient Noise Compensation. The SAC-4 features a new Biamp algorithm, AmbientSense, which intelligently distinguishes ambient noise from program material or announcements, thus greatly improving processing performance over traditional ambient noise compensation.

SOC-4

The Tesira SOC-4 is a modular analog output card for use with Tesira SERVER or SERVER-IO devices. Each SOC-4 provides four channels of line level audio output. The outputs are electrically balanced and provided on plug-in barrier strip connectors. Software control of each output includes mute, level, signal invert and full-scale output reference.

STC-2

The Tesira STC-2 is a modular telephone interface card for use with Tesira SERVER and SERVER-IO devices. The STC-2 allows a Tesira system to connect directly to standard analog telephone lines. Being more than just a normal “hybrid,” each channel includes line-echo cancellation, noise suppression, caller ID decoding, ring detection/validation, DTMF decoding, and call progress tone decoding. When used in conjunction with Automatic Echo Cancellation processing, Tesira becomes an extraordinarily powerful, flexible and affordable conferencing platform.

SVC-2

The Tesira SVC-2 is a modular Voice over Internet Protocol (VoIP) card for use with Tesira SERVER and SERVER-IO devices. The SVC-2 allows a Tesira system to connect directly to IP-based telephone systems. When used in conjunction with Automatic Echo Cancellation processing, Tesira becomes an extraordinarily powerful, flexible and affordable conferencing platform.