DATA SHEET
TESIRA® SERVER
CONFIGURABLE I/O DSP

Tesira® SERVER is a configurable I/O digital signal processor for use with the Tesira digital audio networking platform. It is factory configured with one DSP card and capable of handling up to seven additional DSP cards. It is also factory configured with one AVB-1 Audio Video Bridging digital audio networking card. A second card slot can be populated with an additional AVB card, an SCM-1 CobraNet® network card, or a DAN-1 Dante™ network card. In cases where local I/O is advantageous, a Tesira standard I/O card may be installed. The configurable I/O DSP features Biamp SpeechSense™ technology, which enhances speech processing by more accurately distinguishing between human speech and noise. The DSP also provides extensive audio processing, including but not limited to: signal routing and mixing, equalization, filtering, dynamics, and delay as well as control, monitoring and diagnostic tools; all configured through the Tesira software. The SERVER supports primary and secondary redundant media network connections to provide resilient audio streaming. If the primary media network experiences downtime, the secondary connection takes over with no loss of continuity.

FEATURES

- Supports up to 8 DSP cards
- Up to 420 x 420 channels of digital I/O over AVB
- Supports optional 64 x 64 Dante audio networking
- Supports optional 32 x 32 CobraNet audio networking
- System configuration and control via Ethernet or serial connection
- Front panel OLED display for device and system information
- Processing algorithm: SpeechSense

- Supports port authentication via IEEE 802.1X
- Supports media network redundancy for continuous uptime
- Signal processing via intuitive software allows configuration and control for: signal routing and mixing, equalization, filtering, dynamics, delay and much more
- Rack mountable (3RU)
- CE marked, UL listed and RoHS compliant
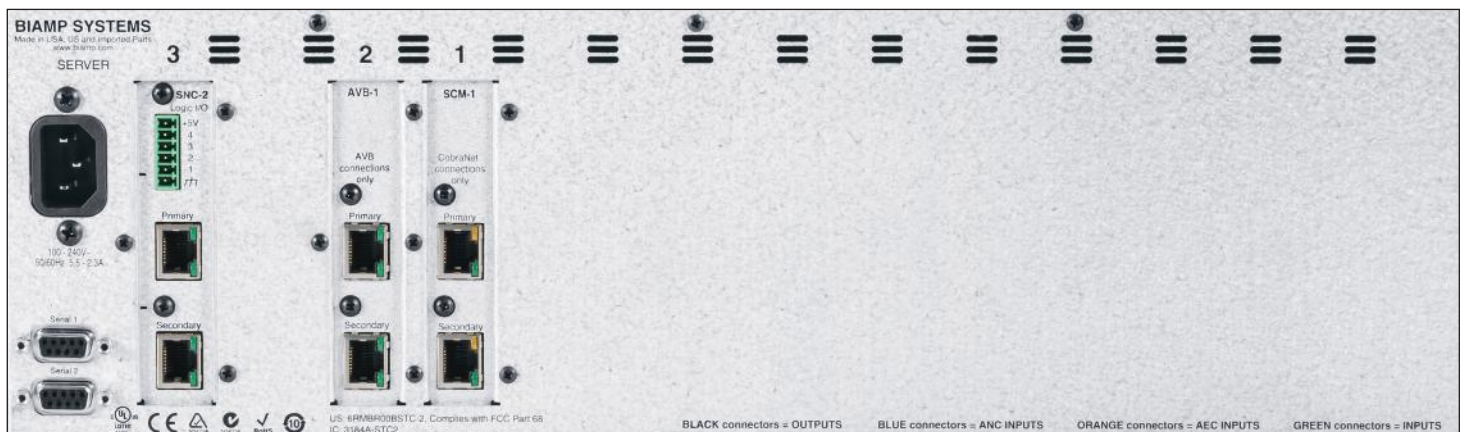- Covered by Biamp Systems' 5-year warranty

ARCHITECTS & ENGINEERS SPECIFICATION

The configurable I/O DSP shall be designed exclusively for use with Tesira® systems. The configurable I/O DSP shall support AVB digital audio and control networking by means of a factory configured 420 x 420 modular card. The configurable I/O DSP shall also support an additional 420 x 420 channel AVB networking card, one 32 x 32 channel CobraNet® networking card, one 64 x 64 channel Dante™ networking card, or one standard analog I/O card. The configurable I/O DSP shall be factory configured with one DSP card and shall be capable of supporting a total of eight cards. The configurable I/O DSP shall provide dual Ethernet ports for configuration and control connection. The configurable I/O DSP shall support primary and secondary redundant Ethernet interfaces on digital audio networking cards. The configurable I/O DSP shall support port authentication via IEEE 802.1X. The configurable I/O DSP shall provide front panel LED identification of device power, status, alarm, and activity as well as system-wide alarm. The configurable I/O DSP shall provide front panel OLED display for device and system information. The configurable I/O DSP shall be rack mountable (3RU) and feature software-configurable signal processing, including but not limited to: signal routing and mixing, equalization, filtering, dynamics, and delay, as well as control, monitoring, and diagnostic tools. The configurable I/O DSP shall be CE marked, UL listed and shall be compliant with the RoHS directive. Warranty shall be 5 years. The configurable I/O DSP shall be Tesira SERVER.

TESIRA SERVER SPECIFICATIONS (AUDIO SPECIFICATIONS GIVEN REFLECT USE OF SIC-4 AND SOC-4)

Frequency Response (20Hz~20kHz @ +4dBu):	+0/-0.25dB	**Cross Talk (channel to channel @ 1kHz):**	
		@ 0dB Gain, +4dBu In:	< -85dB
THD+N (20Hz~20kHz):		@ 54dB Gain, -50dBu In:	< -75dB
@ 0dB Gain, +4dBu In:	< 0.006%	**Overall Dimensions:**	
@ 54dB Gain, -50dBu In:	< 0.040%	**Height:**	5.25 inches (133 mm)
EIN (20Hz~20kHz, 66dB Gain, 150Ω):	< -125dBu	**Width:**	19.0 inches (483 mm)
Dynamic Range (20Hz~20kHz, 0dB):	> 108dB	**Depth:**	17.0 inches (432 mm)
Input Impedance (balanced):	8kΩ	**Weight:**	18 lbs (8.2 kg)
Maximum Input:	+24dBu	**Sampling Rate:**	48kHz
Input Gain Range (6dB Steps):	0 - 66dB	**A/D Converters:**	24-bit
Output Impedance (balanced):	200Ω	**Compliance:**	
Maximum Output:	+24dBu		FCC Part 15B (USA)
			FCC Part 68 (USA)
Power Consumption (100~240VAC 50/60Hz):	< 150W		Industry Canada CS-03 (Canada)
			CE marked (Europe)
			UL and C-UL listed (USA & Canada)
Phantom Power:	+48 VDC (7mA/input)		RCM (Australia)
			EAC (Eurasian Customs Union)
			RoHS Directive (Europe)

TESIRA SERVER BACK PANEL (OPTIONAL CARD SHOWN IN SLOT 1)

SERVER-IO

The Tesira® SERVER-IO is a digital network server for use with the Tesira digital audio networking platform. It is factory configured with (1) DSP-2 card and is capable of handling up to (3) DSP-2 cards per chassis. The SERVER-IO allows a maximum of (1) AVB-1 card per chassis. The SERVER-IO allows a maximum of (2) SCM-1 CobraNet cards per chassis. The SERVER-IO allows a maximum of (2) DAN-1 Dante cards per chassis.

The following restrictions apply to the SERVER-IO:

- SERVER-IO *with* AVB: An AVB card can only be populated in slot 13. SCM-1 and/or DAN-1 card(s) can only be populated in slots 11 or

  12.

- SERVER-IO *without* AVB: SCM-1 and/or DAN-1 cards can be populated in slots 11, 12, or 13. A maximum of 2 of each type are

  allowed (as an example 3x SCM-1 or DAN-1 is *not* allowed).

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 on-board DSP features two new Biamp algorithms, SpeechSense™ and AmbientSense™, both of which enhance speech processing by more accurately distinguishing between human speech and noise. The DSP also provides extensive audio processing, including but not limited to: signal routing and mixing, equalization, filtering, dynamics, and delay as well as control, monitoring and diagnostic tools; all configured through the Tesira design software.

An integral Ethernet network card SNC-1 provides redundant network connectivity for configuration and control of the Tesira network as well as GPIO connection.

The Tesira SERVER-IO acts as the host device for Tesira EX-MOD, Expander Hardware and EX-LOGIC devices.

Allowable I/O configurations may be confirmed using the "Tesira SERVER-IO Order Form" available at Biamp.com on the Tesira downloads page.

BENEFITS

- Offers flexibility to have scalable DSP and I/O in the same device

- Enables I/O to be distributed from a central location

- Customizable I/O configurations for easy right-sizing of system design

- Control networking can run on separate (existing) Ethernet network

FEATURES

- Supports up to 3 DSP-2 cards

- Configured with a SNC-1 by default to enable network communications.

- Up to 12 I/O cards with a maximum of 48 channels of audio including:

    - SEC-4 - 4 Channel Acoustic Echo Cancellation card (also includes AGC and ANC)

    - SAC-4 - 4 Channel Ambient Noise Compensation card

    - SIC-4 - 4 channel Mic Line Input Card

    - SOC-4 - 4 channel Mic Line Output Card

    - STC-2 - 2 Line Telephone Interface card

    - SVC-2 - 2 Line VoIP Interface card

  - **Note - Up to 6 telephony cards (STC-2, SVC-2) can be used in any combination, per SERVER-IO**

- Up to 420 x 420 channels of digital I/O using AVB-1 card (only 1 allowed per SERVER-IO chassis)

- Supports optional 32 x 32 CobraNet audio networking using SCM-1 card (up to 2 allowed per SERVER-IO chassis)

- Supports up to 128 x 128 channels of Dante audio using DAN-1 cards (up to 2 allowed per SERVER-IO chassis)

- System configuration and control via Ethernet or serial connection

- Local General Purpose Input/Output (GPIO) connections

- Front panel OLED display for device and system information

- New processing algorithms: SpeechSense and AmbientSense

- Signal processing via intuitive software allows configuration and control for:

- signal routing and mixing, equalization, filtering, dynamics and delay and much more

- Rack mountable (3RU)
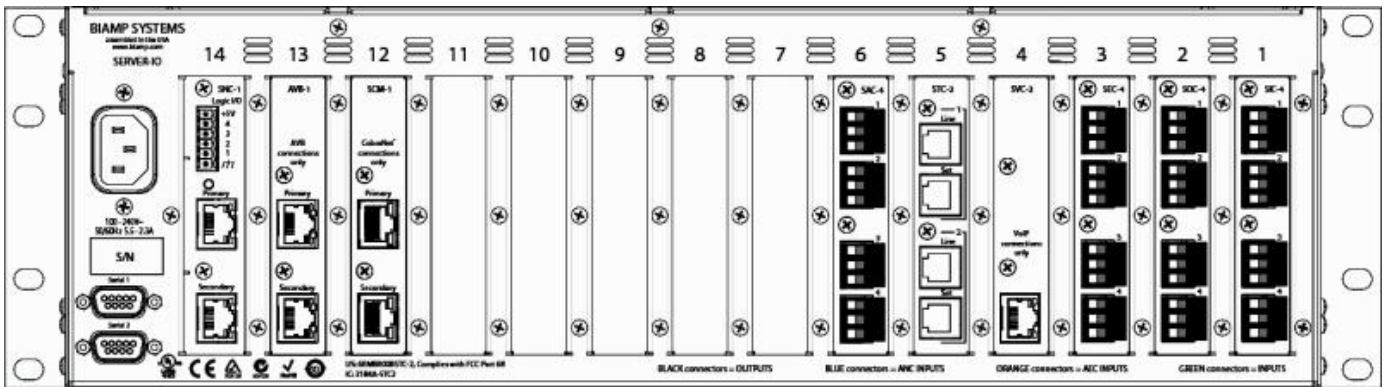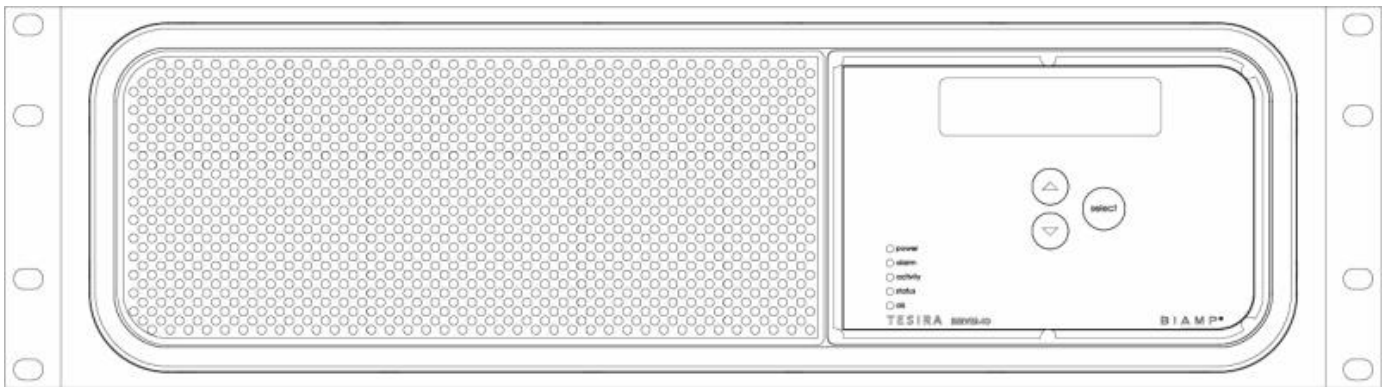
Front Panel LED indicators

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
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 faults 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