



TESIRA[®]

ENTERPRISE-WIDE MEDIA. MADE SIMPLE.

BIAMP[®]
SYSTEMS



HOW CAN SOMETHING SO COMPLEX BE SO SIMPLE?

There was a time when Networked Media Systems required special cabling, highly-trained people, and thousands of hours to configure and maintain. Times have changed for the better. Now, with the Tesira® family of products, a complete audio system can run on a regular Ethernet LAN while being easily managed from a single onsite or remote location. The Tesira platform is loaded with technologies, not just for processing audio, but also for control, third-party equipment integrations, and numerous communication technologies. The fixed I/O TesiraFORTÉ DSP even allows for direct USB connectivity to external soft codecs, while Tesira amplifiers allow you to create more complete solutions with products from a single manufacturer. Biamp also offers conferencing tools for the end user, including Oreno™ mobile control software, Biamp Canvas® control software, and the Tesira HD-1 hardware dialer. Advanced networking tools, including selectable clocks and nameable networks, expand Tesira's power and flexibility even further. By using Audio Video Bridging/Time Sensitive Networking (AVB/TSN) as its networking protocol, the Tesira platform is the next evolution in large-scale audio design.

Tesira is your ideal solution.





MANAGE AUDIO IN ROOMS — OR AROUND BUILDINGS.

With an AVB/TSN backbone, media data can travel throughout your facility over the LAN. All it takes is adding I/O devices to the network, and in no time, audio is available for distribution across the facility: to hallways, conference rooms, work areas, and outside the building. When it comes to future expansion of a Tesira system, the possibilities are only limited by your creativity.

The Tesira SERVER and SERVER-IO have the capacity for as many as 420 x 420 AVB audio channels on a single cable; TesiraFORTÉ supports up to 128 x 128 channels of AVB. If you're working with an

existing audio system that runs CobraNet® or Dante™ protocols, Tesira allows you to run both protocols simultaneously alongside AVB/TSN, even within the same SERVER-IO chassis.

While Tesira devices are built to handle anything from everyday to enterprise audio and from simple to complex systems, redundancy can be an important feature in certain installations. For applications that have mission-critical audio paths, Tesira SERVER can be deployed in redundant pairs that can operate seamlessly without human intervention.

BIAMP: LEADING THE WAY WITH AVB/TSN

Audio Video Bridging (AVB) – also known as Time Sensitive Networking (TSN) – is a collection of IEEE 802.1 open standard networking protocols that allow media streams to be carried over Ethernet networks (using existing cable infrastructure) alongside traditional data without interference. Networking with AVB/TSN leverages the intelligence of Ethernet switches so the switch plays an active, intuitive part of the AV system. It automatically handles all the QoS, bandwidth reservation, and synchronization of mixed media usage, and operates with very low latency.

The wider adoption of AVB/TSN is a networking trend that continues to grow. With the full support of the AVnu Alliance and innovative companies like Biamp®, Intel®, Cisco®, and Broadcom®, AVB/TSN is the most advanced media data management and processing protocol available today.

By selecting an AVB/TSN-enabled processor, you're choosing a smarter, more efficient audio/video solution for your customers, and one that will last long into the future.

None of this would be possible or so easy without intuitive, end user-friendly control. Biamp Canvas is the fully customizable graphic control software program for the Tesira product platform. With a variety of drawing tools, it allows you to create customized computer control screens for extensive graphic manipulation of controls, background, and labeling. The Tesira systems you create will not only be robust, but they'll be aesthetically pleasing too.

Biamp's Oreno software control suite brings simple, intuitive control of Tesira-equipped conference rooms to mobile devices. Central to Oreno is an elegant, easy-to-use interface, which allows users to place calls and adjust audio settings – all from the browser of a mobile device. Oreno does all of this, without requiring the user to install any software.

PERFECT SOUND. PERFECTLY EASY.

Sometimes it's the height of a ceiling or the surface of a wall. At other times it's ambient noise from HVAC systems, buses passing, or construction. The good news is that whatever the obstacle, Biamp's DSP expertise guarantees incredible results. Our embedded technologies take thousands of variables into account, and automatically modify signals so you don't have to. Biamp SpeechSense™ and AmbientSense™ technologies more accurately identify desired signals for processing, allowing the system to adjust volume in real-time and ensure proper output. The result? Audiences don't miss a word, desired sounds are perfectly clear, and life becomes less complicated for AV system administrators.





DISTANCE CONFERENCING: ONE LESS THING TO WORRY ABOUT.

Even with hundreds of people in a room, and scores of inputs and outputs, Tesira helps you keep things simple with intuitive software and a variety of control options. In fact, with the touch of a button in the Oreno mobile control software, a teleconference can begin with sound quality so clear that everyone might as well be in the same room. The Tesira HD-1 allows distance conference call participants to dial using a familiar physical keypad on the tabletop. TesiraFORTÉ is built specifically for general audio applications, including direct connection to soft codec technologies via its USB port, and distance conferencing over VoIP and analog telephony devices.

Thanks to Biamp's Sona™ AEC technology, acoustic echoes will no longer distract attention in the meeting or the lecture hall. Distance conferencing becomes much more like doing business face-to-face.

LESS TIME CONFIGURING. LESS TIME PERFORMING MAINTENANCE. MORE TIME FOR YOU.

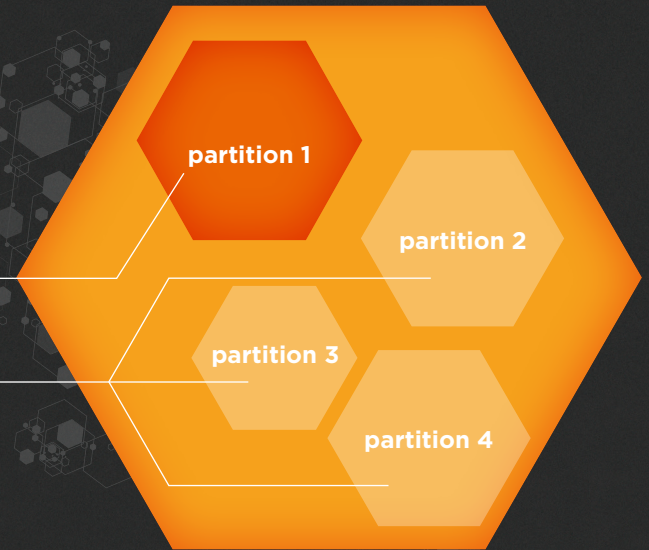
Partitions

Tesira is the only media system that lets you build partitions, making it easy for you to modify and control audio throughout a building or complex.

Partitions create software boundaries in your system that can be as small or as large as desired. They can span rooms, floors, and even buildings.

Once a partition is created, it can be altered at any time without the rest of the system being taken offline.

After modifications are complete, there's no need to reboot the system, and only the modified partition is recompiled. That's more time for you.



Configuration Engine

Not only does Tesira's configuration engine calculate and implement configurations quickly and efficiently, it can also be used in the design stage to help you determine hardware needs. Simply lay out your system design and route the signals. The configuration engine will tell you the exact Biamp hardware required to meet your needs. It's yet another way Tesira makes the complex simple.

Redundancy

Tesira SERVER supports failover redundancy. If anything happens to the primary Tesira SERVER, redundancy provides an identical back-up SERVER for a seamless transition in processing responsibility. The redundant SERVER automatically stays in sync with the other and eliminates the risk of costly system downtime while the primary unit is offline. A little redundancy can go a long way in protecting your customer's audio system.

Control Options

Oreno is Biamp's mobile control software for Tesira-equipped conference rooms. It offers room control options including microphone and loudspeaker levels, as well as conference calling, all from an easy-to-operate user interface accessed via web browser on nearly any mobile device. Oreno is easy to use and simple to deploy; it requires minimal UI design work and no client software to be installed. Oreno has three core components: Oreno Creator, Oreno Manager, and the Oreno User Interface.

Biamp Canvas design and control software enables you to efficiently create and use customized control screens for the Tesira family of products. Biamp Canvas provides a flexible graphic control interface that can be tailored to meet the exact needs of the installation environment. With drag-and-drop functionality,

you can place objects directly from the system design file into the software, creating pre-assigned control surfaces. We also added a variety of drawing tools to the software for customized graphic manipulation of controls, backgrounds, and labeling.

Our Tesira HD-1 hardware dialer is designed to streamline setups and facilitate conferencing with Tesira products — making conferencing installations easier to commission and install, as well as less complicated for end users to operate. By reducing the need for programming, the dialer enables enterprise-level conferencing capabilities without the need to purchase a third-party control system. The dialer is compatible with Tesira SERVER and SERVER-IO, as well as both AVB and non-AVB configurations of the TesiraFORTÉ TI and TesiraFORTÉ VI devices.



RARELY SEEN. ALWAYS HEARD.

With a Tesira server-class device as the heart of your media system, you can add other components and capabilities as needed. That means there's no need to buy more equipment than your design calls for. All of which makes Tesira not just a great product, but also an economical one.

CONFIGURABLE SERVERS

SERVER	A digital network server capable of redundant failover, factory-configured with 1 AVB-1 card, 1 DSP-2 card (optional capacity for 7 more), and support for 1 additional audio networking or I/O card.
SERVER-IO	Up to 48 channels of analog I/O, 1 DSP- 2 card, plus 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.

SERVER SPECIALTY CARDS

AVB-1	AVB/TSN network card capable of up to 420x420 channels
SCM-1	32x32 CobraNet module
DAN-1	Dante networking card; 64x64 channels
DSP-2	DSP card with 2 DSP processors

ETHERNET CONTROLS

TEC-1s	PoE Ethernet Control Surface Mount
TEC-1i	PoE Ethernet Control In-wall Mount
EX-LOGIC	PoE logic expander with 16 logic GPIO (4 GPIO are configurable for potentiometer interface)
HD-1	Hardware dialer that maintains the look and feel of a traditional touch-tone dial pad

SERVER I/O CARDS

SIC-4	4-channel mic/line input card
SOC-4	4-channel mic/line output card
SEC-4	4-channel mic/line input card with AEC
SAC-4	Ambient noise compensation card
SVC-2	2-line VoIP card
STC-2	2-line POTS line interface card

EXPANDERS

EX-IN	PoE+ 4-channel mic/line input expander
EX-AEC	PoE+ 4-channel mic/line input expander with AEC
EX-OUT	PoE+ 4-channel mic/line output expander
EX-IO	PoE+ 2-channel mic/line input and 2-channel mic/line output expander
EX-MOD	Modular expander that can be configured with up to three input and/or output cards

AMPLIFIERS

AMP-4175R	4-channel, 175W, supports optional I/O card
AMP-8150R	8-channel, 150W, supports 2 optional I/O cards
AMP-4350R	4-channel, 350W, supports optional I/O card
AMP-4300R CV	4-channel, 300W, constant voltage, supports optional I/O card

EX-MOD EXPANDER CARDS

EIC-4	4-channel mic/line input card for EX-MOD
EEC-4	4-channel mic/line input card with AEC for EX-MOD
EOC-4	4-channel mic/line output card for EX-MOD
EIOC-4	2-channel mic/line input and 2-channel mic/line output card for EX-MOD

FIXED I/O SERVERS

AVB MODELS

TesiraFORTÉ AVB AI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, and networked audio via AVB.
TesiraFORTÉ AVB CI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, and networked audio via AVB.
TesiraFORTÉ AVB TI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, 1 channel of standard analog telephony, and networked audio via AVB.
TesiraFORTÉ AVB VI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, 2 channels of VoIP telephony, and networked audio via AVB.

AVB MODELS

TesiraFORTÉ AI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio.
TesiraFORTÉ CI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio.
TesiraFORTÉ TI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, 1 channel of standard analog telephony.
TesiraFORTÉ VI	A digital server-class device with fixed I/O configuration of 12 mic/line level inputs (with Sona™ AEC technology) and 8 mic/line level outputs, 4 GPIO connections, up to 8 channels of configurable USB audio, 2 channels of VoIP telephony.



WHEN YOU NEED TRAINING & SUPPORT, WE'VE GOT YOUR BACK.

Our Technical Support team consistently wins accolades for the high level of service they provide to our customers every day. With unparalleled worldwide support, Biamp's applications engineers walk you through solutions, and assist you with new system designs, programming, or troubleshooting. They also deliver our in-person and online trainings. From webinars and tutorials on YouTube®, to articles and tech notes on Cornerstone — our online technical support knowledgebase, to in-person multi-day certification trainings — Biamp invests in your success.

The entire Tesira product family is backed by our 5-year warranty, and training is available online and as part of the in-person Tesira certification training course. To learn more about upcoming courses and schedules, visit biamp.com/training.

WE WANT TO HEAR FROM YOU.

Have questions about Tesira? Call us today and get answers.

T: 1.800.826.1457

T: +1 503.641.7287

W: <http://biamp.com>

E: biampinfo@biamp.com

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