

Matrix3

audio show control system



thinking sound



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Deliver an Experience

Today, production values are high and audio professionals need a powerful and creative tool to deliver an immersive audio experience that meets audience expectations. Whether the job is a theatrical production, elaborate corporate AV presentation, theme park attraction, Las Vegas-style spectacular, or even a museum exhibit, meeting its requirements will take an audio system with excellent audio quality, impeccable reliability, flexible facilities, and comprehensive automation.

In the past, each of these jobs could only have been done by assembling a system from a number of separate components, which translated to racks of equipment that consumed a lot of space and were complicated to install, operate, and maintain. Fortunately, there's a better way: Meyer Sound's Matrix3 audio show control system can do it all, using a single interface to control everything.

Matrix3 is a fully integrated system providing a comprehensive set of audio tools controlled by a software front end that reaches every aspect of functionality. Matrix3 includes a complete audio signal path — from microphone inputs to outputs for feeding Meyer Sound self-powered loudspeakers — plus unique SpaceMap multichannel panning, optional Wild Tracks hard disk playback, matrix mixing and routing, even synchronization with and control of external devices...all under the command of one of the most powerful and far-reaching automation systems on the planet.



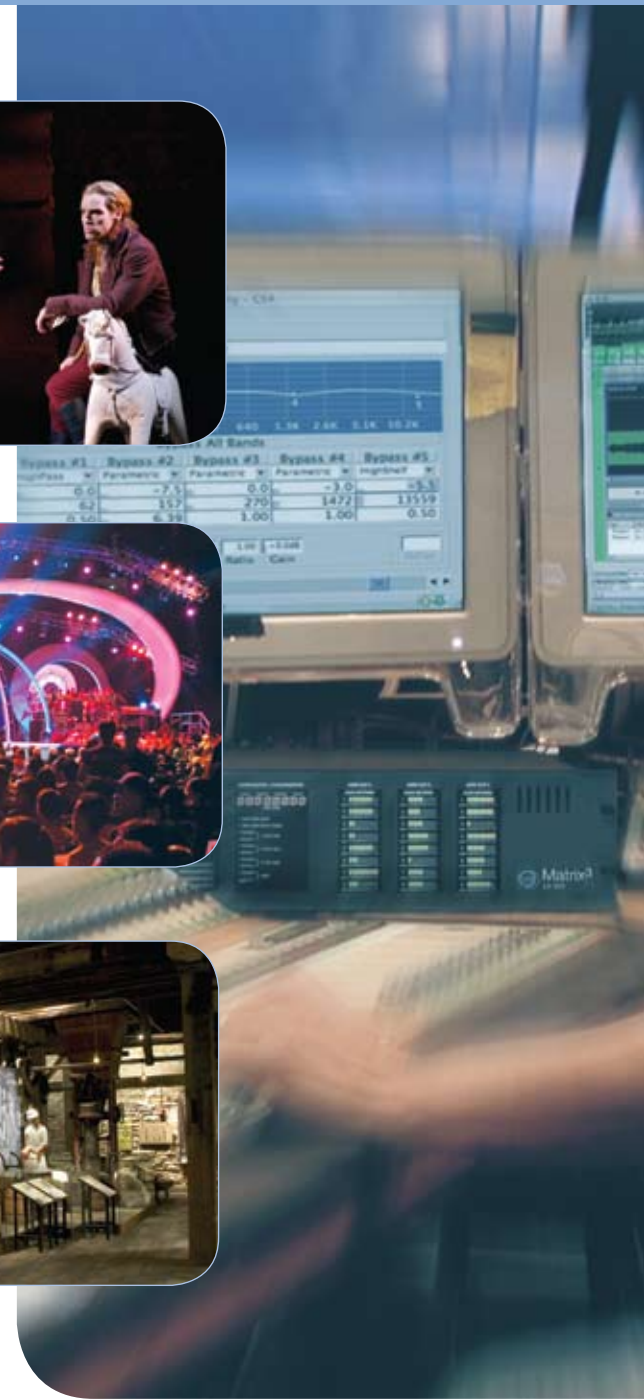
Musical & Dramatic Theatre

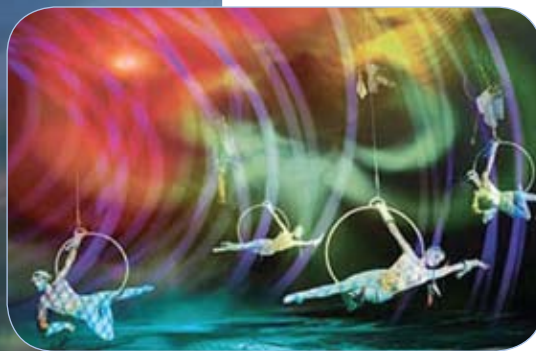


Corporate Events



Museums





Spectacle Shows



Cruise Ships



Theme Parks

Features & Benefits

- **Completely integrated system:** all functions in one environment
- **Excellent fidelity,** high-quality processing algorithms
- **Full matrix mixing** with processing
- **Powerful Cue List automation** can have an unlimited number of cues, each of which can change one detail or reconfigure the entire system
- **Reliable,** third-generation technology
- **Client/server architecture** offers flexibility, redundancy, and ability to have multiple operators
- **Unique SpaceMap multichannel panning** flies sounds between two outputs or hundreds
- **Wild Tracks hard disk playback** acts like multiple independent decks. SafetyNet system ensures seamless operation in the event of a disk failure

Matrix3's hardware is as flexible as its software, and scalable, too. Systems can range in size from modest to huge, interfacing to both the analog and digital worlds. Matrix3 also plays well with others, controlling or being controlled by external devices, and providing synchronization and networking features.

Simply put, there is nothing else like Matrix3. No system offers such comprehensive functionality in a single, integrated system. Nothing else allows users the same degree of reliability, flexibility, configurability, programmability, and automation.

With Matrix3, you can do much more than provide the audience with high-quality audio; you can deliver an experience.

Hardware

Matrix3 is powered by the LX-300 digital audio engine. Using 32-bit floating-point calculations, the LX-300 has enough DSP power for the most demanding applications. Every Matrix3 system is built on a Primary LX-300 processor. The Primary LX-300 houses the DSP for mixing, processing, and matrixing; networking capabilities; and serial communications.

Inputs and Outputs

Matrix3 is configured with mic- or line-level analog inputs and analog outputs. Digital I/O is optionally available via AES3 or CobraNet. Matrix3 is scalable: when additional I/O is needed, Expansion processors can be linked to the Primary processor, each Expansion processor adding I/O and more DSP capability. Matrix3 can be configured to accept as many as 280 inputs or feed up to 400 outputs.

Client-Server Architecture

The LX-300 uses a client-server architecture, allowing the system to be controlled by multiple clients at once. That means a secondary control station can monitor and modify system operations. It might be someone walking around a venue with a wireless tablet, a system operator sitting backstage to supplement one at front-of-house, or a redundant controller to protect against the unexpected.

With the potential for multiple clients comes the need to manage access for those clients. User-defined access policies prevent unauthorized users from making unwanted changes, so you can rest assured that the projects you create are secure.

Communication with External Devices

Matrix3 can communicate fluently with the outside world. Send and receive MIDI messages for control or timing functions, send or receive SMPTE time code to synchronize the Matrix3 with lighting, projection, pyrotechnic, or other systems. Simple relay closures are available, too. Matrix3 can drive (or be driven by) lighting, pyrotechnics, and other devices in the production for a full coordination across all technical systems.

Hard Disk Storage

A single Wild Tracks SCSI drive hard drive stores many hours of sound, with up to 15 Wild Tracks drives possible in one system. SafetyNet software automatically switches disk drives in the unlikely event of a failure. Even if a disk goes down, the show stays up.



Primary LX-300 processor



LX-300 rear



WTX Wild Tracks Hard Drive

Matrix3

Software

CueStation

If the LX-300 is the heart of Matrix3, then CueStation is the brain. CueStation provides a single point of entry to every Matrix3 feature for programming, real-time operation, or automation. You can configure a mixer with up to eight bands of fully parametric EQ, two dynamics processors, and more than a second of delay for each input or output, mix any combination of channels to any output, decide how a control surface will command Matrix3, create complex multichannel panning that works independently of the physical loudspeaker layout, set up audio playlists, and generate Cue Lists automating every one of these details, even controlling external devices.

- **Automation**

The power of Matrix3's highly flexible automation is tremendous. A Matrix3 Cue can automate one parameter as easily as all of them, and an unlimited number of Cues can be strung together into Cue Lists that can be executed manually and/or under external control methods like time code or MIDI commands.

A Cue can make one small parameter change or redefine the entire system, and since Cues are referential, when the timing of a cue changes, it is only necessary to change it in one place and every instance will play the new version correctly.

- **SpaceMap Multichannel Panning**

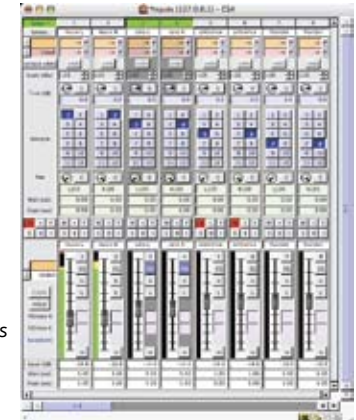
SpaceMap performs multichannel panning using a unique concept that defines the trajectory a sound is intended to take separately from the actual loudspeaker layout. The trajectories are created on a map that maintains equal power no matter where the sound is panned. Sound designers can “hard pan” a sound to a single loudspeaker for very discrete localization, or “soft pan” to multiple channels for more diffuse placement, and panning moves can effortlessly be migrated from a system in one venue to a different system in another by simply redefining the loudspeaker layout in a SpaceMap.

- **Wild Tracks Hard Disk Playback**

Wild Tracks gives users up to 24 tracks of sound effects playback per hard disk system, but, rather than working like a 24-track DAW playlist, Wild Tracks lets a sound designer create groups of up to 24 tracks, each group acting like an independent multitrack playback device. Systems can be configured to supply over 120 tracks of Wild Tracks playback.

Getting material in and out of Wild Tracks is simple. Files can be recorded or imported in a number of file formats. Wild Tracks drives can even be mounted on a network, making it easy to move files to a computer for editing or load them from an external sound library.

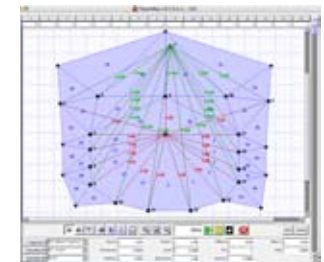
Inputs



Cue List in operation



Wild Tracks



SpaceMap



“Joseph and the Amazing Technicolor Dreamcoat”, North America Tour

Applications

Theatrical Productions

Matrix3 can meet the needs of every production, from that of a small regional theatre with a few microphones and a handful of sound effects and music cues, all the way up to Broadway and West End shows with separate multichannel sound systems for effects and music and elaborately scripted cues.

Each theatrical production presents unique challenges, and multichannel and automation demands often exceed those found in other applications. Matrix3 was originally developed for theatre, making it ideally equipped to meet these requirements.

Matrix3's automation makes it possible to accommodate needs like EQ changes to compensate for an actor delivering off-stage lines or wearing a mask in one scene, while matrix mixing and loopbacks simplify complicated multiple mix and routing problems. Matrix3 can automate an entire show, from walk-in music playback to flying Wild Tracks sound effects through a multichannel trajectory.

Mixers can concentrate on mixing, rather than queuing up source or equipment changes. Plus, Matrix3's client/server architecture enables multiple operators (such as a sound designer and FOH mixer) to operate the system simultaneously.



Universal Studios, Osaka, Japan

Theme Park Attractions

With thousands of visitors every day and the need to work under the command of a master controller, theme parks need an audio system that is responsive and extremely reliable. Matrix3 can play a Cue List that manages different playback streams for many zones at once. Its SafetyNet system is your insurance that even if a hard disk were to fail, your guests will never even know. Matrix3's client-server architecture means that the attraction's audio can be monitored or altered onsite or remotely.



Grand Theatre, Grand Princess

Cruise Ship Theatres

Cruise ship entertainment continually reaches towards new heights. Today's cruise ships are cities of entertainment on the water, which means they have intensive requirements for audio. Shows have to be consistent and able to be configured for the uniqueness of floating theatres. With powerful tools like SpaceMap, Matrix3 can produce top-notch effects even when circumstances are different than the landlubbers are used to in their big city venues.

Matrix3

Matrix3 for Sound Designers

Matrix3 opens up creative possibilities at the same time that it simplifies realizing them. Gone are the days of struggling to interface a system of separate components, only to then struggle with trying to automate them together and work around their limited capabilities. Gone, too, is the need to deal with opaque front-panel interfaces running on tiny displays, or contend with multiple, dissimilar menu systems in order to get something done.

By providing a configurable, comprehensive environment that can be fully automated, Matrix3 opens doors to creativity: if you can think of it, there's probably a way to do it in Matrix3. Better yet, all that power and functionality is accessed and programmed from within one software program.

Matrix3 will enable you to spend less energy on dealing with equipment and more on dealing with content.

Matrix3



Corporate Events

Why spend hours assembling a dozen components into a system that will be used to fill the requirements of only one job? Matrix3 puts all the functionality you need in one device with one interface. Your programming staff will appreciate that consistency as much as the event crew will like the simplicity of the physical setup. Best of all, the entire configuration used for an event can be recalled instantly the next time you work for that client or do another event in the same venue.



Spectacle Shows

The incredibly complex productions that have grown up all over Las Vegas are representative of a new kind of entertainment attraction that is being seen all over the world. These shows use lots of channels, lots of source material, lots of surround sound movement...in fact, lots of everything. Matrix3 can handle it. Actually, Matrix3 is the only system that can provide all of the audio needs of these productions in a single, programmable system. Plus, Matrix3 offers unprecedented real-time control. Sure, it's easy to find a Matrix3 at almost any big Vegas show, but look around and you'll realize it is the choice of spectacular entertainment attractions everywhere.



Museum Installs

Museums call for multiple rooms, multiple channels of audio, multiple streams of source material, and a script for the whole program that might last anywhere from a few minutes to an hour or more. Each museum exhibit is one-of-a-kind and encompasses numerous elements. Matrix3 has the flexibility to handle all of the pieces and the power to automate anything and everything for each piece.

Matrix3 for System Designers

For consultants, design/build firms, and other system designers, Matrix3 is an elegant solution to a wide array of client needs. With everything contained in one system, installations are simpler and more secure. That saves space and time, two things of which there is never enough, plus your staff can be familiar with one system instead of many, which equals efficiency. It even makes designs and bids less complicated.

Matrix3's versatility and programmability makes your company attractive when a client's need is singular and needs custom programming, too.

Matrix3 is easily integrated with video and projection systems, making it ideal for all types of multimedia installations and presentations.

Having one answer for many questions is a profitable way to do business. Matrix3 is the answer you need.

Matrix3 Specifications

Input Level (Mic/Line Input):	Adjustable from -57 dBu to +26 dBu
Output Drive Level:	+26 dBu maximum
Optional Digital I/O:	CobraNet, AES3
PROCESSING:	
EQ:	Up to 8 bands per input or output, 7 filter types
Dynamics:	Gate, Compressor, Limiter, Expander, up to two processors per channel
Delay:	Up to 1.3 seconds per input or output
Mixing and Routing:	Full crosspoint matrix mixing of buses to outputs.
Interfaces:	Cat 5 Ethernet, RS-422, RS-232, SMPTE, MIDI, GPIO
Size:	19.00" w x 5.25" h x 13.73" d (482.6 mm x 133.35 mm x 348.7 mm)
Weight:	25 pounds (11.3 kg)
Automatic Voltage Selection:	100 V AC to 250 V AC, 47 Hz to 70 Hz
Power Consumption:	200W maximum
Operating Temperature Range:	0° to 50° Celsius

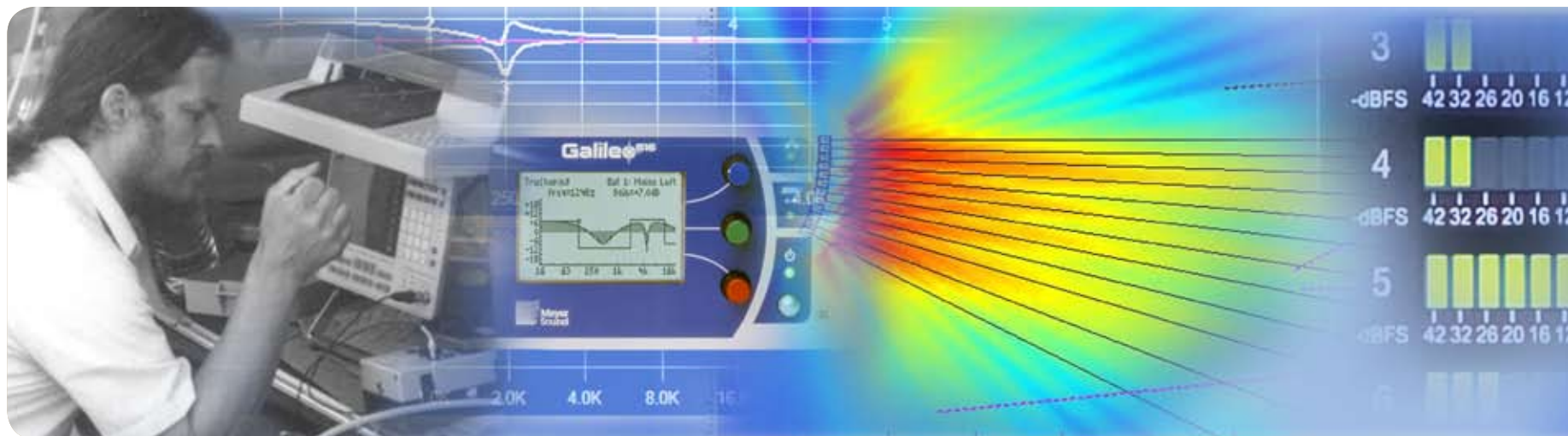


Pioneer Amphitheater, Canyon, Texas

Control

Matrix3 is made for real-time use, so control is important. A variety of options are available for controlling Matrix3. With interfaces that include contact closures, MIDI, serial ports, and Ethernet, Matrix3 can be manipulated using a huge range of control methods: wireless tablet PCs, desktop computers, industrial touch panels, and many more. SMPTE time code capability allows Matrix3 to be synchronized to lighting consoles and other devices. Matrix3's client/server architecture means that multiple computers can control the system simultaneously. If you prefer traditional faders, your options run from the compact RIF-108 CueMixer to more full-featured solutions.

Matrix3 implements the Open Sound Control (OSC) protocol, which enables advanced control system development.



Meyer Sound — The Sound of Innovation

Since its founding by John and Helen Meyer in 1979, Meyer Sound has led professional audio in new directions with revolutionary visions and breakthrough technology. From processor-controlled loudspeakers to source independent measurement to self-powered loudspeakers, Meyer Sound's innovations have resulted in dozens of awards and patents, and widespread acceptance in every sector of professional audio.

Meyer Sound systems have been heavily used for decades in Broadway, West End, and Las Vegas-style shows, as well as on tours of all stripes. Many of the world's great venues, from Carnegie Hall to the Sydney Opera House, as well as houses of worship, stadiums, and multipurpose venues, have Meyer Sound systems installed.

Since 2005, Meyer Sound has offered the LCS Series: established, third-generation digital audio products of fidelity, power, flexibility, and, most of all, utility. Including both Matrix3 and Constellation electroacoustic architecture, the LCS Series is a powerful set of sound tools for events and venues. With the LCS Series and the Galileo digital loudspeaker management system, Meyer Sound has stepped decisively into the arena of digital audio for live performance.

Privately-owned and operated, Meyer Sound has unwaveringly maintained a complete commitment to quality, customer service, and making products that effectively address users' real-world needs. Meyer Sound's products are made under strict quality controls at its Berkeley, Calif., factory. Rigorous engineering, precision manufacturing, and exhaustive levels of testing have garnered the company an international reputation as providing the best performance, greatest ease of use, and highest reliability available.



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