YAMAHA

DIGITAL MIXING SYSTEM

RIVAGE

PM SERIES

PERFECTING THE ART OF LIVE SOUND

All art, including art that involves sound and music, is expression that has an impact on the viewer or listener. It often begins with the artist's personal journey of self-discovery that sometimes grows and ripples outward in waves that resonate with people everywhere.

Yamaha supports the engineers who support artists and performers in their quest to make waves, carrying their vision to a wider audience.

DELIVERING ART AROUND THE WORLD

To fully support the sound engineers who support the artists and performers, Yamaha makes absolutely no compromises when it comes to quality. Sound, operability, and reliability must all be first class, and implemented in a way that allows engineers to concentrate fully on helping artists and performers deliver their message. The RIVAGE PM series embodies this ideal at the highest level, connecting technology, art, and audiences with waves that encircle the world.

AN ALL-EMBRACING ECOSYSTEM

The RIVAGE PM10 and PM7 Digital Mixing Systems are already legendary. With the arrival of the RIVAGE PM5 and PM3 consoles and updated DSP engines, the RIVAGE PM now includes five consoles, two DSP engines, two I/O rack units, and two network protocols. Any of these components can be combined to create systems that match a wide range of application scale and budget requirements.

All five consoles feature a similar interface with up to three bays of 12 faders each, touch-sensitive display panels, and the Yamaha Selected Channel Section. Engineers who are familiar with one RIVAGE PM console can easily switch to any other and be up and running in a matter of minutes.

All RIVAGE PM system components are compatible, and components from earlier systems will work in combination with later systems. That goes for I/O racks as well as DSP engines, so in addition to operating them separately you can combine DSP engines in mirrored configurations for large applications, for example.

A Choice of Two Component DSP Engines or Integrated DSP

Depending on system scale and requirements, RIVAGE PM consoles can be used with the DSP-RX-EX engine providing up to 288 inputs, 72 mix buses, and 36 matrices, or the DSP-RX engine providing up to 120 inputs with 48 mix buses and 24 matrices. Both versions offer outstanding RIVAGE PM sound and stability. If you start with the DSP-RX and later decide you need the extra routing capability of the DSP-RX-EX, there's a DSP Expansion Kit that upgrades the DSP-RX to DSP-RX-EX specifications.

If you need a more integrated, compact system, the RIVAGE PM7 has signal processing for mixing and effects built right into the CSD-R7 digital mixing console. The only other components needed for a minimum PM7 system are one or more I/O racks for input and output, and a dedicated interface card for network connectivity.

The RIVAGE PM7 system's CSD-R7 digital mixing console is the same size as the RIVAGE PM10 system CS-R10 control surface and has the same control layout.

Stunning Sound Plus TWINLANe and Dante Network Support

The TWINLANe network uses optical cable to simultaneously carry up to 400 audio channels. Combinations of the RPio622 and/or RPio222 I/O racks and HY256-TL or HY256-TL-SMF audio interface cards allow input via Hybrid Microphone Preamplifiers with analog input stages that take the Yamaha "natural sound" concept to new heights, as well as digital sections with immaculate VCM-technology models of Rupert Neve Designs transformer and SILK processing circuitry that offer outstanding musicality and atmosphere.

The Dante audio network from Audinate is standard in CL and QL series digital consoles as well as a range of other Yamaha pro audio products. Dante-equipped Rio3224-D2 and Rio1608-D2 I/O Racks and the HY144-D audio interface card can be combined to provide natural sound input at full RIVAGE PM series quality.

DIGITAL MIXING SYSTEM

RIVAGE PM SERIES

DIGITAL MIXING SYSTEM

RIVAGE
PM5

EVOLVED CONSOLE DESIGN:
INCREDIBLY SLIM, LIGHTWEIGHT, AND INTUITIVE

The RIVAGE PM5 Digital Mixing System packs undiluted RIVAGE PM power and performance into a lightweight, intuitive console that is surprisingly slim. Sound and features are essentially the same as the PM10 and PM7, while evolved hardware and software deliver a new mixing experience. The addition of a third display screen has made it possible to offer a more touch-centric interface in a compact, significantly lighter console that is easier to transport, setup, and operate in a wide range of venues.

Easy-reach Layout and Improved Sight Line

The RIVAGE PM5 make all the power of the RIVAGE PM series even more accessible with a slim design that brings the touch-sensitive displays closer to the operator for incredibly smooth, comfortable control. This evolved console design also provides a closer connection to the performers on stage with improved sight lines that give the engineer a broader, more comprehensive view of the action.

Lightweight for Easy Setup and Transportation

Although it offers heavy-duty performance and features, plus a comfortably spacious interface, the RIVAGE PM5 weighs surprisingly little. At only 42 kilograms it can be easily carried and positioned by just two people. This impressive weight reduction has been achieved through state-of-the-art mechanical design and the use of a lightweight but extremely durable material.

Three 15-inch Touch-sensitive Display Panels
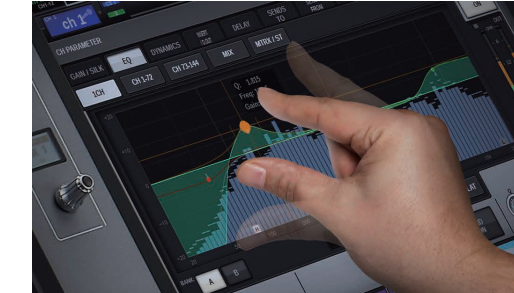
Much of the RIVAGE PM5's extraordinary functionality has been condensed into three 15-inch capacitive touch-sensitive display panels. These large, high-visibility displays present essential controls and information in one place in a clear, well-organized format, so the engineer can read and react to situations with maximum speed and efficiency. Touch sensitivity not only allows basic clicking and selection, but familiar pinch and swipe gestures can be used as well for significantly enhanced operating efficiency.

Updated Send Operation

Setting up sends is an important part of just about any live mixing workflow. In addition to the familiar Sends on Fader function, send levels can be controlled from the Send / User Defined Knobs. Send levels shown on the display panels where they can also be adjusted via touch control. This expanded range of control choices greatly enhances convenience and versatility when setting up and tweaking sends.

The Acclaimed Yamaha Selected Channel Section

The Yamaha Selected Channel concept is familiar to and highly regarded by most seasoned sound engineers. The RIVAGE PM5 Selected Channel Section consolidates an essential group of physical controls in a compact section that allows fast, intuitive operation. In combination with the touch-sensitive display panels the Selected Channel Section provides even more comprehensive control for extremely efficient operation.

High-visibility Fader Meters
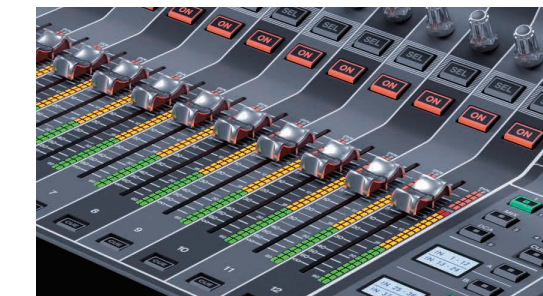
Clear visual feedback is also provided by the meters associated with each fader. The fader meters can display mono or stereo levels, or gain reduction when you want to keep an eye on channel dynamics. The fader meters can contribute to smooth, accurate control by providing direct feedback of how fader operation is affecting the signal.

RIVAGE
PM3

THE COMPACT RIVAGE PM CONSOLE
FOR MAIN OR MONITOR USE

If you have a space that is wider than 1,145 millimeters (a little over 45 inches), the RIVAGE PM3 will fit. That's awesome RIVAGE PM power in the most compact package ever, ideally suited to smaller venues or monitor applications. The RIVAGE PM3 has a simpler single-display interface with 24 User Defined Keys to facilitate access and speed up operation. You still get full RIVAGE PM sonic quality, a full set of features, and 38 physical faders for intuitive hands-on mixing.

Full Fader Complement

It may be the most compact model in the lineup, but the RIVAGE PM3 still offers a full complement of 38 (12+12+12+2) physical faders. This configuration is consistent throughout the RIVAGE PM lineup, providing intuitive hands-on mixing while making it easy for engineers to use any RIVAGE PM model without getting lost.

Large Touch-panel Display and Selected Channel Section

This high-visibility 15-inch display consolidates essential controls and information in an easily understandable format, so the engineer can read and react to situations with maximum speed and efficiency. Touch sensitivity not only allows basic clicking and selection, but familiar pinch and swipe gestures can be used as well for significantly enhanced operating efficiency. The display works in conjunction with the familiar Yamaha Selected Channel Section, providing a compact group of essential physical controls for fast, intuitive hands-on operation.

Lightweight and Compact but Heavy on Features

Weighing only 38 kilograms, the RIVAGE PM3 is the most mobile and manageable console in the RIVAGE PM lineup. That doesn't mean it skimps on sound quality or features. It uses the same software and console files as the rest of the series, so everything is there in small, lightweight, simplified form.

Updated Send Operation

Setting up sends is an important part of just about any live mixing workflow. In addition to the familiar Sends on Fader function, send levels can be controlled from the Send / User Defined Knobs. Send levels shown on the display panels where they can also be adjusted via touch control. This expanded range of control choices greatly enhances convenience and versatility when setting up and tweaking sends.

24 User Defined Keys

24 physical User Defined Keys can be assigned to directly recall any functions the engineer will be using frequently, for fast one-touch access in front-of-house and monitor applications.

DIGITAL MIXING SYSTEM

RIVAGE PM7

DIGITAL MIXING SYSTEM

RIVAGE PM10

LUXURIOUS WORKSPACES
FOR LARGE-SCALE APPLICATIONS

Although all RIVAGE PM series consoles offer essentially the same features and capabilities, some applications are best served by a full-scale console with a panel layout that emphasizes hands-on efficiency. That's where the RIVAGE PM10 and RIVAGE PM7 come to the fore, with generous, luxurious workspaces that can be advantageous in large-scale applications.

Full Selected Channel Section

The RIVAGE PM10 and PM7 all feature a full implementation of the Yamaha Selected Channel interface, with physical controllers that allow direct, intuitive control of all parameters in the currently selected channel. The Selected Channel interface brings the hands-on simplicity of analog mixing styles to the digital world, providing easy entry for engineers who learned on analog equipment. The Selected Channel controls and indicators are given plenty of space and are efficiently laid out for logical operation and comfort.

Flexible Monitor Section

CS-R10

Monitoring flexibility is an important criterion for live sound consoles that must be adaptable to a broad variety of applications. The RIVAGE PM10 and PM7 feature two monitor/cue outputs, with up to eight combinations of monitor sources that can be memorized and selected as required. In addition to independent control of output levels, dedicated delays and 8-band parametric equalization are available specifically for monitor use. It is even possible to insert plug-ins immediately before the EQ stage. All of these features provide the flexibility needed to create optimum monitor setups for just about any situation.

Ergonomic Design

All RIVAGE PM consoles are designed with emphasis on ergonomics, providing a working environment that minimizes stress and fatigue. That applies not only to operation, but to transportation and setup as well. Another important factor for live performance mixing is sight lines. The RIVAGE PM consoles are designed to give the engineer a clear view of the stage and performers, allowing fast, appropriate response to visual cues.

External Display Support

If the application calls for even more visual feedback than provided by the 15-inch displays built into the RIVAGE PM10 and PM7, an external display can be connected via a DVI port. This kind of expandability is one of the reasons the RIVAGE PM series has become the first choice of discerning engineers and artists everywhere.

Clear Visual Feedback

Great care has been taken to ensure that operational feedback to the engineer is always clear and consistent, so that appropriate mixing decisions can be made. Even the "horseshoe ring" indicators surrounding the multi-function encoders at the top of the fader strips have been carefully designed so that all segments remain fully visible from the engineer's viewing position. Every detail counts, especially in live mixing situations.

Dual Encorder

The RIVAGE PM10 and PM7 consoles feature two encoders for each channel: channel strip encoders that can be assigned to five different functions, and screen encoders that control the corresponding parameter on the adjacent display panel. Physical controllers are simply unbeatable when it comes to hands-on control, so the availability of two encoders per channel gives the PM10 and PM7 an operational advantage.

RIVAGE PM SERIES PHILOSOPHY AND FEATURES

The ideal starting point for creative audio engineering is transparent, uncolored sound. All Yamaha mixers are built on that philosophy, with the goal of allowing engineers to capture the on-stage sound accurately, without coloration, and then add creative touches as required. The merits of Yamaha's unwavering adherence to this concept are evident throughout the RIVAGE PM series.

The foundation is Hybrid Microphone Preamplifiers with analog input stages that take the Yamaha "natural sound" concept to new heights, as well as digital sections with immaculate VCM-technology models of Rupert Neve Designs transformer and SILK processing circuitry that offer outstanding musicality and atmosphere. Add the latest refinements in channel EQ and dynamics, and you have extraordinary creative scope.

The built-in plug-ins that support creative sound engineering have also evolved, many through close alliances with other manufacturers that are leaders in their respective fields. Collaboration with RND (Rupert Neve Designs) and the use of Yamaha VCM technology has resulted in flawless recreations of prized equalizers and compressors from the 70s and 80s. There are also impeccable models of Eventide harmonizer and reverb effects that could only have been created through cooperation with the original manufacturer.

All of this has been implemented in the RIVAGE PM series to give engineers the tools they need to deliver the highest quality, most musical sound possible.

Two Types of I/O

Input circuitry and processing are critical to achieving a high level of sonic quality. The output end of the signal chain plays an important role in maintaining that quality too. Yamaha offers two types of high-performance I/O Rack units for RIVAGE PM system input and output, each providing compatibility with a different audio network.

One of those networks is TWINLANe, capable of carrying up to 400 audio channels via optical cable. The RPio622 and RPio222 I/O racks are TWINLANe devices, as are the HY256-TL and HY256-TL-SMF audio interface cards. The RPio622 and RPio222 I/O racks include Hybrid Microphone Preamplifiers with high-performance analog input stages, plus advanced digital sections that include accurate emulations of Rupert Neve Designs transformer and SILK processing circuitry.

Audinate Dante network compatibility, a standard feature in many other Yamaha consoles and pro audio products, is also available. The Rio3224-D2 and Rio1608-D2 I/O Racks and the HY144-D audio interface card are Dante ready, and can be combined to provide natural sound input with any RIVAGE PM series system. Either network solution is capable of capturing the sound being created on stage, without coloration and with every nuance intact, allowing the engineer to use the creative capabilities of the RIVAGE PM series to reach the audience with maximum impact.

An Extraordinary Selection of Plug-ins

Processing quality has always been a major strength of Yamaha digital consoles. The RIVAGE PM series offers a comprehensive selection of plug-ins, including models of in-demand classics. The RIVAGE PM series includes over 50 plug-ins, and ample processing power allows up to 256* instances of complex plug-ins such as the Portico 5033 or Portico 5043 to be used simultaneously. There are also the Eventide H3000 Ultra-Harmonizer and a new SP2016 reverb with a large selection of presets, Dan Dugan automatic microphone mixing, and more. These contributions from distinguished third parties complement a range of original Yamaha plug-ins, adding extraordinary versatility and processing power that give the engineer wide-ranging creative freedom.

*with DSP-RX-EX

RND Portico Plug-ins

Although the SILK processing simulation created in cooperation with RND is an important part of the RIVAGE PM system, it is by no means the only product of that fruitful relationship. In addition to the well-known and highly acclaimed Portico 5033 EQ and 5043 compressor, RIVAGE PM systems include the easy-operation Rupert Neve Designs Portico 5045 Primary Source Enhancer that effectively suppresses background noise at microphone inputs for enhanced clarity while significantly increasing the feedback margin, making it a valuable tool for live sound in houses of worship, stadiums, halls, and other environments where feedback can be problem.

Dan Dugan Automatic Mixer

Through in-depth collaboration with Dan Dugan Sound Design, renowned Dan Dugan automatic microphone mixing with its advanced algorithms is built into the RIVAGE PM series digital mixing systems. Setup is easy: just insert the processor into up to 64 channels for automatically optimized microphone gain distribution. Gain control is smooth and natural, as though experienced human operators were doing the mix. The system also effectively reduces feedback and comb filter issues. For speech applications, especially non-scripted situations, this allows the operator to concentrate on details other than fader operation for consistently high-quality mixes.

Eventide Effects

The Eventide name is legendary in the effects field. The acclaimed H3000 Ultra-Harmonizer and a new SP2016 Reverb plugin added in version 4.0 are available throughout the RIVAGE PM series. In addition to a full range of parameters that can be edited to precisely tailor the effects for any need, the SP2016 features a large selection of presets that make it quick and easy to call up an ideal reverb sound.

Yamaha DaNSe Noise Suppression

The RIVAGE PM series includes a range of original Yamaha plug-ins that are extremely powerful too, including the DaNSe Noise Suppressor. The "DaNSe" plugin analyzes noise frequency characteristics and employs a learn function to automatically achieve the most effective noise suppression without the need for any complex setup or programming by the user. Effective noise suppression can be a huge advantage for plays and musicals, significantly enhancing audio clarity. DaNSe can suppress air conditioning noise and noise produced by cooling fans in on-stage moving lights. It can reduce monitor bleed to on-stage instrument mics, and suppress crowd noise during announcements and sports events. It is a highly effective and widely applicable noise suppression tool.

OPERATIONAL HIGHLIGHTS

Yamaha has always focused on operability in digital live sound consoles, sparing no effort in providing an interface that engineers coming from analog consoles can operate intuitively, while at the same time maximizing the benefits of digital technology and features. RIVAGE PM systems takes that concept to a new level, extending an already familiar and highly rated interface for even greater efficiency and ease in achieving the ultimate sound.

It won't be possible to describe all RIVAGE PM operational features in the space available here, so we'll just mention a few highlights. Visit the Yamaha Pro Audio website for more details.

Refined Interface

A key element of the RIVAGE PM interface is the industry-standard Yamaha Selected Channel concept, providing direct access to parameters of any channel selected via its SEL key. The Selected Channel section provides direct, fast access to all channel parameters. Encoders, buttons, and indicators are provided in a comprehensive layout that makes maximum use of the available panel space, for comfortable operation in any environment or mixing situation.

RIVAGE PM series control surfaces feature three groups of 12 faders to which channels can be assigned as required. Depending on the console, some or all of the fader groups work with large touch-sensitive displays in the top panel, providing an evolved version of the Centralogic operating environment. The channel strips extend vertically and virtually seamlessly into the touch panel displays, for lucid, logical control. In addition to allowing channels to be conveniently managed in 12 channel groups, this configuration also facilitates 2-man operation with different operators handling separate groups.

Overlay Filter for Rapid Response

The Overlay filter can notably enhance the usefulness of the console's scene memory. It can be "overlaid" on a current mix to apply offsets to the fader levels and mix/matrix send levels independently from scene recall. This can be useful when an unplanned performer change occurs, for example, facilitating a temporary, relative level adjustment that can be instantly returned to the original level. The Overlay filter will prove its value in situations that require sudden changes plus the ability to easily revert to the original settings.

Theatre Mode

Theatre Mode facilitates scene and costume changes with four banks that can be used to store different EQ and dynamics settings for individual performers. In Theatre Mode, rather than storing EQ and dynamics settings in the console's "scenes," only the bank number is stored so that any adjustments made will apply to all scenes that use the same bank. This can be used when multiple actors are cast in the same role or when a substitute must be used, allowing faster, more flexible mix changes to accommodate different casts, for example.

DSP Mirroring for Failsafe Redundancy

DSP Mirroring allows two DSP-RX or DSP-RX-EX engines to be used for failsafe redundancy with RIVAGE PM10, PM5, and PM3 systems.* If a problem occurs in the main DSP engine, the second DSP engine can take over without disrupting the program.

* The RIVAGE PM7 features integrated DSP processing and does not support DSP mirroring.

Console File Converter Brings the Yamaha Family Together
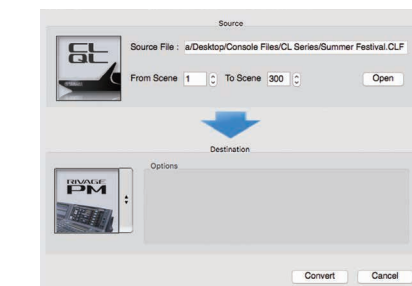
The Yamaha Console File Converter is an application that allows data to be shared between a number of Yamaha digital mixing consoles. User can share data between RIVAGE PM series, CL/QL series, PM5D, M7CL, and LS9 consoles, so data from one show doesn't have to be completely reprogrammed from scratch for the next, even if different consoles are used.

SYSTEM COMPONENTS

RIVAGE PM10 Core Components

CS-R10

The control surface with two large touch panel displays and 38 faders enables you to perform general operations on the RIVAGE PM10 system.

- Display: 15" touch panel x 2 • Faders: 38 (12+12+12+2)
- Selected Channel section: comprehensive channel parameters
- Custom Fader banks: 6 x 5 on each bay
- User Defined keys: 12 x 4 banks
- User Defined knobs: 4 x 4 banks
- Touch and Turn knobs: 2
- Analog I / O: 8 in / 8 out • Slot: 2 MY slots
- AES/EBU: 4 in / 4 out (with SRC)
- Ports: GPI (8 in / 8 out), Word Clock Out, MIDI In / Out, 5 USB (1 for 2-track recording), Video Out (DVI-D)
- Power supply: Dual redundant power supply built-in
- Dimensions (WxHxD): 1,549 x 417 x 848mm (61.0" x 16.4" x 33.4")
- Net Weight: 85 kg (187 lbs)

CS-R10-S

The control surface with single large touch panel display and 26 faders enables you to perform general operations on the RIVAGE PM10 system.

- Display: 15" touch panel x 1 • Faders: 26 (12+12+2)
- Selected Channel section: comprehensive channel parameters
- Custom Fader banks: 6 x 5 on each bay
- User Defined keys: 12 x 4 banks
- User Defined knobs: 4 x 4 banks
- Touch and Turn knobs: 1
- Analog I / O: 8 in / 8 out • Slot: 2 MY slots
- AES / EBU: 4 in / 4 out (with SRC)
- Ports: GPI (8 in / 8 out), Word Clock Out, MIDI In / Out, 5 USB (1 for 2-track recording), Video Out (DVI-D)
- Power supply: dual redundant power supply built-in
- Dimensions (WxHxD): 1,128 x 417 x 848mm (44.4" x 16.4" x 33.4")
- Net Weight: 67 kg (147.7 lbs)

RIVAGE PM7 Core Components

CSD-R7

The CSD-R7 is a digital mixing console that serves as the core for signal processing and system control, and enables you to perform general operations on the RIVAGE PM7 system.

- Superior capability of processing digital audio signals of up to 144 inputs, 60 mix buses, 36 matrices, and two STEREO channels.
- Three HY card slots that are capable of transmitting / receiving up to 256 ins / outs of digital audio signals / control signals.
- Display: 15" touch panel x 2 • Faders: 38 (12+12+12+2)
- Selected Channel section: comprehensive channel parameters
- Custom Fader banks: 6 x 5 on each bay
- User Defined keys: 12 x 4 banks
- User Defined knobs: 4 x 4 banks
- Touch and Turn knobs: 2
- Analog I / O: 8 in / 8 out • Slot: 3 HY slots, 2 MY slots
- AES/EBU: 4 in / 4 out (with SRC)
- Ports: TC In, GPI (8 in / 8 out), Word Clock In / Out, MIDI In / Out, 5 USB (1 for 2-track recording), Video Out (DVI-D)
- Power supply: Dual redundant power supply built-in
- Dimensions (WxHxD): 1,549 x 417 x 848mm (61.0" x 16.4" x 33.4")
- Net Weight: 94 kg (207 lbs)

RIVAGE PM5 Core Components

CS-R5

The control surface with three large touch panel displays and 38 faders enables you to perform general operations on the RIVAGE PM5 system.

- Display: 15" touch panel x 3 • Faders: 38 (12+12+12+2)
- Selected Channel section: Dynamics, GAIN, HPF, EQ, PAN, Function Knob
- Custom Fader banks: 6 x 5 on each bay
- User Defined keys: 12 x 4 banks
- Send/User Defined knobs: 3 (4 x 4 banks can be assigned)
- Touch and Turn knobs: 3
- Analog I / O: 8 in / 8 out • Slot: 2 MY slots
- AES/EBU: 4 in / 4 out (with SRC)
- Ports: GPI (8 in / 8 out), MIDI In / Out, 5 USB (1 for 2-track recording)
- Power supply: Dual redundant power supply built-in
- Dimensions(WxHxD): 1,444 x 414 x 643mm (56.9" x 16.2" x 25.3")
- Net Weight: 42 kg (92.6 lbs)

SYSTEM COMPONENTS

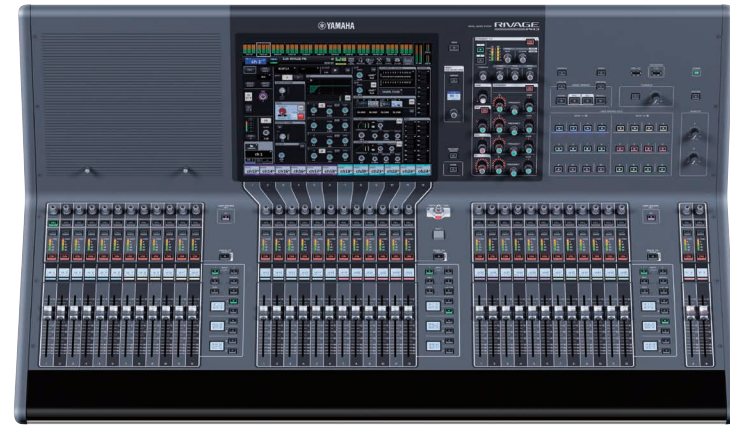## RIVAGE PM3 Core Components

CS-R3

The control surface with single large touch panel displays and 38 faders enables you to perform general operations on the RIVAGE PM3 system.

- Display: 15" touch panel x 1 • Faders: 38 (12+12+12+2)
- Selected Channel section: Dynamics, GAIN, HPF, EQ, PAN, Function Knob
- Custom Fader banks: 6 x 5 on each bay
- User Defined keys: 12 x 4 banks
- Send/User Defined knobs: 1 (4 x 4 banks can be assigned)
- Touch and Turn knobs: 1
- Analog I / O: 8 in / 8 out • Slot: 2 MY slots
- Ports: GPI (8 in / 8 out), MIDI In / Out, 5 USB (1 for 2-track recording)
- Power supply: Dual redundant power supply built-in
- Dimensions(WxHxD): 1,145 x 385 x 650mm (45.1" x 15.2" x 25.6")
- Net Weight: 38 kg (83.8 lbs)

DSP Engine

DSP-RX-EX/DSP-RX

The DSP-RX-EX/DSP-RX is a powerful DSP engine that serves as the core for signal processing and system control required for the RIVAGE PM system.

- DSP-RX-EX engine providing up to 288 inputs, 72 mix buses, and 36 matrices, or the DSP-RX engine providing the same maximum of 120 inputs, 48 mix buses and 24 matrices.
- Four HY card slots that are capable of transmitting / receiving up to 256 ins / outs of digital audio signals / control signals.
- Two Mini-YGDAI slots to support various audio formats.
- Dual redundant power supply built-in
- Dimensions (WxHxD): 480 x 220 x 490mm (18.9" x 8.7" x 19.3") (5U rack size)
- Net Weight: DSP-RX-EX:20 kg (44.1 lbs), DSP-RX:19 kg (41.9 lbs)

I/O Rack
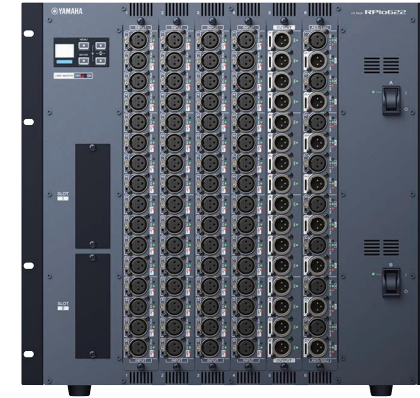
RPio622

The RPio622 is an audio interface that enables you to flexibly configure and expand I/Os for the RIVAGE PM system as required by your application or the scale of your system.

- Six RY card slots that enable you to expand analog inputs and outputs, and / or digital inputs and outputs.
- Two HY card slots that are capable of transmitting/receiving up to 256 ins / outs of digital audio signals/control signals.
- HY card slot 1 features 256 ins/outs, and HY card slot 2 features 128 ins / outs.
- Two mini-YGDAI slots to support various audio formats. • Dual redundant power supply built-in
- Dimensions (WxHxD): 480 x 455 x 489.7mm (18.9" x 17.9" x 19.3") (10U rack size) • Net Weight: 30 kg (66 lbs)

RPio222

The RPio222 is an audio interface that enables you to flexibly configure and expand I/Os for the RIVAGE PM system as required by your application or the scale of your system.

- Two RY card slots that enable you to expand analog inputs and outputs, and / or digital inputs and outputs.
- Two HY card slots that are capable of transmitting/receiving up to 256 ins / outs of digital audio signals / control signals.
- HY card slot 1 features 256 ins / outs, and HY card slot 2 features 128 ins / outs. • Two mini-YGDAI slots to support various audio formats.
- Dual redundant power supply built-in • Dimensions (WxHxD): 480 x 232 x 491mm (18.9" x 9.1" x 19.3") (5U rack size) • Net Weight: 19 kg (41.9 lbs)

Rio3224-D2

The Rio3224-D2 is a high-performance I/O Rack unit with built-in Dante audio networking. Designed and manufactured to achieve outstanding sonic transparency in keeping with Yamaha's "natural sound" philosophy.

- 32-channel mic / line input • 16-channel analog outputs • AES/EBU 8-channel digital outputs. • Dual redundant power supply built-in
- Character / icon display allowing confirmation of Dante settings and edit/check gain, high-pass filters, and phantom power settings
- Dimensions (WxHxD): 480 x 220 x 367.5mm (18.9" x 8.7" x 14.5") • Net Weight: 13.5 kg (29.8 lbs)

Rio1608-D2

The Rio1608-D2 is a high-performance I/O Rack unit with built-in Dante audio networking. Designed and manufactured to achieve outstanding sonic transparency in keeping with Yamaha's "natural sound" philosophy.

- 16-channel mic / line input • 8-channel analog outputs • Dual redundant power supply built-in
- Character / icon display allowing confirmation of Dante settings and edit/check gain, high-pass filters, and phantom power settings
- Dimensions (WxHxD): 480 x 132 x 367.5mm (18.9" x 5.2" x 14.5") • Net Weight: 9.6 kg (21.2 lbs)

SYSTEM COMPONENTS AND SOFTWARE

Audio Interface Card

RY16-ML-SILK

for RPio622 / RPio222

The RY16-ML-Silk is a 16-channel mic / line input card that supports a 96 kHz sampling rate. It features a new revolutionary analog mic preamp combined with Silk processing from Rupert Neve Designs, which allows you to freely control depth and perspective through modeling in the digital domain. Each input connector can supply phantom power (+48V DC).
• 16-channel mic / line inputs • SILK digital processing technology that has been co-developed by Rupert Neve Designs and Yamaha • Dimensions (WxHxD): 405 x 42 x 258mm (16" x 1.7" x 10.2") • Net Weight: 1.6 kg (3.5 lbs)

RY16-DA

for RPio622 / RPio222

The RY16-DA is a 16-channel analog output card that supports a 96 kHz sampling rate. You can use the switches on the board to set maximum output level to +15dBu, +18dBu, or +24dBu. The factory setting is +24dBu.
• 16-channel analog outputs • Dimensions (WxHxD): 405 x 42 x 258mm (16" x 1.7" x 10.2") • Net Weight: 1.5 kg (3.3 lbs)

RY16-AE

for RPio622 / RPio222

The RY16-AE is a 16-channel digital I/O card that supports the AES/EBU format. Sampling rate converters (SRC) are provided for each of the 16 input channels and 16 output channels.
• AES/EBU 16-channel digital I / Os. • Sampling rate converter for both inputs and outputs. • Dimensions (WxHxD): 405 x 42 x 258mm (16" x 1.7" x 10.2") • Net Weight: 1.4 kg (3.1 lbs)

HY256-TL

for DSP-RX/DSP-RX-EX/CSD-R7/RPio622/RPio222   TWINLANe

The HY256-TL is a digital I / O card for HY card slots, and compatible with Yamaha's TWINLANe audio network protocol. The card supports multi-mode fiber connections for reliable operation.
• Can send / receive uncompressed digital audio signals of 32-bit 96 kHz quality, with a maximum of 256 inputs / 256 outputs. • Ind+C58icators show communication status useful for troubleshooting. • Recommended cable: Neutrik opticalCON DUO multi-mode fiber • Dimensions (WxHxD): 125 x 37 x 207mm (4.9" x 1.5" x 8.2") • Net Weight: 0.25 kg (0.6 lbs)

HY256-TL-SMF

for DSP-RX/DSP-RX-EX/CSD-R7/RPio622/RPio222   TWINLANe

The HY256-TL-SMF is a digital I / O card for HY card slots, and compatible with Yamaha's TWINLANe audio network protocol. The card supports single-mode fiber connections for reliable operation over long distances.
• Can send / receive uncompressed digital audio signals of 32-bit 96 kHz quality, with a maximum of 256 inputs / 256 outputs. • Redundant connections are supported with ring topology. • Indicators show communication status useful for troubleshooting. • Recommended cable: Neutrik opticalCON DUO single-mode fiber • Dimensions (WxHxD): 125 x 37 x 207mm (4.9" x 1.5" x 8.2") • Net Weight: 0.35 kg (0.8 lbs)

HY144-D

for DSP-RX/DSP-RX-EX/CSD-R7/RPio622/RPio222   Dante

The HY144-D is a digital I / O card for HY card slots, and is compatible with the Dante digital audio network over Gigabit Ethernet connections.
• Can send and receive uncompressed digital audio signals of 32-bit 96 kHz quality, with a maximum of 144 inputs / 144 outputs. • Redundant connections are supported with primary and secondary connectors. Daisy chain connections are also supported. • Indicators show communication status useful for troubleshooting. • Dimensions (WxHxD): 125 x 37 x 207mm (4.9" x 1.5" x 8.2") • Net Weight: 0.25 kg (0.6 lbs)

HY144-D-SRC

for DSP-RX/DSP-RX-EX/CSD-R7/RPio622/RPio222   Dante

The HY144-D-SRC audio interface card supports the Dante audio network protocol, handling up to 144 input and 144 output channels of 96 kHz/32-bit digital audio. Onboard sample rate conversion allows interconnection between devices operating at different sampling rates. Five operational modes can be selected via firmware.
• Transmits and receives up to 144 input and 144 output channels of uncompressed 96 kHz/32-bit digital audio. • Primary and secondary connectors support redundant connections. Daisy chain connections also supported. • Five firmware-selectable operating modes: 144io (SRC off, 144 in/144 out), 144io SyncSRC (SRC on, synchronous, 144 in/144 out), 72io AsyncSRC (SRC on, asynchronous, 72 in/72 out), 144in AsyncSRC (SRC on, asynchronous, 144 in/0 out), 144o AsyncSRC (SRC on, asynchronous, 0 in/144 out). • Dimensions (W x H x D): 125 x 37 x 207mm (4.9" x 1.5" x 8.2") • Net Weight: 0.25 kg (0.6 lbs)

HY128-MD

for DSP-RX/DSP-RX-EX/CSD-R7/RPio622/RPio222   Dante

The HY128-MD audio interface card provides MADI connectivity, handling up to 128 input and 128 output channels of 48kHz/24-bit digital audio. Onboard sample rate conversion allows interconnection between devices operating at different sampling rates.
• Transmits and receives up to 128 input and 128 output channels of uncompressed 48 kHz/24-bit digital audio. • Optical and coaxial connectors support redundant connections. If a problem occurs in one transmission line the system automatically switches to the second connection. • Dimensions (W x H x D): 125 x 37 x 207mm (4.9" x 1.5" x 8.2") • Net Weight: 0.45 kg (1.0 lbs)

I/O Rack

Ri8-D   Dante

• 8-channel mic / line inputs

Ro8-D   Dante

• 8-channel analog outputs

RMio64-D   Dante

The RMio64-D Dante / MADI conversion I / O rack supports a wide range of broadcast and live sound applications with extraordinary flexibility, and without getting in the way.

RSio64-D   Dante

The RSio64-D is an audio interface that can convert between Dante and Mini-YGDAI formats for up to 64 inputs and 64 outputs.

Software

RIVAGE PM StageMix

RIVAGE PM StageMix provides remote control of RIVAGE PM series functions via a simple, intuitive graphical interface from anywhere within wireless range. The software has been specifically designed to allow engineers to adjust monitor mixes from the performers' positions on stage, directly controlling mix parameters via the iPad rather than having to rely on verbal directions to a second engineer.

MonitorMix

The MonitorMix application for the RIVAGE PM Series allows individual wireless MIX / MATRIX / AUX mixing from Android or iOS device.

L2 Switch

SWP2-10SMF

The SWP2 series L2 switch is ideal for Dante 96kHz network systems. It features 10 etherCON ports and two single mode fiber opticalCON ports.

SWP2-10MMF

The SWP2 series L2 switch is ideal for Dante 96kHz network systems. It features 10 etherCON ports and two multi mode fiber opticalCON ports.

SWP1-16MMF

The SWP1 series L2 switch is ideal for Dante network systems. It features 12 etherCON ports, four RJ45 ports, one opticalCON port, and an option slot for one more port as needed.

SWP1-8MMF

The SWP1 series L2 switch is ideal for Dante network systems. It features eight etherCON ports, one opticalCON port, and an option slot for one more port as needed.

SWP1-8

The SWP1 series L2 switch is ideal for Dante network systems. It features eight etherCON ports, one opticalCON port, and option slots for two more ports as needed.

RIVAGE PM Editor

The RIVAGE PM Editor is a standalone application for computers running Windows or Mac operating systems, for both extended online operation and offline setup and editing.

Console File Converter

The Yamaha Console File Converter is an application that allows data to be shared between a number of Yamaha digital mixing consoles. You can share data between RIVAGE PM series, CL / QL series, PM5D, M7CL, and LS9 consoles, so data from one show doesn't have to be completely reprogrammed from scratch for the next, even if different consoles are used.

FUNCTIONAL SPECIFICATIONS

			RIVAGE PM10 (CS-R10)	RIVAGE PM10 (CS-R10-S)	RIVAGE PM7 (CSD-R7)	RIVAGE PM5 (CS-R5)	RIVAGE PM3 (CS-R3)
Mixing Capacity	Input Mixing channels	DSP-RX	120	120	-	120	120
		DSP-RX-EX	288	288	-	288	288
		Internal	-	-	144	-	-
	Mix Buses	DSP-RX	48	48	-	48	48
		DSP-RX-EX	72	72	-	72	72
		Internal	-	-	60	-	-
	Matrices	DSP-RX	24 (Input to Matrix supported)	24 (Input to Matrix supported)	-	24 (Input to Matrix supported)	24 (Input to Matrix supported)
		DSP-RX-EX	36 (Input to Matrix supported)	36 (Input to Matrix supported)	-	36 (Input to Matrix supported)	36 (Input to Matrix supported)
		Internal	-	-	36 (Input to Matrix supported)	-	-
	Stereo buses		2	2	2	2	2
	mono buses		1	1	1	1	1
	cue bus		2	2	2	2	2
Local Connectors	Analog	in	8 (SILK)	8 (SILK)	8 (SILK)	8	8
		out	8	8	8	8	8
	Digital	AES IN	4	4	4	4	4
		AES OUT	4	4	4	4	-
	Expansion Slot	HY	4 (DSP-RX/-EX)	4 (DSP-RX/-EX)	3	4 (DSP-RX/-EX)	4 (DSP-RX/-EX)
		MY	2+2(DSP-RX/-EX)	2+2(DSP-RX/-EX)	2	2+2(DSP-RX/-EX)	2+2(DSP-RX/-EX)
	GPI	IN	8	8	8	8	8
		ONT	8	8	8	8	8
	Word clock		IN/OUT	OUT	IN/OUT	-	-
	MIDI		IN/OUT	IN/OUT	IN/OUT	IN/OUT	IN/OUT
	USB	File	4	4	4	4	4
		rec/play	1	1	1	1	1
	External Redundant PSU		Built-in dual power supply	Built-in dual power supply	Built-in dual power supply	Built-in dual power supply	Built-in dual power supply
	Meter Bridge		On screen	On screen	On screen	On screen	On screen
	Lamp		4	3	4	3	2
	Talkback In		Yes	Yes	Yes	No	No
	Video Out		Yes	Yes	Yes	No	No
	TC In		Yes (DSP-RX/-EX)	Yes (DSP-RX/-EX)	Yes	Yes (DSP-RX/-EX)	Yes (DSP-RX/-EX)
	Fault Output		Yes (DSP-RX/-EX)	Yes (DSP-RX/-EX)	Yes	Yes (DSP-RX/-EX)	Yes (DSP-RX/-EX)
	Phones		2 x 2 connectors	2 connectors	2 connectors	2 connectors	1 connectors
	AC Inlet		2 (V-Lock Type)	2 (V-Lock Type)	2 (V-Lock Type)	2 (V-Lock Type)	2 (V-Lock Type)
Scene Memory	Number of Scenes		1000	1000	1000	1000	1000
	Recall Safe		Yes	Yes	Yes	Yes	Yes
	Focus Recall		Yes	Yes	Yes	Yes	Yes
	Fade Time		Yes (0s ~ 60s)	Yes (0s ~ 60s)	Yes (0s ~ 60s)	Yes (0s ~ 60s)	Yes (0s ~ 60s)
	Preview		Yes	Yes	Yes	Yes	Yes
	Selective Load / Save		Yes	Yes	Yes	Yes	Yes
	Global Paste		Yes	Yes	Yes	Yes	Yes
	Event List		Yes	Yes	Yes	Yes	Yes
	Overlay		Yes	Yes	Yes	Yes	Yes
	Isolate		Yes	Yes	Yes	Yes	Yes
	Tactile Control Keys		Yes	Yes	Yes	Yes	Yes
Input Channel Functions	Gain Compensation		Yes				
	Silk		Yes (with RPio)				
	Digital Gain		Yes (-96dB ~ +24dB)				
	ATT		Yes				
	HPF		20Hz~2000Hz, -6/-12/-18/-24dB/oct Selectable				
	PEQ		4 Band Full PEQ (4 algorithms, RTA overlay support)				
	Dynamics 1		Legacy Comp / Comp260 / Gate / De-Esser / Expander / Ducking				
	Dynamics 2		Legacy Comp / Comp260 / Gate / De-Esser / Expander / Ducking				
	Input Delay		Yes (0ms ~ 1000ms)				
	Pan		Center Nominal				
	DCA Group		24 (Output DCA support)				
	DCA Rollout		Yes				
	MUTE Group		12				
	Number of Inserts		4 slots on each 2 insert point				
	Direct Out		Yes				

			RIVAGE PM10 (CS-R10)	RIVAGE PM10 (CS-R10-S)	RIVAGE PM7 (CSD-R7)	RIVAGE PM5 (CS-R5)	RIVAGE PM3 (CS-R3)
Output Channel Functions	PEQ		8 Band Full PEQ				
	GEQ		Plug-in				
	Dynamics 1		Legacy Comp / Comp260 / Gate / De-Esser / Expander / Ducking				
	Output Channel Delay		Yes (0ms ~ 1000ms)				
	MUTE Group		12				
	Number of Inserts		4 slots on each 2 insert point				
Plug-in	Number of Slots	DSP-RX / Internal	384	384	384	384	384
		DSP-RX-EX	512	512	-	512	512
	Number of Effect Programs		More than 50	More than 50	More than 50	More than 50	More than 50
GEQ Rack	Number of GEQ Racks		48				
	Mountable Device		31BandGEQ / Flex15GEQ / 8Band PEQ (RTA overlay support)				
TWINLANe	Number of I / O Channels		256 in / 256 out (with HY256-TL)				
Dante	Number of I / O Channels		144 in / 144 out (with HY144-D)				
Recording	USB Memory Recording		Yes				
	DVS Recording		Yes (with HY144-D)				
Broadcast Functions	5.1 Surround Panning		Yes	Yes	Yes	Yes	Yes
	Surround Monitor		Yes	Yes	Yes	Yes	Yes
	Mix Minus		Yes	Yes	Yes	Yes	Yes
	L-Mono / R-Mono / LR-Mono		No	No	No	No	No
Monitor	Solo Mode		Yes				
	Oscillator		Sine Wave 1ch / Sine Wave 2ch / Pink Noise / Burst Noise				
Other Functions	Port to Port		Yes	Yes	Yes	Yes	Yes
	Dual Console		Yes	Yes	Yes	Yes	Yes
	DSP Mirroring		Yes	Yes	No	Yes	Yes
	Timecode Reader/Display		Yes	Yes	Yes	Yes	Yes
	Timecode Chase (Event List)		Yes	Yes	Yes	Yes	Yes
	GPI/MIDI		Yes	Yes	Yes	Yes	Yes
	RTA		Yes	Yes	Yes	Yes	Yes
	Output Port Delay		Yes (0ms ~ 1000ms)	Yes (0ms ~ 1000ms)	Yes (0ms ~ 1000ms)	Yes (0ms ~ 1000ms)	Yes (0ms ~ 1000ms)
	Mix/Matrix to Input		Yes	Yes	Yes	Yes	Yes
	Sub In		Yes	Yes	Yes	Yes	Yes
	Theatre Mode		Yes	Yes	Yes	Yes	Yes
User Interface	Display		15 inch Touch Panel x 2	15 inch Touch Panel x 1	15 inch Touch Panel x 2	15 inch Touch Panel x 3	15 inch Touch Panel x 1
	Centralogic Section		Yes	Yes	Yes	Yes	Yes
	Faders		12 + 12 + 12 + 2	12 + 12+ 2	12 + 12 + 12 + 2	12 + 12 + 12 + 2	12 + 12 + 12 + 2
	Selected Channel Encoders		All Parameters	All Parameters	All Parameters	Dynamics, GAIN, HPF, EQ, PAN, Function Knob	Dynamics, GAIN, HPF, EQ, PAN, Function Knob
	Channel Encoder		Yes	Yes	Yes	Yes	Yes
	Channel Name / Color Display		Yes	Yes	Yes	Yes	Yes
	Custom Fader Banks		Yes (6 x 5 on each bay)	Yes (6 x 5 on each bay)	Yes (6 x 5 on each bay)	Yes (6 x 5 on each bay)	Yes (6 x 5 on each bay)
	User Defined Keys		12 (x 4 banks)	12 (x 4 banks)	12 (x 4 banks)	12 (x 4 banks)	12 (x 4 banks)
	User Defined Knobs		4 (x 4 banks)	4 (x 4 banks)	4 (x 4 banks)	3 (4 x 4 banks can be assigned)	1 (4 x 4 banks can be assigned)
	Touch and Turn Knob		Yes (2)	Yes (1)	Yes (2)	Yes (3)	Yes (1)
	Monitor Level Knob		Yes (2: A and B)	Yes (2: A and B)	Yes (2: A and B)	Yes (2: A and B)	Yes (2: A and B)
	Wooden Arm Rest		Yes	Yes	Yes		
Software	Editor		RIVAGE PM Editor				
	StageMix		RIVAGE PM StageMix				
	MonitorMix		Yes (V4.0 or later)				
	Console File Converter		Yes				
Accessories			Dust cover, Gooseneck Lamp LA1L x 4	Dust cover, Gooseneck Lamp LA1L x 3	Dust cover, Gooseneck Lamp LA1L x 4	Dust cover, Nuendo Live	Dust cover, Nuendo Live

SYSTEM COMPONENTS AND CONFIGURATION
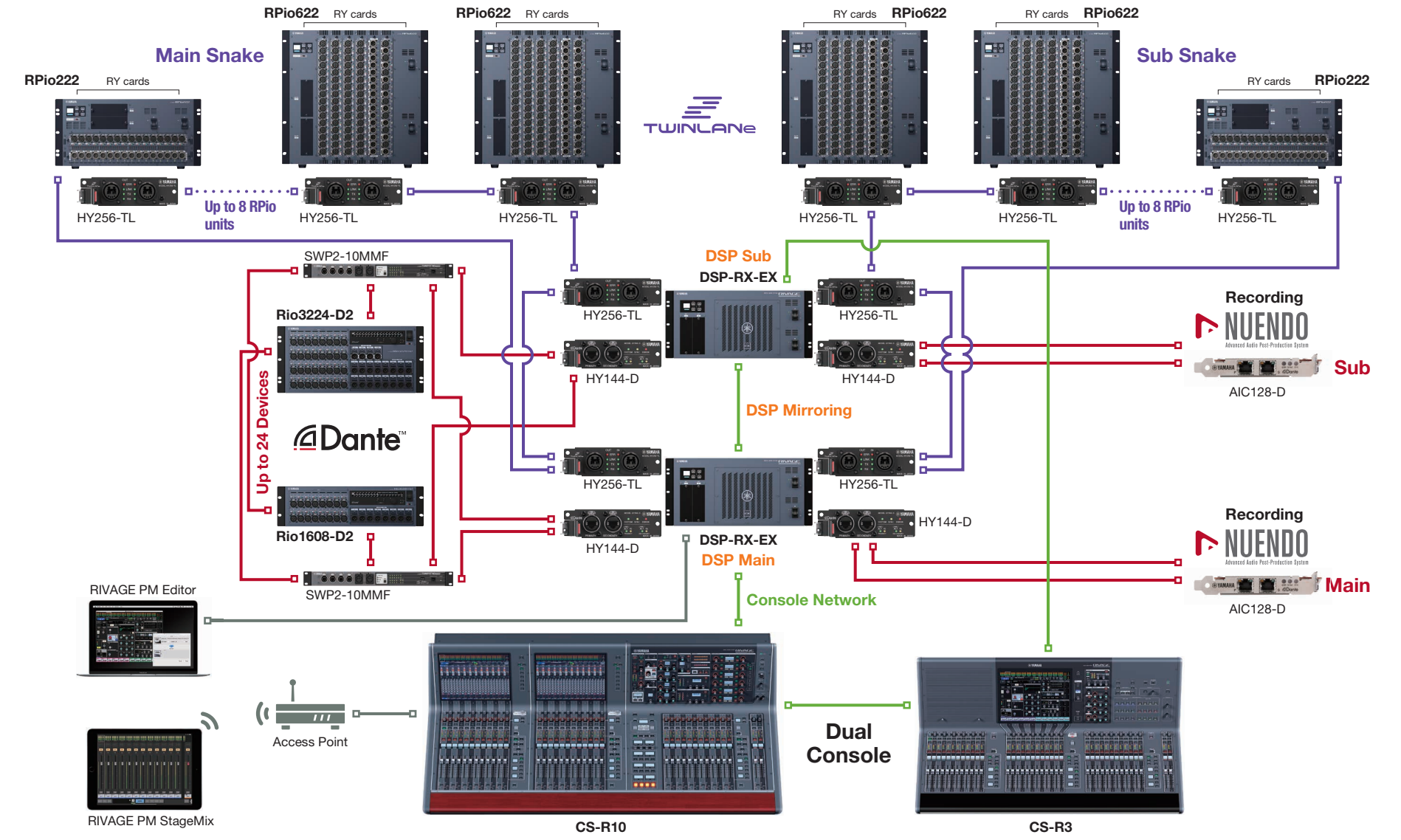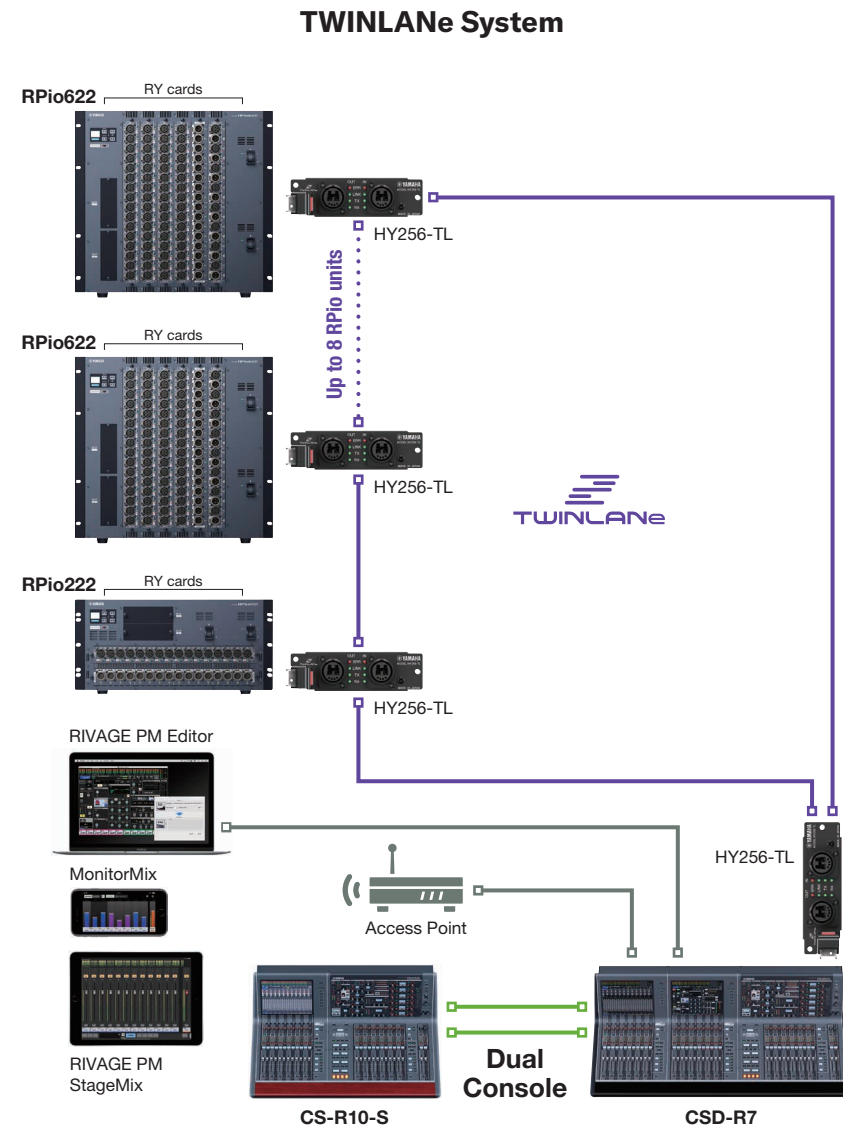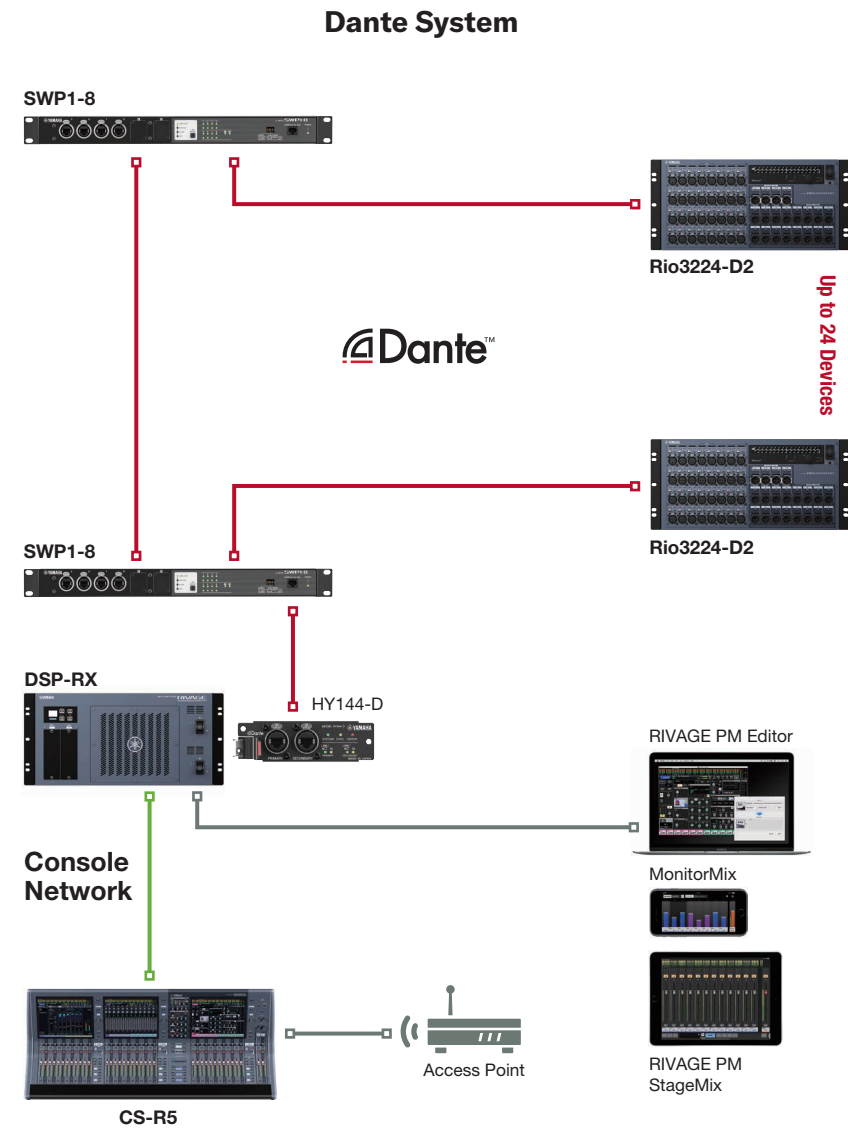
System Example 1

Yamaha offers two types of high-performance I/O Rack units for RIVAGE PM system input and output, each providing compatibility with a different audio network. The DSP-RX/DSP-RX-EX DSP Engine or CSD-R7 control surface can be fitted with a TWINLANe or Dante-capable HY card for use with RPio622/RPio222 or Rio3224-D2/Rio1608-D2 I/O racks, respectively. Up to eight

RPio622/RPio222 units can be connected to the TWINLANe card, or up to 24 Dante devices, including Rio3224-D2/Rio1608-D2 units, can be connected via a Dante network. The CS-R10-S Control Surface originally designed for use with the RIVAGE PM10 can also be connected to a RIVAGE PM7 system to serve as a sidecar for fader expansion and/or multi-operator control.

System Example 2

In a RIVAGE PM system, each DSP Engine can be fitted with a TWINLANe or Dante-capable HY card for use with RPio622/RPio222 or Rio3224-D2/Rio1608-D2 I/O racks, respectively. Up to eight RPio622/RPio222 units can be connected to the TWINLANe card, or up to 24 Dante devices, including Rio3224-D2/Rio1608-D2 units, can be connected via a Dante network.

The CS-R3 Control Surface originally designed for use with the RIVAGE PM3 can also be connected to other RIVAGE PM system to serve as a sidecar for fader expansion and/or multi-operator control.

Dante System

SWP1-8
Rio3224-D2
SWP1-8
Rio3224-D2
DSP-RX
HY144-D
RIVAGE PM Editor
MonitorMix
Console Network
Access Point
RIVAGE PM StageMix
CS-R5
Up to 24 Devices

TWINLANe System

RPio622 — RY cards
HY256-TL
Up to 8 RPio units
RPio622 — RY cards
HY256-TL
RPio222 — RY cards
HY256-TL
RIVAGE PM Editor
MonitorMix
RIVAGE PM StageMix
Access Point
HY256-TL
Dual Console
CS-R10-S
CSD-R7

System Example 2 Diagram

RPio622 RY cards
RPio622 RY cards
RPio222 RY cards
Main Snake
RY cards RPio622
RY cards RPio622
Sub Snake
RY cards RPio222
HY256-TL
Up to 8 RPio units
HY256-TL
HY256-TL
HY256-TL
HY256-TL
Up to 8 RPio units
HY256-TL
SWP2-10MMF
DSP Sub
DSP-RX-EX
HY256-TL
HY256-TL
Recording
NUENDO
Rio3224-D2
HY144-D
HY144-D
Sub
AIC128-D
Up to 24 Devices
DSP Mirroring
Dante
HY256-TL
HY256-TL
Rio1608-D2
HY144-D
DSP-RX-EX
DSP Main
HY144-D
Recording
NUENDO
RIVAGE PM Editor
SWP2-10MMF
Console Network
Main
AIC128-D
Access Point
Dual Console
RIVAGE PM StageMix
CS-R10
CS-R3

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Make Waves