



PR&E Products

## ***RMX Digital™ Audio Console***

**RMX***digital*

**VistaMax™**

*Legendary PR&E performance, powerful  
Vistamax audio networking in a compact  
and cost effective package*



# Harris PR&E... the Details Make the Difference

## Instant Access

The RMXdigital console top rear panel allows instant tilt-up access to all console connections for quick and simple installation.



## Digital Time Display

The digital timer displays in tenth-of seconds in the Hold and Stop modes, blanks when time is running to minimize board operator distractions.



## Finger-Friendly Operation

Our bright LED illuminated, finger-friendly buttons angle towards the operator and have permanent laser-marked legends. Off, Talkback and Meter/Monitor selector switches have standard accessory clear lens caps, for customer installation of source labels.



## Simple Repairs

Critical console modules and sub-assemblies are connectorized for easy maintenance. Hot Pluggable front panel modules, and I/O card, allow for quick swap out for repair.



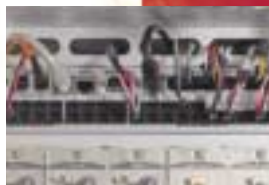
## Documentation & Tools

Each PR&E console comes with a detailed manual, connector kit and special tools.



## Connected

The RMXdigital, like all PR&E consoles, features separate connectors for each audio and logic function, eliminating the need for costly wiring fan-outs. Wiring changes can be made by simply plugging in additional connections on the fly.



## Extensive Control

Fully isolated logic connections allow for complete control of sources located in the studio, remotely and via the Vistamax system. RMXdigital, like the legendary BMXdigital also provides TCPIP connectivity for control and interaction with automation systems. The powerful array of logic control options insures you have the flexibility you need with the simplicity your operators demand.



## Studio Furniture

Fit, Finish and Design For Today and Tomorrow



Harris has the radio and television studio furniture to meet every budget and design need from modular to one-of-a-kind custom cabinetry. No matter what the price point, our furniture is designed to blend beautifully together for seamless transitions from production studios to "showcase" broadcast studios. Harris can create the studios that will meet your exact needs whether you're consolidating a number of radio stations or you need a signature television anchor desk. Harris has the best solutions for the next century.

## Systems Integration

Design, Pre-wire and Turn-key Installation



For over 50 years, Harris has been designing, creating, and integrating studio and mobile systems for broadcasters that meet current requirements, but provide flexibility for the future.

Our team of industry experts assess your needs, find the most cost-effective solutions, and create optimum facility designs. Is it any wonder that we have and continue to design solutions for some of the most recognizable names in our industry.

# RMXdigital... Stand Alone Reliability with the Flexibility of Vistamax Networking

## RMXdigital

Harris PR&E, the leader in broadcast audio consoles proudly presents RMXdigital, the latest generation of our Vistamax network enabled, high-performance radio broadcast consoles. RMXdigital is a new, cost effective, compact design built upon the philosophy and value of its big brother, the legendary BMXdigital: high reliability, extensive features, excellent performance, operational flexibility, ease of use, and robust construction. While the RMXdigital is an excellent choice for stand alone console applications, the

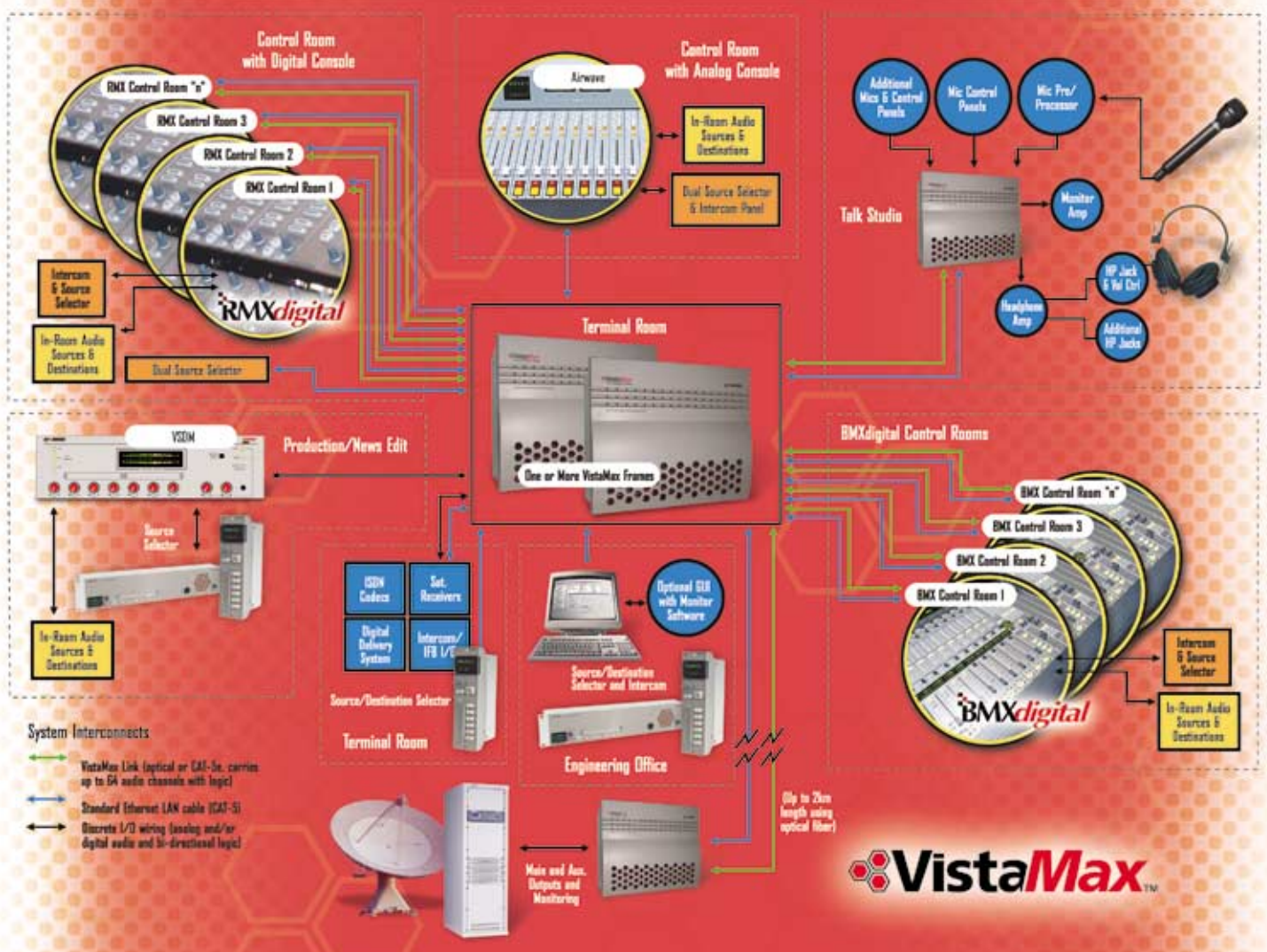
built in Vistamax audio/logic router, allows one to take advantage of networked power on one's own time frame. The Vistamax network shares audio resources across one's facility, without the need for time consuming, and costly, wiring. One gets flexible operation, while at the same time enjoying a quick, simple and cost effective installation.

We've taken the same attention to detail that has been a hallmark of each Harris PR&E console to a new level with RMXdigital. It's smaller size means quick installation, less space and reduced cost.

All with the same professional look, feel and performance of the BMXdigital.

### RMXdigital Includes:

- An all-digital design to accomplish everything from Program mixes to the Talkback channels.
- Four Program buses, each with digital outputs and analog outputs. Program 1 and 2 digital outputs can be set to either 44.1kHz or 48kHz sampling rates.



**VistaMax**™

- One Send bus, with digital and analog outputs. Send assignments can be sourced post-fader, pre-fader and/or pre-switch. The Send digital output can be set to either 44.1kHz or 48kHz sampling rates.
- Up to four simultaneous Telco/Codec inputs, each supported by a mix-minus output with automatic
- On-Line/Off-Line switching. Each mix-minus can be routed to digital and analog outputs.
- Telco Record mix bus can be routed to digital and analog outputs.
- Select Digital outputs can be set to either 44.1kHz or 48kHz sampling rate.
- Meter panel assembly with two stereo bar graph meters, one dedicated to Program 1, the second is switchable to monitor other busses, digital clock and timer. The meters can be set by the user to display Average with Peak or Average only. Each meter is also equipped with a separate, high-brightness Peak flash indicator that can be set by the user at FSD (full-scale digital) or up to 6 dB before FSD.
- TCPIP network connectivity to support interactivity with automation systems and servers

## Embedded Vistamax Network Connectivity

Built in support for Vistamax Network to share 128 channels, simultaneous, bi-directional sources with embedded logic via simple CAT-5E cables or fiber connections. Ethernet connectivity is included for connection to the Vistamax supervisory network and the outside world.

## The Power Supply Redundancy One Wants

The RMXdigital includes a built in power supply coupler to support dual power supplies simply by adding an optional 99-1205 power supply.

## Input Modules – Easy to Learn, Easy to Use

In addition to router control rotary source selectors and take buttons, all input modules are equipped with ten- character alphanumeric displays and status LED's showing both the active and alternate/ standby inputs. Any module can also be used for Telco/Codec inputs with direct Talkback to the source via the foldback (IFB).

## Set-Up Simplicity, On-the-Fly Module Exchange

Exchanging a module is as simple as plugging it in.

- Hot-swappable panel modules.
- Console session set-up, with onboard storage for snapshot sessions and automated preset recall.

We invite you to take a closer look at RMXdigital — a digital console with features and functionality that will redefine your expectations.

### 1 Headphone Jack

Headphone jack with an integrated amplifier is designed to power even low impedance headphones

### 2 Studio Monitoring

Extensive studio monitoring is built in, and provides support for Host, Guest and monitor feed, including talkback, diming and muting. Monitor selection can be from pre-assigned sources, or any routed source, using the integrated Vistamax selector.

### 3 Control Room Monitoring

Control room monitoring with auto switching to support "true on air" and "simulated on air" with live mics. Extensive monitoring selection, includes integrated Vistamax selector and auto-cue for the operators headphones. Mode function switches provide simple phase monitoring.

### 4 Cue System

Cue systems provides monitoring via an integrated amp and speaker located in the top cover.

### 5 Time of Day Clock

Operates as either an accurate stand-alone clock, or syncs to your house master clock.

### 6 Event Timer

Integrated timer with comprehensive controls allows you to keep track of your events with accuracy.

### 7 Open Accessory Panel Space

Open accessory panel space provides for maximum flexibility for special customer control requirements, Vistamax Intercom & control panels, or future system feature enhancements.

### 8 Channel ON/OFF

Channel ON/OFF features optically isolated remote machine control for interface to all popular studio equipment and remote microphone panels. Additionally with the optional Vistamax system, ON/OFF control can be connected to remote sources via the Vistamax network.

# RMXdigital



## 9 Flexible Phone & Codec System

RMXdigital provides four simultaneous mix-minus feeds to support even the most demanding formats. System allows for automatic selection of mix-minus feeds whether live on air talk segments, or "Off Line" contests. Integrated talkback allows for communications with callers, or talent at a remote. From complex talk show requirements, or music formats with hot phones, RMXdigital handles both with ease.

## 10 Input Mode Selection

Provides for selection of Stereo, Left, Right or mono mode of the incoming source.

## 11 Metering

RMXdigital features a dedicated Program meter, and an auxiliary meter to view additional outputs via an integrated meter selector.

## 12 Pan & Balance

Allows for image control of sources, includes ON/OFF switch.

## 13 Bus Assign Switches

Bus assign switches allow for inputs to be routed to any combination of the outputs. The switches are sealed with integrated LEDs for long reliable service under extensive use.

## 14 Function Key

Provides access to extended features and optional functionality.

## 15 10 Character Display & Input Select

Displays current and pending input selections. Integrated selector provide access to any RMXdigital console based, or remote VistaMax based source in a simple dial and take action.

## 16 Console Session Control

Instantly save or recall console set-ups, including remote VistaMax commands.

## Specifications

The specifications for RMXdigital are significantly more complete, and the related test conditions are more defined, than those usually provided for broadcast consoles. Be sure to follow the test conditions and measure in the units stated.

### Test Conditions

- The specifications are for a fully loaded RMXdigital 28-input mainframe and are for the basic signal paths, per channel, with bridging loads connected to the analog main outputs.
- 0 dBu corresponds to an amplitude of 0.775 volts RMS regardless of the circuit impedance. This is equivalent to 0 dBm measured into a 600 ohm circuit for convenient level measurement with meters calibrated for 600 ohm circuits. Noise specifications are based upon a 22 kHz measurement bandwidth. The use of a meter with 30 kHz bandwidth will result in a noise measurement increase of approximately 1.7 dB.
- Total Harmonic Distortion (THD+N) is measured at a +18 dBu output level using 1 kHz or a swept signal with a 22 kHz lowpass filter.
- FSD = Full-Scale Digital, +24 dBu

### Analog Line Inputs

- Input Impedance**  
>60K ohms, balanced
- Input Level Range**  
Selectable, -10 dBv, +4, +6, +8 dBu
- Input Headroom**  
20 dB above nominal Input

### Analog Main Outputs

- Output Source Impedance**  
<3 ohms, balanced
- Output Load Impedance**  
600 ohms minimum
- Nominal Output Levels**  
Program, Send: +4 dBu
- Maximum Output Levels**  
Program, Send: +24 dBu

### Digital Inputs and Outputs

- Reference Level**  
+4 dBu (-20 dB FSD)
- Digital I/O**  
Through digital input and digital Program, Send, Telco/ Codec Mix-Minus outputs
- Signal Format**  
AES-3, S/PDIF (input only)
- AES-3 Input Compliance**  
24-bit sample rate conversion
- AES-3 Output Compliance**  
24 bit
- Digital Reference**  
Crystal (internal) or AES-3 (external) at 48 kHz ±100 ppm
- Internal Sample Rate**  
48 kHz
- Output Sample Rates**  
48 kHz or 44.1 KHz available on selected outputs

### Processing Resolution

24-bit fixed with extended precision accumulators Conversions A/D 24-bit, Delta-Sigma, 128x oversampling on all digital inputs; D/A 24-bit, Delta-Sigma, 128x oversampling

### Latency

<1.6 ms, line in to monitor out

### Monitor Outputs

- Output Source Impedance**  
<3 ohms, balanced
- Output Load Impedance**  
600 ohms minimum
- Output Level**  
+4 dBu nominal, +24 dBu maximum

### Frequency Response

- Line Input to Program Output**  
+0 dB/-0.5 dB, 20 Hz to 20 kHz

### Dynamic Range

- Analog Input to Analog Output**  
104 dB referenced to FSD, 107 dB "A" weighted to FSD
- Analog Input to Digital Output**  
105 dB referenced to FSD
- Digital Input to Analog Output**  
110 dB referenced to FSD, 113 dB "A" weighted to FSD
- Digital Input to Digital Output**  
125 dB

### Total Harmonic Distortion + Noise

- Analog Input to Analog Output**  
<0.003%, 20 Hz to 20 kHz, +18 dBu input, +18 dBu output, 22 kHz filter bandwidth
- Digital Input to Digital Output**  
<0.0005%, 20 Hz to 20 kHz, -6 dB FSD input, -6 dB FSD output, FS/2 filter bandwidth
- Digital Input to Analog Output**  
<0.003%, 20 Hz to 20 kHz, 0.001% Typical @ 1kHz, -6 dB FSD input, +18 dBu output, FS/2 filter bandwidth

### Crosstalk Isolation

- Adjacent Analog Inputs and Outputs**  
>95 dB, 20 Hz to 20 kHz

### Stereo Separation

- Analog Program Outputs**  
>86 dB, 20Hz to 20 kHz

### Power Supply

- Output to Console**  
+48 Vdc at 6.25 amp, redundant operation optional AC Input IEC power cord, one per plug-in power supply
- DC Output**  
Keyed multi-pin connectors
- Power Supply**  
99-1205

### Console Power Requirements

- Fully Configured RMXdigital 4**

54 W at 115/230 Vac, ±12%, 50/60 Hz

### Fully Configured RMXdigital 12

99 W at 115/230 Vac, ±12%, 50/60 Hz

### Fully Configured RMXdigital 20

141 W at 115/230 Vac, ±12%, 50/60 Hz

### Fully Configured RMXdigital 28

186 W at 115/230 Vac, ±12%, 50/60 Hz

### Dimensions

- RMXdigital 4**  
2.25" H\* x 14.6" W x 22.0" D
  - RMXdigital 12**  
2.25" H\* x 27.4" W x 22.0" D
  - RMXdigital 20**  
2.25" H\* x 40.2" W x 22.0" D
  - RMXdigital 28**  
2.25" H\* x 53.0" W x 22.0" D
  - RMXdigital Meter Housing**  
11.13" H x 14.25" W x 5.10" D
- \* - below table top 9.85" H

## VistaMax High Speed Links

Each Link in the VistaMax system carries up to 64 24-bit audio channels in each direction. Just to make things interesting, associated with each audio signal, are a few hundred logic control signals. The VistaMax Link operates at the modest rate of 155.52 Mb/sec. This allows great flexibility in the use of optical and/or copper links. It's your choice, depending on your application needs.

Copper is quick, easy, low cost and familiar. It is great for running short distances, between racks and rooms, typically up to 100 meters. It has transformer isolation similar to 10/100 BaseT, and it uses ubiquitous RJ-45 connections with unshielded twisted-pair CAT-5e wiring.

Optical is ideal for longer link distances up to 2km. If an even longer reach is required, our engineers have some custom solutions for that too.

VistaMax uses the MT-RJ Connector System. This combines the speed and reliability of fiber optics, with the installation convenience of copper. Two opposing optical paths are supported on a single connector, via a zipcord optical cable. This widely supported system offers the best combination of quick and easy installation, small size, performance, and availability.

The MT-RJ connector uses a familiar press-to-release mechanism similar to RJ-45 modular plugs. The connector provides ample strain relief to allow a sturdy, reliable patch cord. And it's polarized to ensure proper connections. The connectors work with standard indoor and outdoor optical fiber cables. There is a wide selection of premise wiring solutions commonly available for MT-RJ connectivity.



Specifications are subject to change. For a complete listing of the most current specifications, please visit our Website at [www.broadcast.harris.com](http://www.broadcast.harris.com).



Broadcast Communications Division | 4393 Digital Way | Mason, OH USA 45040  
phone: +1 513-459-3400 | email: [broadcast@harris.com](mailto:broadcast@harris.com) | [www.broadcast.harris.com](http://www.broadcast.harris.com)

Trademarks and tradenames are the property of their respective companies.  
Copyright © 2004 Harris Corporation

Printed in USA on Recyclable Paper HMC 16203 ADV. 0000 9/04