



Pacific Products

VistaMax™



Networkable Audio Management System



# Digital/Analog Connectivity To The MAXXXX!

As a facility manager, you have been tasked with maximizing your facility and studio capacity — within budget constraints. Not to mention dealing with the crisis “du jour” like the console in studio “A” being down or your management announcing that another radio station will be operating from your complex.

Today more than ever, managers are looking for solutions on how to leverage the equipment that they currently operate to do more for their talent, stations and their bottom line. And the answer to this conundrum could well be a networkable audio management system from Harris Broadcast.

## What Is VistaMax & What Can It Do?

### Networkable Audio Management

VistaMax is a networkable audio management system that provides the ability to always connect sources and destinations to the

system via the shortest physical path, eliminating or greatly reducing the need for:

- standalone routers
- distribution systems
- long multi-pair bundles of inter-room wiring.

This architecture also allows for the separation of physical control surfaces from the input, output, mixing and control of non-adjacent sources and destinations, and moves these functions into a networkable structure of audio acquisition, routing, control and distribution.

VistaMax can start with a single BMXdigital, or VistaMax enabled console and grow to become the total audio distribution and management system for an entire facility.

incorporates a unique distributed approach that provides connectivity where you need it.

VistaMax is modular, scalable and configurable to meet the current and future needs of your operations.

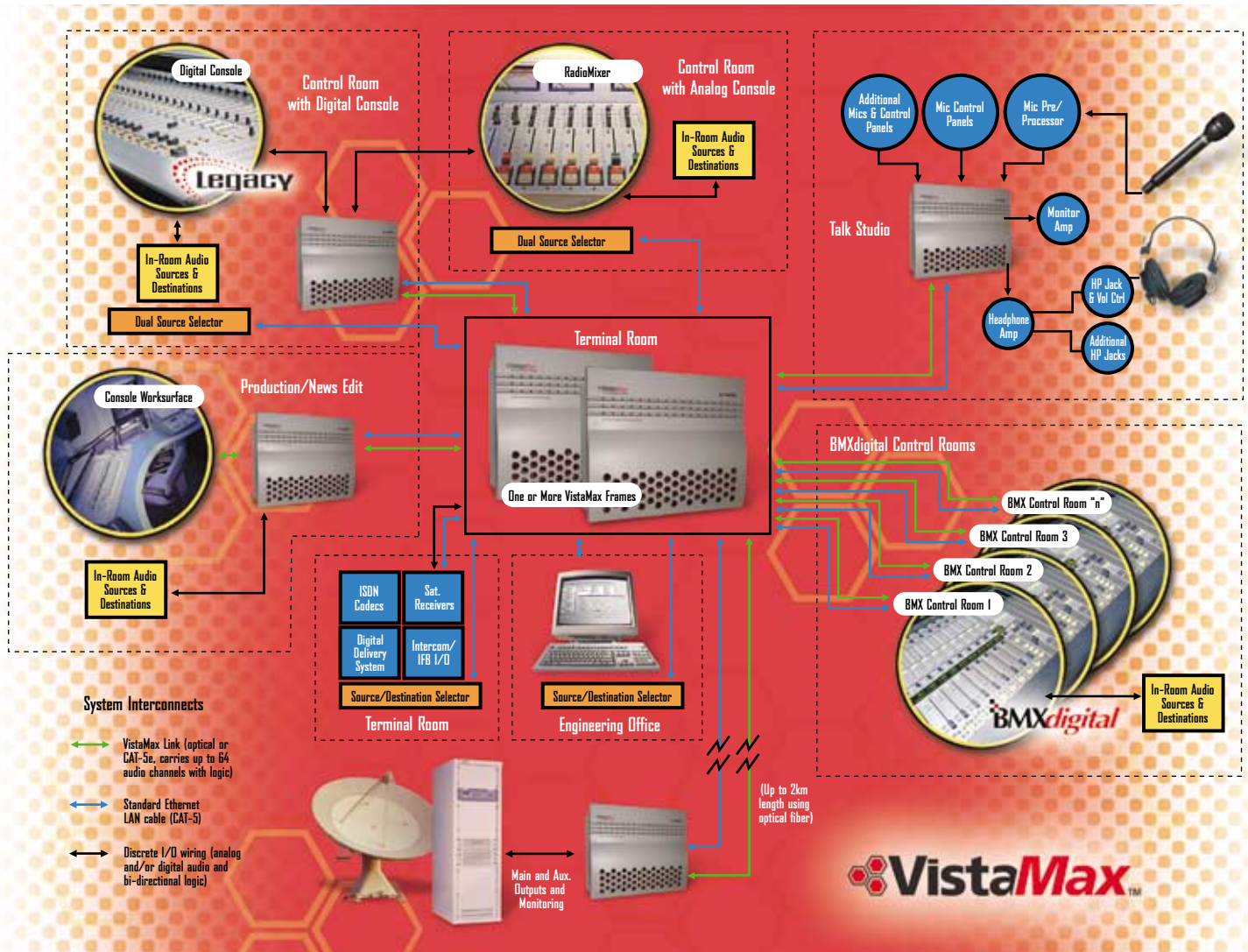
For example, a minimally configured VistaMax frame can be located in a talk studio and configured to provide the audio and logic connections for local signals such as microphones and amplifiers. A larger, maximally configured VistaMax frame or frames can be placed in the technical core for connection to shared input sources and the multiple outputs in the facility. The distributed frames are interconnected with fiber optic and/or CAT-5e cables.

## Revolutionary Concept

Harris's revolutionary concept, VistaMax

## Shared Resources

In today's consolidated broadcast environment speed is of the essence.

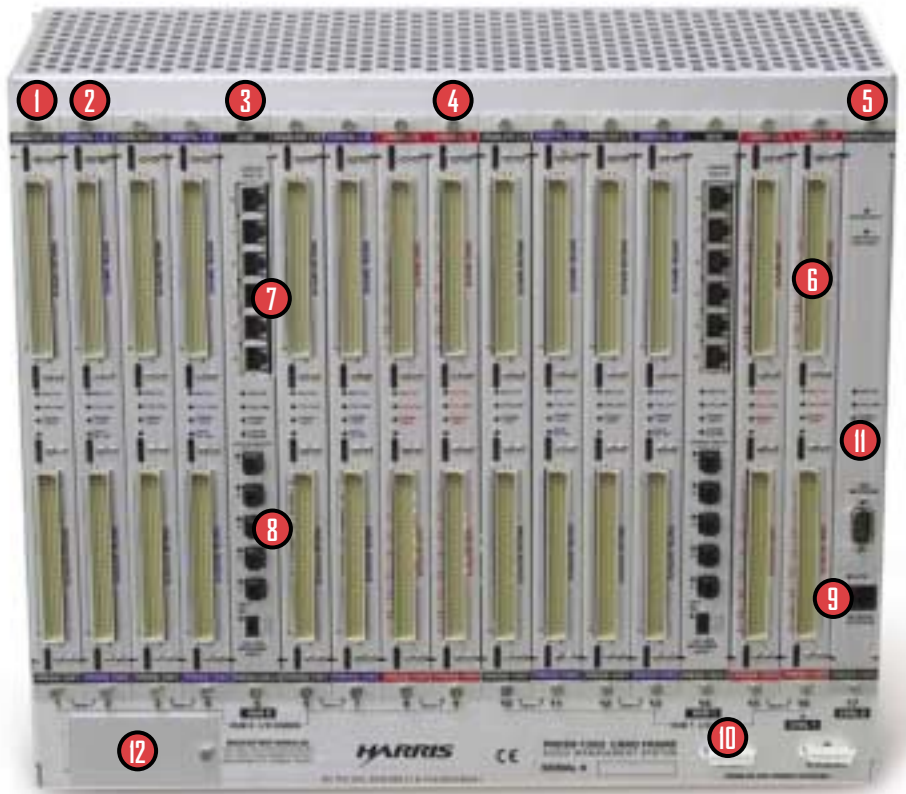


You don't need it tomorrow or an hour from now - you need it now! You don't have the time or resources to rebuild studios that meet new requirements. With VistaMax's shared resource concept, your facility can be quickly reconfigured for any program or format change. Compared to competitive products, VistaMax provides a more modular approach to system design allowing each installation to be adapted to your facility's unique requirements with fewer physical plant changes.

This is an important issue since a talk radio format has very different needs than a music-oriented format. The reconfigurability of the integrated console system allows the broadcaster to instantly make available any audio sources in the system to a given studio. In fact some stations will be able to use the same studio for different formats in different day-parts.

Looking at a 15-studio set-up in a central facility, one source shared with each studio would require at least 16 stereo audio connections in your current set-up compared to *one* with VistaMax. And considering that the average 15-studio facility might have 25 shared sources then VistaMax in your facility would require 735 fewer connections.

## VistaMax Frame (Rear Panel)



### Easy Upgradeability

With VistaMax there are virtually no limits on expandability. Audio is connected once, but available for simultaneous use at all (and future) studio locations within the system.

### VistaMax Benefits and Features

- Reduces time and cost of installation
- Totally integrated, networked system that allows autonomous console operation when needed
- Enhanced flexibility of studios by allowing resource sharing
- Leverages existing equipment with modular, incremental approach
- Easily expanded and reconfigured for format changes
- Centralizes appropriate wiring in a technical core while allowing local connections to equipment normally located in a studio or control room
- Smooth migration from dedicated analog studios to a digital, networked infrastructure

#### 1 Analog I/O Card

32 analog inputs & 32 analog outputs

#### 2 Digital I/O Card

16 AES/EBU inputs & 16 AES/EBU outputs

#### 3 HUB Card—Six VistaMax Links

(One or more per frame) Six CAT-5e I/O & external AES Reference Input standard, five MT-RJ Optical I/O (opt.)

#### 4 Logic I/O Card

32 isolated logic inputs & 32 isolated logic outputs

#### 5 Controller Card

(one per frame, with a second installed for redundant operation) LAN connection interface

#### 6 96-PIN Euro Connectors

User input and output connections for analog, digital, and logic signals

#### 7 VistaMax Link — CAT-5e Interfaces

Each bi-directional connection carries up to 64 digital audio channels with associated logic to/from other VistaMax frames and to Net Card-equipped BMXdigital consoles

#### 8 VistaMax Link — MT-RJ Optical Interfaces

(On the -2 version cards) Carries the same signals as the CAT-5e connections, but can connect devices up to 2km apart

#### 9 LAN Interface

(Ethernet) Ties the VistaMax frame to a LAN for remote editing, monitoring, and control of the VistaMax system

#### 10 Dual Power Supply Inputs

Built-in power supply coupler for redundant operation

#### 11 Status Indicators

#### 12 Backup Batteries

## Specifications

### Test Conditions:

- 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 low pass filter.
- Analog outputs at >1k ohm load
- FSD = Full Scale Digital, +24 dBu
- Typically Configured Frame contains a mix of Analog, Digital and Logic I/O cards in all available slots.

### Analog Line Inputs and Outputs — VistaMax Analog I/O Card (32 Analog I/O per card)

Input Impedance	>40 k ohms, balanced
Input Level Range	Software selectable, -12 dBu to +12 dBu
Maximum Input Level	+24 dBu
Output Source Impedance	<3 ohms balanced
Output Load Impedance	1k ohms minimum
Nominal Output Level	Software selectable, -2 dBu to +10 dBu
Maximum Output Level	+24 dBu

### Digital Inputs and Outputs — VistaMax Digital I/O Card (16 AES/EBU, 32-channel I/O)

Reference Level	+4 dBu (-20 dB FSD)
Signal Format	AES-3, S/PDIF (input only)
AES-3 Input Compliance	24-bit sample rate conversion available, software selectable
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 system referenced; Selected outputs switchable to 44.1kHz Crystal (internal) or AES-3 (Ext. local reference) via software selection
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, analog input to analog output

### Frequency Response

Analog Input to Analog Output	+0 dB/-0.5 dB, 20 Hz to 20 kHz
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### Dynamic Range

Analog Input to Analog Output	103 dB referenced to FSD, 106 dB "A" weighted to FSD
Analog Input to Digital Output	107 dB referenced to FSD
Digital Input to Analog Output weighted to FSD	105 dB referenced to FSD, 108 dB "A"
Digital Input to Digital Output	138 dB

### Total Harmonic Distortion + Noise

Analog Input to Analog Output	<0.005%, 20 Hz to 20 kHz, +18 dBu input, +18 dBu output, 22 kHz filter bandwidth
Digital Input to Digital Output	<0.00016%, 20 Hz to 20 kHz, -20dB FSD input, -20dB FSD output, 20 kHz filter bandwidth
Digital Input to Analog Output	<0.005%, 20 Hz to 20 kHz, -6dB FSD input, +18 dBu output, 22 kHz filter bandwidth

### Crosstalk Isolation

Adjacent Analog Inputs or Outputs	>95 dB, 20 Hz to 20 kHz
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### Logic I/O (32 Logic I/O per card)

Logic Inputs	Opto-isolated, floating or referenced to internal +5 Vdc or Ground via dipswitch
Logic Outputs	Opto-isolated, floating or referenced to internal +5 Vdc or Ground via dipswitch. Outputs configurable for Pulse or Continuous, Open or Closed operation, software selectable.

### VistaMax High Speed Link

Copper	CAT-5e compliant cabling, 100 meter maximum distance
Optical	MT-RJ compliant, 2km maximum distance, multimode fiber optic cable

### VistaMax Frame Environment

Frame Cooling	Convection cooled, no fans
Ambient Temperature	Less than 40° C at rack face air inlet, typically configured frame.

### Power Supply

Output to VistaMax Frame	+48 VDC at 7.0 Amp, redundant power supply optional
Cooling	Convection cooled, no fans
AC input	IEC power cord, one per power supply
DC output	Keyed multi-pin connector

### VistaMax Frame Power Requirements

Typically Configured VistaMax Frame	220 watts at 90-240 VAC, 50/60 Hz
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### Dimensions

VistaMax Frame, rack mount	15.75" (9 RU) x 19.0" x 9.5" (H, W, D)
Universal 48 Volt power supply, rack mount	3.5" (2 RU) x 19.0" x 11.5" (H, W, D)

## 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).



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Printed in USA on Recyclable Paper HMC 15070 HG ADV. 1162A 3/03