I/O Cards

Expansion Options

The N8000-1500 provides incredible flexibility in system design. Several hardware options are available which enable the N8000-1500 to deliver the highest quality audio in a variety of different formats. Mic or line level analog signals, as well as digital signals, are handled using the highest quality converters to ensure the best audio transmission. Additionally, the CM-1 allows CobraNet audio to be used for digital audio distribution over Ethernet networks.

AI-1 The AI-1 is an eight-channel analog input module for the Netmax™ System Controller. Audio signals are connected via screw lockable Euro block connectors. A-to-D conversion is handled by high performance linear 24-bit converters. Internally the signals are processed in 48-bit word length. The dynamic range is more than 117 dB.

AO-1 The AO-1 is an eight-channel analog output module for the Netmax™ System Controller. As with the other modules, the AO-1offers eight high quality audio signals via screw lockable Euro block connectors. D-to-A conversion is handled by high performance linear 24-bit converters. Internally the signals are processed in 48-bit word length. The dynamic range is more than 118 dB.

MI-1 The MI-1 is an eight-channel microphone input module for the Netmax™ System Controller. The module provides a variety of microphone input functions, e.g. programmable gain, software-switchable PAD for line sensitivity and selectable +48V phantom supply per input channel. Best audio perfomance is acheived by high-end linear 24-bit converters. Internally the signals are processed in 48-bit word length. The dynamic range is more than 117 dB.

DO-1 The DO-1 is an eight-channel digital output module for the NetMax™ System Controller. Digital audio signals in AES/EBU format are connected via screw-lockable Euro block connectors. Internally the signals are processed in 48-bit word length.

DI-1 The DI-1 is an eight-channel digital input module for the NetMax™ System Controller. Digital audio signals in AES/EBU or S/PDIF format are connected via screw-lockable Euro block connectors. Four Toslink™ connectors for the optical transmission of digital audio signals are available. All inputs are equipped with high quality sample-rate converters. Internally the signals are processed in 48-bit word length.

CM-1 The CM-1 is CobraNet™ extension module for the Netmax™ System Controller. The module provides 32 input and 32 output FULLY LICENSED channels of CobraNet™ compatible audio signals for extending the system capability.

NetMax™ N8000-1500 Specifications

GENERAL DESCRIPTION AND FEATURES	
N8000-1500 System Controller	Modular NetMax™ system manager including signal processing, routing, system control and supervision
Audio	32 Audio Channels. 4 Audio Slots, modular. 8-Channel Input and Output cards, analog or digital.
Networking	Module Slot for optional CobraNet™ Interface. 32 I/O Audio and Control.
Safety / Redundancy	Internal Supervision, System Monitoring, Watchdog, Fault Output, Redundant Audio Network possible
PC Configuration and Control Software	Intelligent Remote & Integrated Supervision Integration of N8000-1500, Remote Amplifiers, peripheral control Configuration, Control and Supervision for complete Audio System Freely programmable User Control Panels and Access Levels
AUDIO SPECIFICATIONS	
Audio Inputs	8 analog audio inputs per module, line level, electronically symmetric
Input Connectors	8 x 3-pole Euro block connectors
Input Level (nominal)	+6 dBu / 1.55 V
Input Level (max. before clip)	+21 dBu / 8.7 V
Input Impedance	20 kΩ
Common Mode Rejection	> 70 dB
A/D Conversion	24 Bit, Sigma-Delta, 128 times over sampling
Audio Outputs	8 analog audio outputs per module, line level, electronically symmetric
Connectors	8 x 3-pole Euro block connectors
Output Level (nominal)	+6 dBu / 1.55 V
Output Level (max. before clip)	+21 dBu / 8.7 V
Output Impedance	100 Ω
Min. Load Impedance	600 Ω
D/A Conversion	24 Bit, Sigma-Delta, 128 times over sampling
Frequency Response	20 Hz...20 kHz (-0.5 dB)
Signal to Noise Ratio (A-weighted)	AI-1: 117 dB typical, AO-1: 118 dB typical, N8000 analog In to analog Out: 114 dB typical
THD+N	< 0.005 %
Crosstalk	< -110 dB @ 1 kHz
SIGNAL PROCESSING	
Sample Rate	48 kHz internal, 32 kHz - 192 kHz external
Data Format	24 Bit linear A/D and D/A conversion, 48 Bit processing
Signal Processing	5 DSPs Standard (1500 MIPS), 1 DSP per Audio Module (100 MIPS)
INTERFACES	
Ethernet	10 / 100 MBit/s, RJ-45 (PC Control)
CAN	10 ... 500 kbaud, 2 x RJ-45 (Remote Amp Control)
RS-232	2 Ports, 9 pin DSUB male (Remote Control)
USB	USB Type B on Front Panel (PC Control)
GPIO Control Port	2 x 6-pole Euro block, 4 Control Inputs (analog 0 -10V / logic control), 3 Control Outputs (Relay contact to ground), 1 Fault Output (NC Relay contact), 3 Reference Outputs (+5V, +10V / GND)
N8000-1500 GENERAL SPECIFICATIONS	
Power Supply	100 - 240 V AC, 50/60 Hz
Power Consumption	90 W max. (incl. 2 x AI-1, 2 x AO-1, 1 x CM-1 modules)
Cooling	Left-to-right, 3-stage fan
Operating Temperature Range	32°F – 104°F (0 °C – 40 °C)
Dimensions (W x H x D)	19" x 3.5" x 15" (483 x 88.1 x 381 mm) 2 RU
MODULES / OPTIONS	
AI-1 Analog Input Module	8 analog line level audio inputs, electronically balanced
AO-1 Analog Output Module	8 analog line level audio outputs, electronically balanced
CM-1 CobraNet™ Module	32 digital audio inputs and outputs, 2 CobraNet™ ports (Primary/Secondary) for network redundancy
DO-1 Digital Output Module	8 AES/EBU outputs, Euroblock connectors, 48 kHz
MI-1 Microphone Input Module	8 mic/line level inputs, programmable Gain and Phantom Power, pad for line level switching, electronically balanced
DI-1 Digital Input Module	8 AES/EBU or S/PDIF inputs, Euroblock or optical connector, 32-192 kHz SRC per input

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Electro-Voice

NETMAX

N8000-1500

NETWORKED MATRIX SYSTEM

IRISNet

N8000-1500

NETWORKED MATRIX SYSTEM

Most Powerful Pro Audio Processor on the Market

The N8000-1500 represents that state of the art for pro audio signal processing. Based on the technology inside the Electro-Voice NetMax N8000, this system has proven itself time and again in the most demanding installations and live performances. Ranging from The World Cup to Live-8, from the Houston Rodeo to Kenny Chesney's groundbreaking tours, NetMax has established itself as a proven, roadworthy tool that can take even the most state of the art PA systems to the next level.

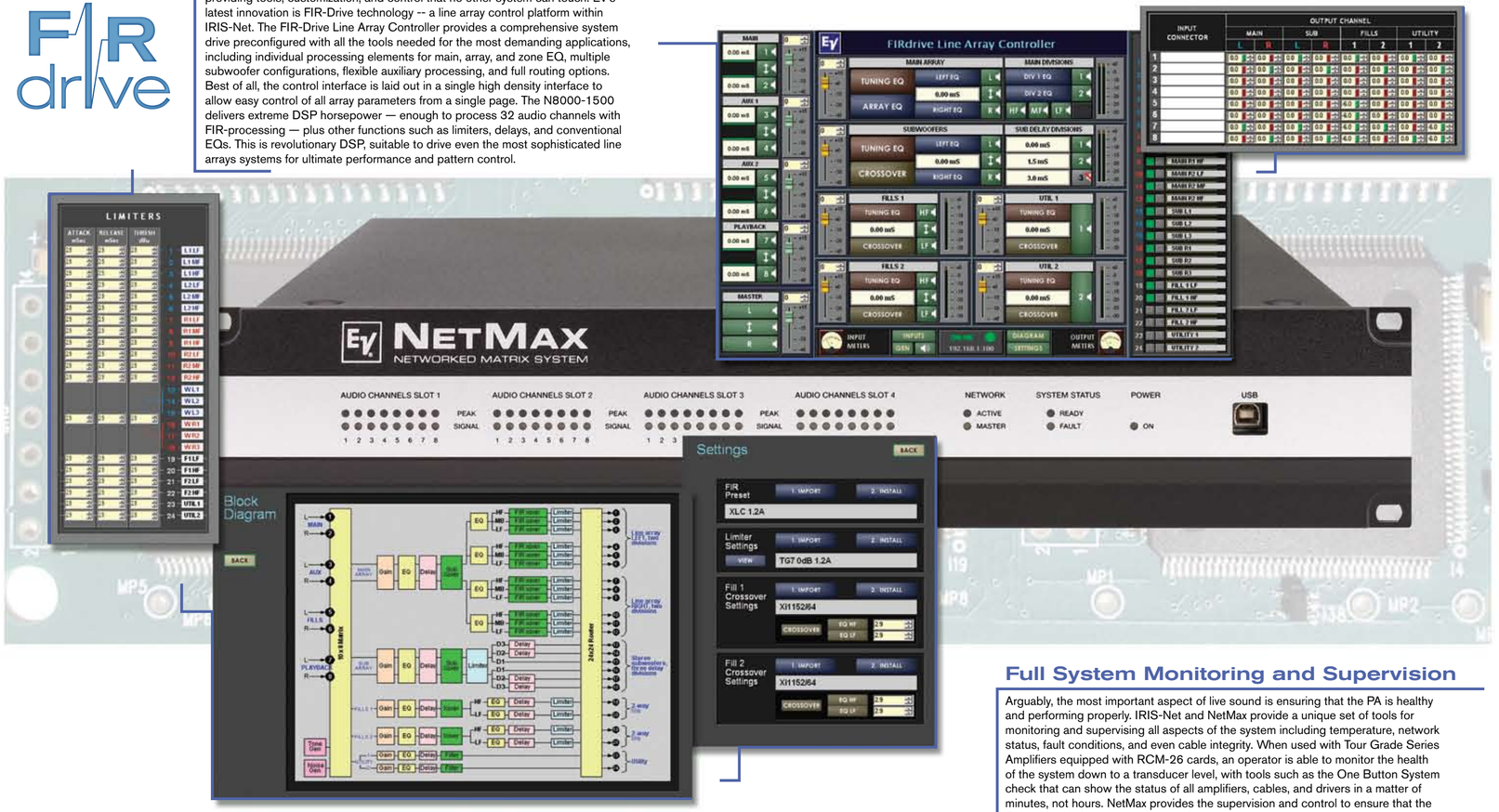
Now, NetMax itself advances to the next level with the N8000-1500. At the heart of the N8000-1500 is the new DSP-2 engine. Composed of three dual-core processors, the DSP-2 expands the total processing power of the N8000-1500 to 1500 MIPS. But it doesn't stop there: the unique modular nature of NetMax's means that each input or output card that is added to a chassis provides an additional DSP engine and another 100 MIPS of processing power. This means that a fully loaded chassis provides 1900 MIPS of processing-almost double the power of the original N8000. Combined with the optional CobraNet interface, NetMax's unique monitoring and supervision options, FIR-Drive, and the multitude of control options provided by IRIS-Net, the N8000-1500 represents the most powerful pro audio processor on the market!

Superior Audio Performance

The highest level of audio applications demand the highest audio performance, and NetMax delivers. High quality audio converters deliver a stunning dynamic range of 114 dB from analog input to analog output, including all signal processing. The pristine signal path ensures that audio remains pure and uncolored for the most accurate signal processing and reproduction. However, NetMax addresses other considerations for live audio applications, such as latency. The N8000-1500's autocompiling DSP engine provide a fixed latency of 2.19 ms from analog input to analog outputs, far less than may competitive products.

FIR drive

IRIS-Net has always provided new and unique solutions for the pro sound market, providing tools, customization, and control that no other system can touch. EV's latest innovation is FIR-Drive technology -- a line array control platform within IRIS-Net. The FIR-Drive Line Array Controller provides a comprehensive system drive preconfigured with all the tools needed for the most demanding applications, including individual processing elements for main, array, and zone EQ, multiple subwoofer configurations, flexible auxiliary processing, and full routing options. Best of all, the control interface is laid out in a single high density interface to allow easy control of all array parameters from a single page. The N8000-1500 delivers extreme DSP horsepower — enough to process 32 audio channels with FIR-processing — plus other functions such as limiters, delays, and conventional EQs. This is revolutionary DSP, suitable to drive even the most sophisticated line arrays systems for ultimate performance and pattern control.



Full System Monitoring and Supervision

Arguably, the most important aspect of live sound is ensuring that the PA is healthy and performing properly. IRIS-Net and NetMax provide a unique set of tools for monitoring and supervising all aspects of the system including temperature, network status, fault conditions, and even cable integrity. When used with Tour Grade Series Amplifiers equipped with RCM-26 cards, an operator is able to monitor the health of the system down to a transducer level, with tools such as the One Button System check that can show the status of all amplifiers, cables, and drivers in a matter of minutes, not hours. NetMax provides the supervision and control to ensure that the PA system is always operating at it best.