



## DESCRIPTION

The MediaMatrix nWall 1.1 is a surface mount CobraNet interface panel with two analog microphone/line level input channels and two analog line level output channels. For the inputs, the device converts the analog audio to a CobraNet audio stream with two subchannels. For the outputs, it decodes a Cobranet audio stream and converts the two subchannels to analog audio. The CobraNet audio stream is routed to or from a local area switched network using CAT5e UTP cable.

The input side of the front panel features an XLR connector with 12V DC phantom power. The input sensitivity can be selected using a rotary switch. Electret condenser and dynamic microphones are supported, plus line level audio. There is also a 1/8" (3.5mm) TRS mini jack, which accepts a nominal -8dBu signal. The output side of the front panel features an XLR line level connector. The output level can be selected using a rotary switch. There is also a 1/8" (3.5mm) TRS mini jack.

The nWall eliminates the need for long runs of analog cables terminated in racks of patch bays. As the connection to the nWall uses CAT5e UTP cable with network standard RJ45 crimp connectors, the installation time, number of terminations required and associated cost are all minimized. A MediaMatrix nWall fits within a standard 2 gang North American NEMA back box and is powered over the attached network cable from a network PoE capable switch that conforms to IEEE 802.3af.

## FEATURES & BENEFITS

- 2 balanced XLR connectors - selectable input sensitivity / output level via rotary switches allows quick setup at the wall panel. Latchless connection minimizes mechanical damage.
- 2 unbalanced TRS 1/8<sup>th</sup> inch (3.5mm) mini jack connectors - for PC and Aux consumer line level audio products using off the shelf consumer audio cables.
- CobraNet audio transport - via switched network and RJ45 crimp connectors greatly reduces critical path delivery time and costs, replacing the need to solder/terminate analog interface panels.
- Electronic patching - using MediaMatrix NWare any number of nWall panels can be patched on the fly to any number of NIONs, eliminating the need for expensive patch panels and greatly reducing setup time between events.
- A/D and D/A conversion at the wall panel - reduces problems with buzz, hum, ground loops and other cable issues. It also eliminates the need for isolation and impedance matching interfaces.

## APPLICATIONS

- Civic & convention centers
- Hotel ballroom, function and meeting rooms
- Stadiums, arenas, performing arts centers
- Schools, universities
- Auditoriums & theaters
- Paging systems
- Airports
- Mass rapid transportation systems
- Theme parks
- Houses of worship
- Teleconferencing
- Cruise ships & tour boats
- Medical centers / hospitals

## Specifications

### Front Panel Input Connections

1 x balanced XLR3 (F) input (latchless)  
Rotary (3 step) switch for the XLR. Selectable gain attenuation: -56dBu / -26dBu / +4dBu (nominal) with +20dBu (peak) headroom for each setting.

1 x unbalanced TRS (F) 1/8th inch mini jack input, -8dBu (nominal) + 12 dBu (peak).

1 x blank label box for custom labeling of channel.

### Front Panel Output Connections

1 x balanced XLR3 (M) output (latchless)  
Rotary (3 step) switch for the XLR. Selectable output level: -8dBu (nominal)/+12dBu (peak), -6dBu nominal/+18dBu (peak) and +4dBu (nominal)/+24dBu (peak).

1 x unbalanced TRS (F) 1/8th inch mini jack output, -8dBu (nominal) + 12 dBu (peak).

1 x blank label box for custom labeling of channel.

### Rear Panel Connections

LAN: RJ-45 socket for CobraNet and control communications on 100Base-T Ethernet. Requires Power-over-Ethernet (PoE) via an IEEE 802.3af capable network switch.

### Digital Audio Performance

Frequency response: +/- 1dB 20Hz to 20kHz nominal level

THD+noise: Less than 0.1% 20Hz to 20kHz nominal level

Hum & Noise / EIN, 150 Ω: -126 dBm at max gain, 20Hz - 20kHz  
Dynamic Range: 98 dB (gain min)

CMRR: 65 dB

### Nominal Input Sensitivity / Max Input Level

XLR connector:  
Position 1 +4dBu / +24dBu  
Position 2 -26dBu / -6dBu  
Position 3 -56dBu / -36dBu  
(Impedance mic = 2.0 kOhm)

TRS connector:  
-8dBu / +12dBu  
(Impedance line = 10.0 kOhm)

Phantom Power:  
+12V DC (DIN 45 596 or IEC 268-15A)  
(Allocated to XLR input)

### Nominal / Max Output Level

XLR connector:  
Position 1 -8dBu / +12dBu  
Position 2 -2dBu / +18dBu  
Position 3 +4dBu / +24dBu

TRS connector:  
-8dBu / +12dBu  
(Impedance line = 10.0 kOhm)

### CobraNet Performance

2 audio input sub channels and 2 audio output subchannels at 48 kHz sample rate, 5.33ms latency.

Two channels are sent to a CobraNet transmit bundle and two are received from a CobraNet receive bundle.

When transmitting audio:  
Channel 1 receives audio from the mini-jack  
Channel 2 receives audio from the XLR input

When receiving audio:  
Channel 1 provides audio to the mini-jack  
Channel 2 provides audio to the XLR output

### System Configuration

Audio interface panel IP settings, CobraNet bundle settings and subchannel mapping assignments are remotely accessible via the Ethernet network.

CobraNet Discovery can be used for basic set up. Advanced and dynamic set up via NWare requires an nTouch 180 or nControl.

### Power / Data requirements & connection

Requires IEEE 802.3af PoE compliant network switch that provides up to 15.4 W of DC power (minimum 44V DC and 350 mA) from each individual port over CAT5e UTP cable.

Power over Ethernet (PoE):  
Consumption = 350 mA (Max)

### Mechanical Specification

Dimensions: 4.57" (116mm) W x 2.0" (51mm) D x 4.5" (114mm) H  
Net Weight: 1.54 lb. (0.70 kg)  
Mounting: North American NEMA 2-gang finish plate, requires 2.25" clearance depth minimum. Mount in metal box coupled to EMT conduit.

NOTE: Take care to ensure that back box and conduit coupling hardware, wire or other terminating devices do not obstruct the installation of the nWall circuit assembly.

### Finish

Grey powder coat on 18 gauge CRS.

NOTE: The nWall can only be powered via an IEEE 802.3af PoE compliant network switch. This must provide up to 15.4W of DC power (minimum 44V DC and 350mA) from each individual port over CAT5e UTP cable. Although any 802.3 compliant network switch should work with CobraNet, less expensive switches cannot operate at wire speed or have limited queue buffer sizes and can cause problems when a large amount of network traffic is present.

## Architect's & Engineer's Specifications

### Audio Network In Wall Interface Panel

The audio network interface panel shall be an in wall surface mount panel housed within a North American NEMA 2-gang back box designed for fixed installation in engineered audio and communication systems. It shall provide up to 2 input analog audio channels supporting both microphone and line level balanced and unbalanced line audio sources with input attenuation being selectable from a rotary switch located on the front panel. The balanced analog audio inputs shall provide for 12V DC phantom powering for microphones. The device shall also provide up to 2 output analog audio channels supporting both line level balanced and unbalanced audio connections with output levels being selectable from a rotary switch located on the front panel. The audio network interface shall be powered from Power-over-Ethernet according to standard IEEE802.3af. The audio interface panel shall be a 4 channel device. On the input side, audio from the TRS mini jack and XLR input connectors shall be transmitted onto the CobraNet network using two separate CobraNet subchannels. On the output side, two CobraNet subchannels shall be decoded and made available via the TRS mini jack and XLR output connectors. The audio network shall operate on a 100Base-T Ethernet physical interface. The network interface panel Ethernet port shall be side mounted to ensure connected network cable has sufficient bend radius. Remote set up and control via Ethernet shall be possible for CobraNet settings. A software device to control the audio network interface panel shall be available for integration into the NWare configuration file. The audio network interface panel shall be the MediaMatrix nWall 1.1 or approved equal.

