PXN88
8x8 digital audio matrix

- PXN88 is an 8 in / 8 out digital audio matrix, fully programmable and linkable to a second unit to become a 16x16 matrix, with real routing from any input to any output.

- It can be configured and managed via Ethernet with the included Majorcom-Net Manager software, also offering many other external control options: Windows® based networked clients (a graphical, custom-made screen for each user), TP-NET third-party control protocol for the integration with external control hardware like Crestron®, AMX®, Extron®, etc., digital W-TOUCH wall panels, digital MAGPE16 paging station, 8 GPIO ports, etc.

Applications

- Centralized, distributed or hybrid fixed installation
- BGM & Paging solutions, with message priorities and source/volume independent selection
- Integration in installation global control systems
- Conferencing (automatic mixing)
- P.A. management (multi-way speaker processing, delay adjustment, etc.)
- Installations requiring remote supervision, diagnostic and adjustment via Internet
- Live sound (WiFi management is possible from a PC)

Recommended Amplification

- DPA Series
- DIGIPRO Series

Key features

- 8 MIC/LINE balanced inputs, with phantom power selection and mono or stereo management
- 8 balanced outputs with mono or stereo management
- 2 additional monitoring outputs
- Expandable to 16 inputs / 16 outputs to become a real 16 x 16 matrix (using the digital audio bus between PXN88 units, a CAT5 connection which can handle 100 meter distances)
- 8 GPI ports (General Purpose Inputs): 0-10 VDC control inputs assignable to PXN88 functions, like volume control, MUTE, preset recall, etc.
- 8 GPO ports (General Purpose Outputs): relay contacts to remote control external devices, like motors, lights, etc.
- Digital control bus for the W-TOUCH (digital touch-sensitive) wall panel and the MAGPE16 (digital & touch sensitive paging station)
- Fully programmable and controllable via Majorcom-Net software (with a straight PC-PXN88 cable connection or by means of an Ethernet network)
- Ethernet remote control with multi-client simultaneous connections: Windows® based control screens customized for the needs of each user
- A few processing bits:

  signal generator, delays, full parametric EQ filters at inputs and outputs, inputs noise gate, level, mute, phase, vu-meters, outputs compressor / limiter, ducking (priority & overriding), virtual and physical paging stations management, automatic mixer function, presets save & recovery, scheduled events triggering

Rear panel

PXN88
Technical specifications

DSP	
DSP	2 x 32/64bit
Sampling Rate	48kHz
Latency IN to OUT	<2.9ms (+1ms for 16x16)

CONVERTERS	
Resolution	24bit AKM
Dynamic Range	AD:110dB, DA: 115dB

ANALOG	
8+8 Input/Output	Terminal block (Symmetrical)
2 monitor output	Terminal block (Symmetrical)
Headphones related	Jack ¼
Analog Input headroom	+27dBV = +30dBu
Max. output level	+18dBV = +21dBu
Input sensitivity @ 0dBV out	From -50dBV to +10dBV in 0.5dB step
Input Impedance	Balanced, >4kΩ
Phantom power	+42VDC, 5mA max. software switched
Headphones	>200mW/200Ω
Frequency response (-3dB)	5Hz to 24kHz
Flatness	better than ±0.1dB
THD+Noise @ 1kHz, 0dBV input (line)	<0.004%
THD+Noise @ 1kHz, -40dBV input (mic.)	<0.008%
Output Noise floor FFT (20Hz - 20kHz)	better than 115dB
Interchannel crosstalk (20Hz - 20kHz)	better than 90dB (100dB typ.)
Channel Leakage (20Hz - 20kHz)	better than 100dB (115dB typ.)
CMRR 20Hz- 20kHz	65dB typ.

SOFTWARE		
Majorcom-Net Software	Realtime full GUI of all functions and controls thru Ethernet with interactive graphical display	
	Grouping mode channels or devices	
	Grouping of other groups	
	Automated report generation	
	Up to 256 devices on same net	
	Autodiscovery devices feature	
	Routing capability through NAT gateways	
	Real time metering at input/output (DSP)	
	Device "Finder" feature	
	Save & Recall setup and preset functions	
	Firmware update capability thru Ethernet	
	Password protection (device & project with two user levels)	
	Default Network configuration: IP: 192.168.0.100 Mask: 255.255.255.0 Gate: 192.168.0.1 UDP Port: 2210	
Operating System	Windows® W2000 Prof. (SP4); XP Prof. (SP3); Vista (SP1), W7	
Minimum Majorcom-Net System Requirements	Pentium IV ® 1GHz	
	512MB RAM	
	40MB HDD free space	
	800x600 pixels & 16bits color display	
	10/100/1G Ethernet Network card	

PROCESSING	
Input Level (x8)	Range: from Off to 0 dB • Mute: Yes • Signal Polarity reverse: Yes • Metering: VU+clip pre & post fader
Output Level (x8)	Range: from Off to 0 dB • Mute: Yes • Solo: Yes • Signal Polarity reverse: Yes • Metering: VU+clip pre & post fader
Input Delay (x8)	from 0 to 1000 ms • Units: sec/ms/m/cm.
Output Delay (x8)	from 0 to 1000 ms • Units: sec/ms/m/cm.
Parametric Eq. Types (4 max per input) (8 max per output in 8x8 mode) (4 max per output in 16x16 mode)	Bypass / On-Off all channels • Param Eq. : Freq: 20Hz-20kHz - Gain: -60/+12 dB - Q: 0.3 to 200 / Low & High Shelf 6/12 dB/oct • Low & High Pass 6/12 dB/oct • All Pass 1/2 order
High & Low pass output Crossover filters (x8)	Bypass On-Off • Butterworth in 6/12/18/24 dB/oct • Bessel in 12/18/24 dB/oct • Linkwitz-Riley in 12/24 dB/oct
Input Noise Gate (x8)	Bypass On-Off • Threshold: from –80 dBV to +18 dBV • Depth: 0 dB to 80 dB • Knee: hard / soft • Attack time: from 0,1 ms. to 500 ms. • Hold time: from 10 ms. to 3000 ms. • Release time: from 10 ms. to 1000 ms.
Input Compressor / Limiter (x8)	Bypass On-Off • Threshold: from –36 dBV to +18 dBV • Ratio: 1:1 to inf:1 (limiter) • Knee: hard/soft • Attack time: from 0,1 ms. to 500 ms. • Release time: from 10 ms. to 1000 ms. • Make up gain: from 0 to +10 dB
Output Limiter (x8)	Bypass On-Off • Threshold: from –36 dBV to +18 dBV • Ratio: inf:1 (limiter) • Attack time: from 0,1 ms. to 500 ms. • Release time: from 10 ms. to 1000 ms.
Built in Signal Generator	Sine: from 20 Hz to 20 kHz • Polarity: from 20 Hz to 20 kHz • White noise • Pink noise
Stereo Linking	Adjacent input/output channels • Linked processing • Matrix routing linked
Mix Matrix	Size: 8x8 (1-PXN88) • Size: 16x16 (2-PXN88 with expan. link bus) • Vol: Input, Output, Crosspoint • Mute: Set/Clear individual, row, column, all • Input /output Mono/stereo selector • Meter: Input /output VU and clip
Pager (x2)	Inputs: 8 (or 16 in 16x16) • Priorities: 1(max) 2 (min) • Depth: 0 to 80 dB • Attack time: from 0,1 to 500 ms. • Release time: from 10 to 1000 ms. • Chime Source: None, Melody 1, Melody 2 • Chime Volume: from –12 to 0 dB

SUPPLY	
Power consumption	75VA
Mains	90-264VCA 47-63Hz

MECHANICAL	
Dimensions (WxHxD)	482.6 x 44 x 266.5mm · 1U
Weight	3.5kg

MISCELLANEOUS	
Management Connectivity	Ethernet Base-Tx 10/100Mb Auto X-Over CAT5 up to 100m.
Expansion LINK BUS (16x16 ch.)	Proprietary over CAT5, Xover cable up to 100m.
Remote Bus	2, over twisted pairs; up to 1km (see specific specs.)
GPI	8, from 0 to 10VDC or TTL level
GPO	8, 3 poles isolated relay; 1A, 48VDC max.
Aux. Power Supply for Remotes & GPI	+12VDC, 1.2A. max. (short circuit protected)
Time and date retention (battery)	1 month aprox. (ambient temperature dependant)
RTC accuracy	±1 minute /year