



miXart 8 range - complementary product information

# Digigram miXart 8 CN

*Multichannel Audio Processing and Mixing Sound Card with Analog I/Os and CobraNet™ Interface*



**MI XART™** Digigram's miXart 8 CN combines Peak Audio's widely used CobraNet™ technology for distributing real-time audio over fast Ethernet with the most advanced computer-based audio solution, making it possible to have the best of both – with the ability to connect with any compliant CobraNet device.

## Digigram miXart 8 CN

miXart8 CN links CobraNet audio networks with the direct-to-disk audio record/playback capabilities of Digigram's most powerful audio card. The core of the system, the miXart8, has eight mono (or four stereo) analog input/output paths, including four microphone preamps with phantom power supply on its input bank.

The CobraNet interface is managed via an internal daughter board. Eight channels of CobraNet input and eight channels of CobraNet output are provided, operating independently of the analog inputs/outputs. The network connection, using standard 100-BaseT Ethernet protocols, is available on two, redundant RJ45 jacks which provide on-board backup for installations where failure is not an option.

## About Cobranet technology

CobraNet is a technology for routing and distribution of real-time multichannel high quality digital audio over fast Ethernet. In addition to audio transport, CobraNet provides clock distribution and remote control and monitoring.

### Routing and distribution

With CobraNet, digital audio can be transmitted and received from any different locations, all connected to each other. Both unicast and multicast transmissions are possible. All the audio paths can be defined in real-time, and in many cases without additional hardware and cable installation.

### Real-time

With CobraNet, delay for transmission of digital audio is fixed and constant (about 5 ms on a network with only regulated traffic), regardless of relative source and destination node locations on the network.

### Multi-channel

With CobraNet, many channels can be concentrated over a few wires, greatly reducing the cost of wiring. For instance, over a 100 Mbit Ethernet network, a single cat 5 cable can transmit 64 channels of 20 bits, 48 KHz audio.

### High quality digital audio

Digital audio carried over a CobraNet network is PCM 48 kHz sample rate, 16, 20 or 24 bit resolution. Since CobraNet uses digital audio transmission, it has low susceptibility to RFI and quality does not degrade with distance. Distances far beyond those practical with analog cables are possible.

### Ethernet

Ethernet is the most common networking technology in use. It has been proven in mission critical applications, due to its fault tolerant features. It is now commonly available at 100 Mbit/s and 1 Gbit/s. 10 Gbit/s data rates are on the horizon.

### Clock Distribution

CobraNet insures phase coherence between units on the network. The master clock is supplied by one of the CobraNet devices on the network. A fault-tolerant arbitration procedure insures that at any time there is always one and only one CobraNet device supplying the master clock. Due to careful control of the clock corrections, the jitter is maintained at less than 1 ns.

### Remote control and monitoring

A key benefit of using an audio network is the ability to remotely control and monitor all of the devices connected to it from a central location. Control and monitoring data can be carried over the same wire or fiber that the audio is carried on, greatly reducing the complexity and cost of cabling infrastructure. CobraNet devices implement Simple Network Management Protocol (SNMP), the standard and most common management protocol in use today.

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## Configuration

<b>Bus/Format</b>	PCI master mode
<b>Digital Signal Processor</b>	8240 Power PC at 250 MHz
<b>Memory SDRAM</b>	16 MB
<b>Size</b>	265 mm X 107 mm
<b>Power Consumption</b>	+5V 3.2 A +12V 0.3 A / -12V 0.2 A
<b>Operating: temp/humidity (non-condensing)</b>	0°C to +50°C 5% to 90%
<b>Storage: temp/humidity (non-condensing)</b>	-5°C to +70°C 0% to 95%
<b>Connectors</b>	Breakout cable with 16 XLR and 2 DIN. Breakout cable with 2 RJ45 female, 2 XLR for AES/EBU, 2 BNC for Word Clock Sync (IN & OUT).

## Audio inputs/outputs

<b>Analog mono inputs</b>	4 balanced, line/mic, with phantom power 4 balanced, line
<b>Analog inputs 1 to 4</b>	
<b>Impedance</b>	>8 kΩ
<b>Analog gain adjustment</b>	0.5 dB steps
<b>Max input level</b>	+22 dBu
<b>Analog inputs 5 to 8</b>	
<b>Impedance</b>	>8 kΩ
<b>No analog gain adjustment</b>	
<b>Input level to ensure 0 dBFS</b>	Switchable during installation between +10 dBu and +22 dBu
<b>Analog mono outputs</b>	8 balanced
<b>Maximum output line level / Impedance</b>	+22 dBu / <100 Ω
<b>Analog variable attenuation</b>	0.5 dB steps
<b>CobraNet inputs / outputs</b>	8 channels in, 8 channels out, at 48 Khz. 16, 20, or 24 bits.

## External synchronization

<b>CobraNet synchronization</b>	Conductor or slave device capability
<b>AES/EBU sync input</b>	AES 11 compliant. Synchronizes CobraNet on an external clock
<b>AES/EBU sync output</b>	To get clock synchronization from CobraNet.
<b>Word Clock sync input</b>	To synchronize CobraNet via an external Word Clock
<b>Word Clock sync output</b>	To get clock synchronization from CobraNet.

## Audio specifications

<b>Sampling frequencies</b>	From 7 - 50 kHz, 100 Hz steps
<b>Audio processing</b>	32 bit floating point
<b>A/D and D/A converter resolutions</b>	24 bit
<b>Frequency response at 48 kHz (record + play)</b>	± 0.2 dB
<b>Signal-to-noise ratio (unweighted)</b>	> +93 dB (line)
<b>Distortion + noise at 1KHz (record + play)</b>	0.004% (<-88 dB)
<b>Channel phase difference : 20Hz to 20kHz</b>	0.2° to 2°
<b>Analog channel crosstalk at 1 KHz</b>	< -105 dB

## Development and integration environments

<b>Digigram management</b>	np SDK (PCXTools, PCX Designer Kit, PCXedit) VConsole Builder, VConsole Designer Kit CobraNet SDK, CobraNet configuration application
<b>Other audio management</b>	Wave
<b>OS supported</b>	Windows 2000, Windows XP
<b>PC requirements</b>	Pentium II (or equivalent) Minimum, 128 MB RAM
<b>Software features</b>	
<b>Default</b>	PCM, scrub, time-stretching, mixing, routing, digital levels, phase inversion, mute, panning, balance, parametric equalization, compression/expander, noise gate
<b>Optional</b>	MPEG layer I, II encoding/decoding and mp3 decoding Sample Rate Conversion Delay

**Note:** Certain combinations of features may be limited by the total available processing power of the miXart 8 or host computer.

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