



Professional stereo sound cards

# PCX22e, PCX924e and PCX924e-Mic

## boarding pass to a new world

Digigram now offers PCI Express versions of its PCX924HR, PCX924HR-Mic and PCX22HR sound cards, which offer stereo inputs and outputs, perfect for on-air automation, production and other mission-critical applications. Exacting specs, outstanding quality, absolute reliability and total connectivity make this new generation the number one choice for pro audio manufacturers and software vendors. These PCI Express stereo sound cards share the same features as the HR series and integrate seamlessly with the same professional audio software.



These sound cards are visiblu ready : get connected to the world of distributed IP audio. A solution based on visiblu®, the Network Audio Operating System by Digigram, takes advantage of their power for low latency wide area network encoding and processing, whether they are located next door or hundreds of miles away.

### Key features

- 24-bit/192kHz AD/DA converters
- +24 dBu maximum analog signal levels
- Hardware sample rate converter on the digital input
- AES/EBU, LTC, and interboard synchronization inputs
- Native, low-latency HR drivers package: WDM DirectSound, ASIO, Wave and driver for Digigram SDK
- DirectSound driver signed by Microsoft Windows Hardware Quality Labs

### PCX924e-Mic additional features:

- One professional grade analog mic preamp with analog compressor limiter, mixed with the analog line inputs
- AES42 support for AES42 digital microphones recording

# PCX22e, PCX924e and PCX924e-Mic

	PCX924e	PCX924e-Mic	PCX22e
<b>Configuration</b>			
Bus/Format	PCI Express™ X1 (compatible with X1, X2, X4, X8, X12, X16, X32 slots)		
Digital Signal Processor	Motorola 56303 at 100 MHz		
RAM	512 kWords		
Size	168 mm x 99 mm x 20 mm		
Power requirements (+3.3V/+12V)	1 A / 0.2 A	1.3 A to 2.3 A / 0.22 A	0.92 A / 0.18 A
Operating: temp / humidity (non-condensing)	0°C / +50°C • 5% / 90%		
Storage: temp / humidity (non-condensing)	-5°C / +70°C • 0% / 95%		
<b>Inputs</b>			
Balanced analog line inputs (mono)	2	2	-
Maximum line input level/impedance	+24 dBu / >10 kOhms	+24 dBu / >10 kOhms	-
Programmable input gain	Analog and digital	Analog and digital	-
Digital inputs (stereo)	1 AES/EBU	1 AES/EBU	-
	with switchable hardware sample rate converter, ratio from 1:8 to 7.5:1, up to 192kHz	with switchable hardware sample rate converter, ratio from 1:8 to 7.5:1, up to 192kHz	-
AES/EBU sync input	Yes		
AES11 synchronization	Yes		
Other inputs	2 GPI (dry contact), LTC		
<b>Outputs</b>			
Servo-balanced analog line outputs (mono)	2		
Maximum output level / impedance	+24 dBu / < 100 Ohms		
Digital outputs (stereo)	1 AES/EBU		
Programmable output gain	Analog and digital		
Other outputs	1 stereo headphone output (600 Ohms), 2 GPO (relay, 0.5 A, 48 VCC)		
<b>Connectors</b>			
Internal connector	Inter-board synchronization		
External connectors	15-pin Sub-D for analog I/Os, 15-pin HD Sub-D for digital I/Os, Sync., and GPIO 1 mini jack 3.5 mm TRS female jack for headphone stereo output		
<b>Audio specifications. Measurements done at Fs=48 kHz unless stated otherwise, with filter on the 22 Hz - 22 kHz range</b>			
Sampling frequencies available	Programmable from 8 to 192 kHz		
A/D and D/A converters resolution	24 bits		
Supported audio formats	PCM (8, 16, 24 bits), Float IEEE754, MPEG (Layer I, II, and III up to 48 kHz)		
Frequency response (record + play)	at 48 kHz: 20 Hz - 20 kHz: +0 /-0.3 dB at 96 kHz: 20 Hz - 40 kHz: +0 /-0.4 dB at 192 kHz: 20 Hz - 80 kHz: +0 /-1.1 dB		
Channel phase difference: 20/20kHz	< 0.2°/2°		
Dynamic range (A-weighted)	Analog In: >104 dB*, Analog out: > 106 dB		
THD + noise 1 kHz at -2 dBfs	Analog In: <-97 dB*, Analog out: <-95 dB AES/EBU in sample rate converter: <-130 dB*		
Crosstalk (Analog in or out)	1 kHz at 24 dBu: <-115 dB, 15 kHz at 24 dBu: <-100 dB		
<b>Development environments</b>			
Digigram management	np SDK (HR Runtime, PCM and MPEG)		
Other management	Wave (PCM, MPEG), ASIO, and DirectSound (PCM)		
Supported operating systems	Windows Vista, 2000, XP <sup>1</sup> , and Windows 2003 Server <sup>1</sup>		
Main on-board processing features (with np SDK)	MPEG, PCM and Float IEEE754 play, rec, direct monitoring, real-time mixing, level adjustment, 3-band parametric equalizer, maximizer, panning, cross-fade, punch-in/punch-out, scrubbing, time-scaling, pitch-shifting		

## PCX924e-Mic

<b>Additional analog microphone input</b>	
Balanced analog microphone input (mono)	1, with analog expander/compressor/limiter This input is mixed with the two line inputs before A/D conversion
48V phantom power supply	Yes
Programmable mic gain	0 to 66 dB in 0.5 dB steps
Maximum mic input level/impedance	+10 dBu / >10 kOhms
Equivalent Input Noise, A/D-D/A at 48kHz, G=60 dB, Z=200 Ohms	<-125 dBm
<b>AES/EBU input special features</b>	
Support of AES42 digital microphones	Yes, with digital phantom power supply (10 V min / 250 mA max)
Remote control of digital microphones	Yes
AES42 synchronization mode	Operational mode 1 (the microphone generates its own clock)

\* PCX924e & PCX924e-Mic only - (1) 32-bit version

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