

1 GENERAL INFORMATION

1.1 Product description

The VX442 is a Card (PCI bus) which can be used with most audio applications using Microsoft's Wave and DirectSound protocols, Apple's Sound Manager and Core Audio...

This solution bringing new possibilities to professional multi-channel applications such as audio production or archiving.

The VX442 allowed, four balanced analog inputs/outputs with 24-bit converters, as well as a digital stereo input/output in AES/EBU or S/PDIF formats. A total of six inputs/outputs are available for simultaneous record and playback with exceptionally low latency on a large number of supported computer platforms.

Key features:

VX442:

- 6 simultaneous inputs/outputs.
- 4 balanced analog inputs/outputs +4 dBu/-10dBV.
- Balanced digital stereo input/output in AES/EBU or S/PDIF formats.
- Versatility and exceptional audio quality:
 - Sample rate: 8 to 96 kHz.
 - PCM resolution: 8, 16 or 24 bit.
 - Excellent audio performance, even at lowest resolution.
- Very low latency, due to hardware and software architecture (by default at 48 kHz: 8ms, minimum: 1.5 ms).
- Large choice of supported platforms:
 - PC: Wave, DirectSound, ASIO2, EASI, GSIF
 - Mac: Sound Manager, ASIO2
 - and Core Audio (Mac OS X).
- Multiple applications may share the resources of a single card.
- Dedicated control interface permits routing and mixing between different hardware and virtual inputs/outputs.

For more information, see product's data sheet at section 1.6.

1.2 Related Submittal(s) / Grant(s)

All host equipment used in the test configuration are FCC granted, when relevant.

1.3 Tested System Details

The FCC IDs for all equipment, plus description of all cables used in the tested system are :

Trade Mark – Model Number (Serial number)	FCC ID	Description	Cable description
VX442* (sn: 00051)	IGTVX442	Audio type PCI card	All I/O cables are shielded Ferrite wurth 742 7111 close to SUBD9 connector
HEWLETT PACKARD Brio7174 pn:D6769A (sn: FR83332107)	Doc. Of Conf	Personal computer	Power cord unshielded All data cable are shielded
HEWLETT PACKARD P1100 pn: D2846 (sn: JP74001000)	Doc. Of Conf	21" color monitor	Shielded video cable with ferrite at each end
HEWLETT PACKARD pn:C4734-60111 (sn: M971168931)	GYUR38SK	Keyboard	Shielded cable
HEWLETT PACKARD pn: C4736-60101 (sn: LZA93024031)	JNZ201213	Mouse	Shielded cable
HEWLETT PACKARD 895CXI pn: C6410A (sn: MY9761915S)	Doc. Of Conf	Parallel printer	HP#C2950A shielded parallel cable
HEWLETT PACKARD 48GX (sn: ID83802369)	None	Graphic calculator	HP#8120-6736 shielded cable
INTEL YC76 pn: 680942-002 (sn:0045143)	EDUYC76	Web Cam	shielded cable
TELEX (sn: 700.373.000A)	None	Microphone	Shielded cable
LABTEC LT100 pn: D8387A (sn: none)	None	Headset	Shielded cable
DIGIGRAM (sn: none)	None	I/O Load box	Standard power cable

*Equipment Under Test

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992, CISPR22.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5 Test facility

Tests have been performed on December 17th 2002.

The test facility used to collect the radiated and conducted data is the SMEE Actions Mesures facility, located ZI des Blanchisseries, 38500 VOIRON, France. This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-1992 in a letter dated August 04, 1999 (registration number 94821).

This test facility has also been accredited by COFRAC (French accreditation authority for European union test lab accreditation organization), accreditation number 1-0844 as compliant with test site criteria and competence in EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.

1.6 Data sheet of the product

D i g i g r a m

SPECIFICATIONS

CONFIGURATION

Bus/Format	PCI master mode
Size	121mm x 99mm
Power requirements (+5V / +12V / -12V)	0.25A / 0.2A / 0.15A
Operating: temp / humidity (non-condensing)	0°C/+50°C • 5% / 90%
Storage: temp / humidity (non-condensing)	-5°C/+70°C • 0% / 95%

INPUTS / OUTPUTS

Analog line inputs (stereo)	2 balanced
Maximum input/impedance	+22 dBu / >10 kΩ
Selectable input level	-10 dBV, -2 dBu, +4 dBu
Digital inputs (stereo)	1 AES/EBU or S/PDIF
Analog outputs (stereo)	2 balanced
Maximum output/impedance	+22 dBu/low impedance
Selectable output level	-10 dBV, -2 dBu, +4 dBu
Digital outputs (stereo)	1 AES/EBU or S/PDIF
Buffersize and resulting latency at 48 kHz	Typical: 384 samples (8ms), minimum: 64 samples (<1.5ms)
AES11 synchronization	Yes
Connectors	25-pin SUB-D for analog I/O, 15-pin HD SUB-D for digital I/O

AUDIO SPECIFICATIONS

Sampling frequencies available	From 8 to 96kHz
A/D and D/A converter resolutions	8, 16 or 24 bits
Frequency response (record + play) Fs=48 kHz	20 Hz-20 kHz: ±0.1 dB
Frequency response (record + play) Fs=96 kHz	20 Hz-40 kHz: ±0.6 dB
Signal to noise ratio (unweighted) (record + play)	>95 dB (Fs=96kHz), >94 dB (48kHz), >81 dB (11.025kHz)
Distortion + noise at 1 kHz (record + play)	<-87 dB (Fs=96kHz), <-88 dB (48kHz), <-80 dB (11.025kHz)
Channel phase difference: 20 Hz-20 kHz	0.2°/0.5°
Analog channel crosstalk at 1 kHz	<-110 dB
Jitter Fs=48kHz	< 3 ns

DEVELOPMENT ENVIRONMENTS

Management	Wave, DirectSound, Sound Manager, ASIO2, GSIF, EASI, Digigram Virtual PCX
OS supported	Windows 98/ME, 2000, XP, Mac OS 9 and X

The available level of audio processing is defined by the application and the host computer used.



Digigram digital audio solutions are key to the success of public address and pro sound installations, as well as broadcast and media production companies worldwide. We develop innovative networked audio devices, computer sound cards, and audio management software.

Digigram Powered solutions are installed in thousands of radio and television stations; corporate and commercial sound installations; and audio recording and video post-production facilities around the globe.

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