1 GENERAL INFORMATION

1.1 Product description

The PCXpocket 440 is a Type II PC Card designed for professional audio applications on a laptop. When used with editing software, and equipped with a communications board (ISDN or modem), this card, transforms a laptop into a complete mobile audio workstation. The PCXpocket 440 provides full PCX power in a compact package. It has 24-bit converters, four balanced analog line inputs, and four balanced analog outputs. SPDIF input and output allow direct digital transfer. LTC time code input and synchronization with digital input complies with AES11. A unique "Cable Cosse" provides positive connection to the PC Card on one side to fan-out of audio cables on the other.

Key features:

- The PCXpocket 440 is full duplex, offering simultaneous and independent record and playback capabilities.
- Sampling rates supported are from 8 kHz to 48 kHz programmable in 100Hz steps. PCM encoding/decoding rates are 8, 16, or 24 bits.
- The PCXpocket 440 can run applications that comply with Microsoft's WAVE protocol.
- When using applications based on the Digigram np SDK with the PCXpocket 440:
- Real-time mixing of multiple sound files, level adjustment, panning, cross fade, punch-in/punch-out, scrubbing, time-stretching, pitch-shifting, and format and frequency conversions are performed on the DSP of the cards.
- Cards perform real-time, simultaneous MPEG Layer I and Layer II compression and decompression during record and playback. Support provided for Layers I and II of the MPEG Audio standard (ISO 11172-3) and the low sampling frequencies of the MPEG-2 Audio standard (ISO 13818-3).
- Cards perform GSM encoding and decoding.
- LTC input can be used for synchronization.
- Multiple applications may share the resources of a single PCXpocket 440.
- Analog inputs and outputs may be configured as one stereo or two mono channels.

Depending of applications, different options are available:

- PCXpocket 240
- VXpocket 440

Mains differences between PCXpocket 440, PCXpocket 240 and VXpocket 440, are summarized in the following:

	PCXpocket 440	**PCXpocket 240**	**VXpocket 440**
Analog inputs	4 mono	4 mono	4 mono
Digital inputs	1 stereo	No	1 stereo
Analog output	4 mono	2 mono	4 mono
Digital output	1 stereo	No	1 stereo
LTC time code	Yes	No	Yes
Synchronization	Yes	No	Yes

All options of PCXpocket 440 use the same printed circuit and the same components; Software is different, depending of the option.

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 (including inserted cards, which have grants) are :

Trade Mark – Model Number (Serial number)	**FCC ID**	**Description**	**Cable description**
PCXPocket440* (sn: Proto IE03)	***IGTPCXPK440***	***Audio type II PC card***	***All I/O cables are shielded***
TOSHIBA 440 CDX PA1241E (sn: 97026877) with AC adaptor block PA2450U	D.O.C.	Laptop computer	All data cables are shielded Power cable unshielded
HEWLETT PACKARD D2846A (sn JP74001000)	D.O.C.	21" color monitor	Shielded video cable
HEWLETT PACKARD C4732-60101 (sn: MR80605455)		Keyboard	Shielded cable
HEWLETT PACKARD 48GX (sn: ID83802369)	None	Serial calculator	Shielded cable
INTEL YC76 (sn: 0045143)	EDUY76	USB WebCam	Shielded cable
HEWLETT PACKARD C2106A Deskjet 500 (sn: 3041S18664)	B94C4602X	serial printer	Shielded cable

*Equipment Under Test
(1): Equipment used for radiated emission test
(2): Equipment used for conducted emission test

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992, CISPR22-1993/A1:1995/A2:1996 and EN55022:1994/A1:1995/A2:1997.
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 March 1st , 2001.

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

SPECIFICATIONS

Inputs

Analog line inputs

. 4 balanced analog line inputs (can be used with unbalanced signals).
. software programmable microphone or line input level
. maximum input line level: +10dBu
(-10dBV nominal with 18dB overhead).
. input micro line level : -20dBu or –38dBu
. input impedance : >10 kΩ
. digital line input level adjustment: Gain/Attenuation
. 24 bits analog to digital converters (64 x oversampling delta-sigma)
. line input level adjustment: digital Gain/Attenuation
. microphone input level adjustment: digigram Gain/Attenuation

Digital input

. 1 S/PDIF.
. 24 bits available.

LTC input

. maximum input level: +6 dBu.
. minimum input level (sensitivity): -20 dBu.
. speed: nominal +/- 20 %.

Outputs

Analog outputs

.4 balanced analog outputs (can be used as unbalanced).
. maximum level : +10dBu (software adjustable)
. output impedance < 100 Ohms.
. 24 bits digital to analog converters (64 x oversampling delta-sigma).
. output level adjustment : down to -91.5 dBu by 0.5dB steps.
. maximum load: 600 Ohms.

Digital output

. 1 S/PDIF.
. 24 bits available.
. synchronization with digital input complies with AES 11

Sampling frequencies

· 8, 11.025, 16, 22.05, 24, 32, 44.1, 48 kHz available (complying withAES11)

Analog characteristics

Characteristics measured at 48 kHz sampling frequency, record + playback in linear.
. Signal / Noise ratio (un-weighted): better than 94 dB
. Total Harmonic Distortion + Noise (un-weighted): better than -89 dB (0.003%) with 1kHz signal at -2 dBFS
. Frequency response (20Hz/20kHz): ± 0.15 dB
. Difference in phase (20Hz/20kHz): 0.2° *I* 2°
. Interchannel isolation at 1 kHz: better than -95 dB.

Processing

Processing power is provided by a 56303 Motorola DSP associated with 768 kbytes of RAM.

Miscellaneous

Physical

. Card designed for PC-Card interface (Type Il Format)

Power consumption

. Supply voltage: + 5 V
. Operating: 400 mA (2 W) typical
. Stand by: < 150 mA (0.75 W) typical