## 1 GENERAL INFORMATION

## 1.1 Product description

PCX11+/24 is a dual channel sound board for PCI bus (half length format),

It features balanced analog inputs and outputs, an LTC (SMPTE) input, digital input/output in AES/EBU or SPDIF formats, and two General Purpose Interface (GPI) inputs and outputs.

It also exists the VX222 PCI sound board, which is the same card that the PCX11+/24 one, with less function available; Removed functions are:

- Analog CDRom input
- Synchronous AES/EBU input
- SMPTE time code
- A part of the software isn't available.

PCX11+/24 and VX222 cards are together using the same printed circuit board, but on VX222, not all components are loaded.

See attachment A, for further description and technical features of the product submitted.

## 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             | FCC ID             | Description              | Cable description        |
|---------------------------------------|--------------------|--------------------------|--------------------------|
| (Serial number)                       |                    |                          |                          |
| PCX11+/24 (1)                         | IGTPCI11-24        | Dual channel sound board | Unshielded signal cables |
| (sn: proto2)                          |                    |                          |                          |
| HP VECTRA BRIO 6769A#ABF              | K4UVECTRAVL5       | Personal computer        | Unshielded power cord    |
| (sn: 28019902)                        |                    |                          |                          |
| HP Deskjet 660C C2164A <sup>(2)</sup> | B94C2164X          | Parallel printer         | Shielded cable           |
| (sn: ES5891300Y)                      |                    |                          |                          |
| HP C4734 <sup>(2)</sup>               | CIGE03614          | Keyboard                 | Shielded cable           |
| (sn: M97060579)                       |                    |                          |                          |
| Labtec LT-100R                        | NA                 | Headphone                | Shielded cable           |
| SENNHEISER HD330                      | NA                 | Headphone                | Shielded cable           |
| HP D2846A (2)                         | NA – DoC procedure | 21" video monitor        | Shielded video cable     |
| (sn: JP74001005)                      |                    |                          |                          |
| HP C3751B <sup>(2)v</sup>             | DZL210582          | Mouse                    | Shielded cable           |
| (sn: LZA65353972)                     |                    |                          |                          |
| Intel YC76                            | EDUYC76            | USB Camera               | Shielded cable           |
| (sn: 0047075)                         |                    |                          |                          |
| HP 48GX <sup>(2)</sup>                | NA                 | Serial Calculator        | Shielded cable           |
| (sn: 3621508954)                      |                    |                          |                          |
| Labtec 60804 FI                       | NA                 | Speaker                  | Shielded cable           |
| HP Deskjet 890C C5876A <sup>(3)</sup> | B94C4602X          | Parallel printer         | Shielded cable           |
| (sn: SG7921J0T3)                      |                    |                          |                          |
| HP D2846A (3)                         | NA – DoC procedure | 21" video monitor        | Shielded video cable     |
| (sn: JP81545325)                      |                    |                          |                          |
| HP C4732-60101 <sup>(3)</sup>         | CIGE03614          | Keyboard                 | Shielded cable           |
| (sn: M97040007)                       |                    |                          |                          |
| HP C3751B <sup>(3)</sup>              | DZL210582          | Mouse                    | Shielded cable           |
| (sn: LZA65351347)                     |                    |                          |                          |
| HP 48GX <sup>(3)</sup>                | NA                 | Serial Calculator        | Shielded cable           |
| (sn: 3552S02671)                      |                    |                          |                          |

- (1) EUT submitted for grant
- (2) Equipment used for conducted emission only
- (3) Equipment used for radiated emission only

# 1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992, CISPR22-1993/A1:1995 and EN55022:1994/A1:1995.

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

The test facility used to collect the radiated and conducted data is the Hewlett Packard Quality Engineering Test Center B10 EMI facility located 5 avenue Raymond Chanas – EYBENS, 3853 GRENOBLE, 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 19, 1996 (31040/SIT, 1300F2).

This test facility has also been accredited by COFRAC (French accreditation authority for European union test lab accreditation organization), accreditation number 1-0199 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.

# 2 ATTACHMENT A - PRODUCT DATA SHEET OF PCX11+/24





The PCX11/24 is one of our most popular models for broadcast automation and audio production. It features balanced analog inputs and outputs, an LTC (SMPTE) input, digital input/output in AES/EBU or SPDIF formats, and two General Purpose Interface (GPI) inputs and outputs.

### CONFIGURATION

| Bus/Format                          | PCI target mode |  |
|-------------------------------------|-----------------|--|
| Digital signal processor            | 56002 at 66MHz  |  |
| RAM                                 | 128 kWords      |  |
| Size                                | 175mm x 99mm    |  |
| Power requirements<br>+5V/+12V/-12V | 0.5A/0.2A/0.1A  |  |
| Operating: temp/humidity            | 0°C/+50°C       |  |
| (non condensing)                    | -5%/90%         |  |
| Storage: temp/humidity              | -5°C/+70°C      |  |
| (non condensing)                    | 0%/95%          |  |

### INPUTS/OUTPUTS

| Analog inputs (stereo)                     | one balanced  |  |
|--|---|--|
| Maximum input/impedance                    | +22dBu/600Ω or >10kΩ  |  |
| Programmable input gain                    | digital and analog  |  |
| Digital inputs (stereo)                    | one AES/EBU or SPDIF  |  |
| Other inputs                               | LTC,CD-ROM (8dBu max),GPI, AES/EBU or<br>SPDIF sync input                             |  |
| Analog outputs (stereo)                    | one balanced  |  |
| Maximum output/impedance                   | +22dBu/low impedance  |  |
| Programmable output gain                   | digital and analog  |  |
| Digital outputs (stereo)                   | one AES/EBU or SPDIF  |  |
| Other outputs                              | headphone (600Ω), two GPI<br>(relay,0.5A,48VCC)                                       |  |
| Acces to main status bits of digital frame | yes   |  |
| AES11 synchronization                      | yes   |  |
| Connectors                                 | 15-pin SUB-D for analog I/O; 15pin HD SUB-D for digital I/O, sync and GPI; headphones |  |

## AUDIO SPECIFICATIONS

| Sampling frequencies available          | 48, 44.1, 32, 24, 22.05, 16, 11.025, 8kHz |
|---|---|
| A/D and D/A converters resolution       | 24 bits                                   |
| Frequency response at 48kHz (rec +play) | 20Hz - 20kHz: ±0.2dB                      |
| Signal to noise ratio (unweighted)      | >93dB                                     |
| THD + noise at 1kHz (rec + play)        | <-90dB                                    |
| Channel phase difference 20Hz /20kHz    | <0.5° / 2°                                |
| Analog channel crosstalk at 1kHz        | <-95dB                                    |

## DEVELOPMENT ENVIRONMENT

| Digigram management | np SDK                |
|---------------------|-----------------------|
| Other management    | Wave                  |
| OS supported        | Windows 95/98, NT 4.0 |





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