

1 ATTACHMENT B – USER MANUAL OF PCX11+/24



PCX11+/24

Professional Digital Audio Card

User's manual



PCX11+/24 User's manual

OVERVIEW

Features

- Audio card for PCI bus.
- Two analog mono inputs.
- One digital stereo input.
- One digital sync input.
- Two analog mono outputs.
- One digital stereo output.
- One headphone stereo output.
- Two general purpose inputs.
- Two general purpose outputs.
- One LTC input.

Hardware requirements

- One card slot, PCI 2.1 compliant.
- One available IRQ line (level sensitive).
- 256 bytes of available I/O space.

Software requirements

- Digigram npRuntime version 5.21 or higher (includes Wave driver).

Available options

- Analog breakout cable
- Digital breakout cable

Hardware installation

Installing the card

Check for a free PCI expansion slot and gently insert the card. Press down to set it firmly into the slot and tighten the screw.

INFORMATION FOR THE USER

Important notice: please make sure that there is a good contact between the bracket and the PC frame.

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions contained in this data sheet, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna
- increase the separation between the equipment and the receiver
- connect the equipment into an outlet on a circuit different from that of the receiver
- consult the dealer or an experienced audio television technician.

NOTE: Connecting this device to peripheral devices that do not comply with CLASS B requirements or using an unshielded peripheral data cable could also result in harmful interference to radio or television reception. The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.

EMC: This card has been tested and found to comply with the following standards:

- International: CISPR22 Class B
- Europe: EMC 89/336/CEE (1992) specifications.
- United States: FCC Rules-Part 15-Class B (digital device).

In order to guarantee compliance with the above standards in an installation, the following must be done:

- Connectors must have a conductive shell.
- Cables must be shielded and their shield must be tightly connected to the shell of the connectors.
- A good contact must exist between the bracket and the PC frame.

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Input adjustments

Input impedance can be selected by the bank of two switches SW1:

- 600Ohms : All two switches ON
- High (> 10kOhms) : All two switches OFF

Interrupt request

The Interrupt Request (IRQ) number is set up at start-up by the PCI PnP BIOS. Be sure there is at least one IRQ resource available.

I/O address

Addresses are set up at start-up by the PCI PnP BIOS.

Inter board link cable

Boards used in synchronous mode must be connected by an inter-board cable (pin to pin cable). The two switches near the connector must be set on one card in a set of cards linked by an inter-board cable. For one single PCX card, the 3 switches must be set.

Thermal issues

Under heavy use, temperature may increase. Therefore, cards should be installed vertically and an additional fan in front of the cards may be necessary.

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SPECIFICATIONS

Audio inputs

Analog line inputs

- 2 balanced analog line inputs (can be used with unbalanced signals).
- switch selection of maximum input level : +22dBu (Line / +8dBu (CD))
- switch selectable input impedance: 600Ohms or >10 kOhms
- 24 bits analog to digital converters (64 x oversampling delta-sigma)
- input level adjustment: software control

Digital inputs

- 1 AES/EBU or S/PDIF. Transformer coupled.
- 24 bits available.

Audio outputs

Analog outputs

- 2 balanced analog outputs (can be used as unbalanced).
- maximum level: +22dBu (software adjustable)
- output impedance < 100Ohms.
- 24 bit digital to analog converters (64 x oversampling delta-sigma).
- output level adjustment: down to - 91.5dBu by 0.5dB steps.

Digital output

- 1 AES/EBU or S/PDIF. Transformer coupled.
- 24 bits available.
- synchronization with digital input complies with AES 11

Headphone output

- 3.5mm TRS stereo jack

Analog performance

Sampling frequency

- 8, 11.025, 16, 22.05, 24, 32, 44.1, 48 kHz available (complying with AES-11)
 - Signal / Noise ratio (un-weighted): better than 93 dB.
 - Total Harmonic Distortion + Noise (un-weighted): better than - 90 dB (0.003%) with 1kHz signal at -1 dB FS (+21 dBu).
 - Frequency response (20Hz/20kHz): ± 0.1 dB
 - Difference in phase (20Hz/20kHz): $0.2^\circ / 2^\circ$
 - Interchannel isolation: better than - 95 dB
- Characteristics measured at 48 kHz sampling frequency, linear record + playback.

Processing

Processing power is provided by a Motorola 56002 DSP associated with 384 kbytes of high speed RAM.

Miscellaneous

LTC input

- Level: -20 dBu min, +6dBu max, speed range: $\pm 10\%$ nominal

General Purpose Interface

- 2 inputs for dry contact (5VCC / 10mA) do not apply power.
- 2 independent contacts, free of power (maximum switching power: 48V / 0.5A)

Physical

- Card designed for PCI bus. 176 mm length, 99 mm height

Power consumption (typical)

- + 5 V: 500mA, + 12 V: 200mA, - 12 V: 100mA

Environmental

Temperature

- Storage: $-5^\circ\text{C} / +70^\circ\text{C}$, operating: $0^\circ\text{C} / +50^\circ\text{C}$

Humidity (non condensing)

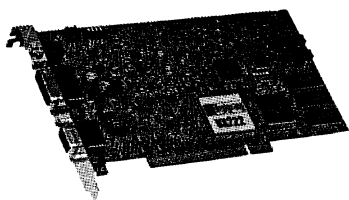
- Storage: 0% / 95%, operating: 5% / 90%.

2 ATTACHMENT C – USER MANUAL OF VX222



VX222

Professional Digital Audio Card



User's manual

INFORMATION FOR THE USER

Important notice: please make sure that there is a good contact between the bracket and the PC frame.

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a CLASS B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions contained in this data sheet, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna
- increase the separation between the equipment and the receiver
- connect the equipment into an outlet on a circuit different from that of the receiver
- consult the dealer or an experienced audio television technician.

NOTE: Connecting this device to peripheral devices that do not comply with CLASS B requirements or using an unshielded peripheral data cable could also result in harmful interference to radio or television reception. The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.

EMC: This card has been tested and found to comply with the following standards:

- International: CISPR22 Class B
 - Europe: EMC 89/336/CEE (1992) specifications.
 - United States: FCC Rules-Part 15-Class B (digital device).
- In order to guarantee compliance with the above standards in an installation, the following must be done:
- Connectors must have a conductive shell.
 - Cables must be shielded and their shield must be tightly connected to the shell of the connectors.
 - A good contact must exist between the bracket and the PC frame.

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VX222 User's manual

OVERVIEW

Features

- Audio card for PCI bus.
- Two analog mono inputs.
- One digital stereo input.
- Two analog mono outputs.
- One digital stereo output.
- One headphone stereo output.
- Two general purpose inputs.
- Two general purpose outputs.

Hardware requirements

- One card slot, PCI 2.1 compliant.
- One available IRQ line (level sensitive).
- 256 bytes of available I/O space.

Software requirements

- Digigram wave driver for VX version 2.20 or higher (PC)
- Digigram driver for Sound Manager version 2.0 or higher (Mac).

Available options

- Analog breakout cable
- Digital breakout cable

Hardware installation

Installing the card

Check for a free PCI expansion slot and gently insert the card. Press down to set it firmly into the slot and tighten the screw.

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Input adjustments

Two input level ranges are available and can be selected by the bank of four switches SW2:

- Typical +4dBu (max. +22dBu) : All four switches ON
 - Typical -10dBV (max. +10dBu) : All four switches OFF
- Input impedance can be selected by the bank of two switches SW1:
- 600Ohms : All two switches ON
 - High (> 10kOhms) : All two switches OFF

Interrupt request

The Interrupt Request (IRQ) number is set up at start-up by the PCI PnP BIOS. Be sure there is at least one IRQ resource available.

I/O address

Addresses are set up at start-up by the PCI PnP BIOS.

Thermal issues

Under heavy use, temperature may increase. Therefore, cards should be installed vertically and an additional fan in front of the cards may be necessary.

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SPECIFICATIONS

Audio inputs

Analog line inputs

- 2 balanced analog line inputs (can be used with unbalanced signals).
- switch selection of maximum input level : +22dBu / +10dBu (4dBu / -10dBV nominal with 18dB headroom).
- switch selectable input impedance: 600Ohms or >10 kOhms
- 24 bits analog to digital converters (64 x oversampling delta-sigma)
- input level adjustment: digital attenuation

Digital inputs

- 1 AES/EBU or S/PDIF. Transformer coupled.
- 24 bits available.

Audio outputs

Analog outputs

- 2 balanced analog outputs (can be used as unbalanced).
- maximum level: +22dBu (software adjustable)
- output impedance < 100Ohms.
- 24 bit digital to analog converters (64 x oversampling delta-sigma).
- output level adjustment: down to - 91.5dBu by 0.5dB steps.

Digital output

- 1 AES/EBU or S/PDIF. Transformer coupled.
- 24 bits available.
- synchronization with digital input complies with AES 11

Headphone output

- 3.5mm stereo jack

Analog performance

Sampling frequency

- 8, 11.025, 16, 22.05, 24, 32, 44.1, 48 kHz available (complying with AES-11)
- Signal / Noise ratio (un-weighted): better than 93 dB.
- Total Harmonic Distortion + Noise (un-weighted): better than - 90 dB (0.003%) with 1kHz signal at -1 dB FS (+21 dBu).
- Frequency response (20Hz/20kHz): ± 0.1 dB .
- Difference in phase (20Hz/20kHz): $0.2^\circ / 2^\circ$
- Interchannel isolation: better than - 95 dB

Characteristics measured at 48 kHz sampling frequency, linear record + playback.

Processing

Processing power is provided by the computer's native processor.

Miscellaneous

General Purpose Interface

- 2 inputs for dry contact (5VCC / 10mA)- Do not apply power.
- 2 independent contacts, free of power (maximum switching power: 48V / 0.5A)

Physical

- Card designed for PCI bus. 176 mm length, 99 mm height

Power consumption (typical)

- + 5 V: 500mA
- + 12 V: 200mA
- - 12 V: 100mA

Environmental

Temperature

- Storage: -5°C / +70°C
- Operating: 0°C / +50°C

Humidity (non condensing)

- Storage: 0% / 95% (non condensing)
- Operating: 5% / 90% (non condensing)

