

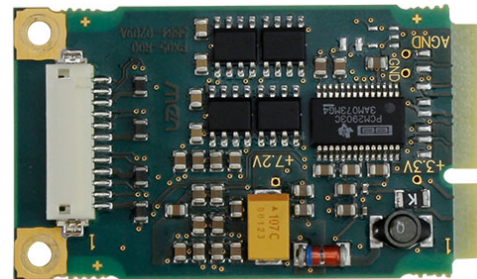
# PX5

## USB HID to Stereo Audio Interface PCI Express Mini Card

- » *PCI Express Mini Card form factor*
- » *USB interface for maximum compatibility*
- » *HID interface to operating system*
- » *1 stereo input and 1 output*
- » *Differential line inputs and outputs*
- » *Designed for cable lengths of up to 150 m*
- » *-40 to +85°C screened*

### Analog Audio Interface

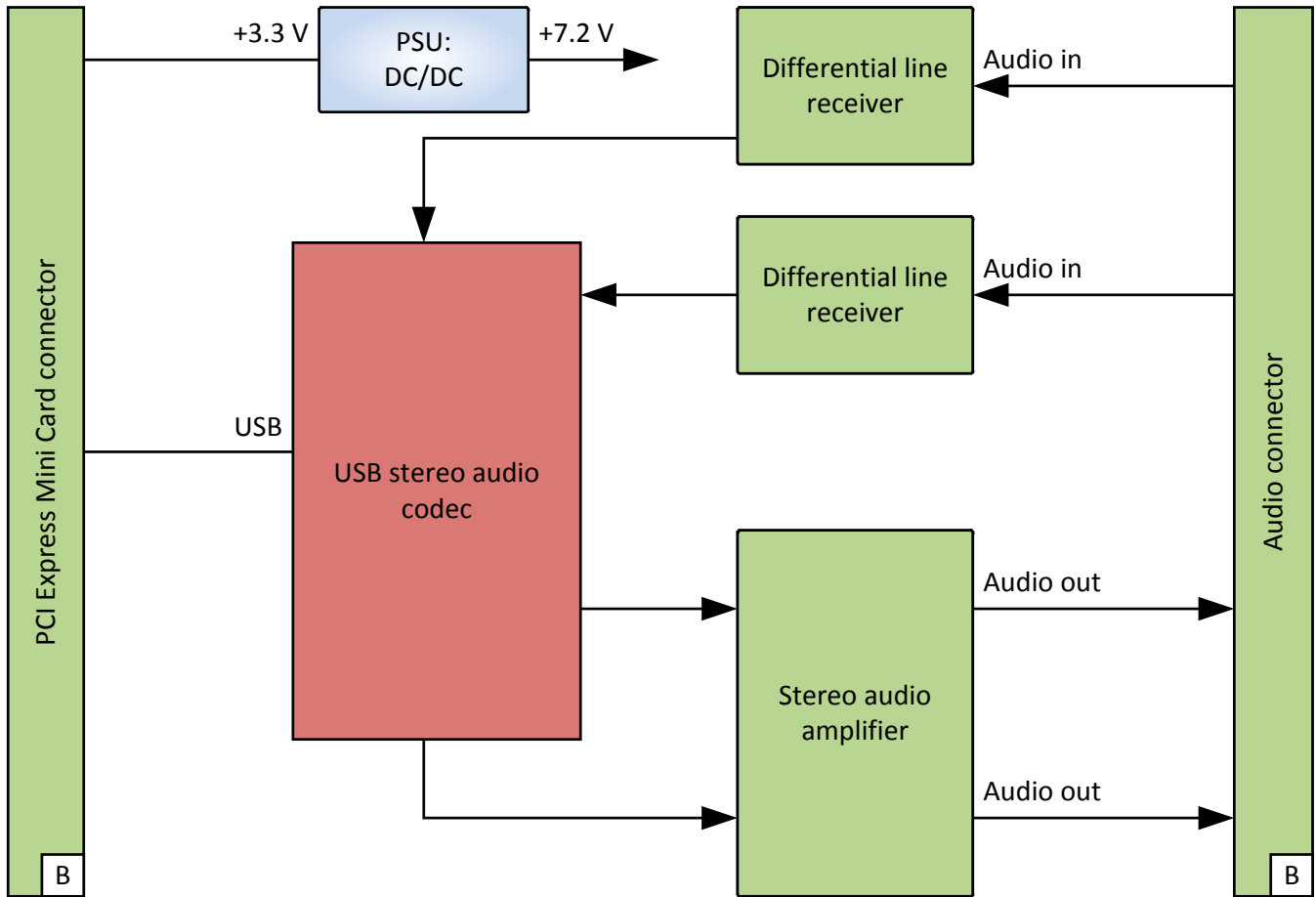
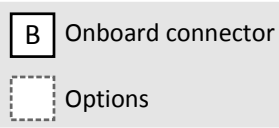
The PX5 is a PCI Express Mini Card providing an industry-grade USB HID to analog audio interface. It supports one differential stereo audio IN and one differential stereo audio OUT channel at line level.



### Rugged Design for Rail and Aerospace

Thanks to its standardized form factor the PX5 can be used as an audio extension for CompactPCI and CompactPCI Serial systems as well as box and panel PCs.

Its rugged and compact design makes it especially suitable for the rail and aerospace markets, for example for ELA systems, in-flight and rolling stock entertainment systems, cockpit-to-passenger communication in planes, inter-phone or intercom systems.



## PCI Express Mini Card connector

- USB 2.0 HID interface
  - Full speed
  - USB isochronous data format

## Audio Interface

- Analog signal configuration
  - 1 stereo audio IN
  - 1 stereo audio OUT
- Input port physics: differential line in
- Output port physics: differential line out
- Sampling rates
  - 8 kHz
  - 11.025 kHz
  - 16 kHz
  - 22.05 kHz
  - 32 kHz
  - 44.1 kHz
  - 48 kHz
- Input SNR
  - 80 dB (min 77 dB when measured in back-to-back mode)
- Input dynamic range
  - 80 dB (min 77 dB when measured in back-to-back mode)
- Output SNR
  - 80 dB (min 77 dB when measured in back-to-back mode)
- Output dynamic range
  - 80 dB (min 77 dB when measured in back-to-back mode)

## Electrical Specifications

- Output Impedance
  - 600 Ohm
- Input Impedance
  - 24 kOhm
- Max cable length
  - 150 m
- Recommended cable specification
  - Nom. impedance: 45 Ohm
  - Nom. inductance: 0.55777  $\mu$ H/m
  - Nom. capacitance (Cond/Cond/Shield) 220 pF/m
  - Nom. cond. DC resistance (20°C) 47.6 Ohm/km
  - Nom. outer shield resistance (20°C) 46.2 Ohm/km
- Output voltage
  - +2 Vrms
- Supply voltage
  - Module is powered through PCI Express Mini Card interface only (3.3 V)
- Power consumption
  - Less than 3 W

## Mechanical Specifications

- Dimensions: 30 mm x 50.95 mm x 5 mm (PCI Express Full-Mini Card)
- Weight: less than 10 g (tbd)

## Environmental Specifications

- Temperature range (operation):
  - -40..+85°C (screened), compliant with EN 50155, class T1, T2, T3 or Tx
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing (EN 50155/EN 60068-2-30)
- Relative humidity (storage): max. 95% non-condensing (EN 50155/EN 60068-2-30)
- Altitude: -300 m to +3000 m
- Shock: EN 50155 (12.2.11) / EN 61373 category 1 class B body mounted
- Vibration: EN 50155 (12.2.11) / EN 61373 category 1 class B body mounted

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## **MTBF**

- tbd h @ 40°C according to IEC/TR 62380 (RDF 2000)

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## **Safety**

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

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## **EMC Conformity**

- EN 50121-3-2 (table 4) (EMC in rolling stock)
- EN 61000-4-2/EN 50121-3-2 (table 9) (ESD)
- EN 61000-4-3/EN 50121-3-2 (table 9) (electromagnetic field immunity)
- EN 61000-4-4/EN 50121-3-2 (table 8) (burst)
- EN 61000-4-6/EN 50121-3-2 (table 7) (immunity to conducted disturbances)

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### **Up-to-date information, documentation and ordering information:**

[www.men.de/products/px5/](http://www.men.de/products/px5/)

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