

PCI-TC BOARD HARDWARE SPECIFICATIONS

(applies to all PCI-LTC, PCI-VITC, PCI-VLTC, and PCI-21 boards)

LTC INPUT:

Connector Type: RCA Jack [or optional isolated BNC(f) or Mini-XLR(m)]
Impedance: 20kohms typical (differential)
Input Level: 100mVpp to 20Vpp
DC on Input: $\pm 1.0V$ maximum
CMRR: $>34dB @ 60Hz$
Speed Range: 1/30x to 80x play speed (signal quality dependent)
Bits Read: All time, user, and embedded bits.
Time Code Standards: SMPTE and EBU (automatically selected)

LTC OUTPUT:

Connector Type: RCA Jack [or optional BNC(f) or Mini-XLR(m)]
Impedance: 100ohms typical (unbalanced)
Output Level: 1.5Vpp typical (0dBm)
DC on Output: $\pm 50mV$ maximum
Rise/Fall Times: 25us(SMPTE) or 50us(EBU) typical, 10%-90%
Bits Generated: All time, user, embedded, and sync bits, with parity.
Time Code Standards: SMPTE and EBU (selected by video reference or by software)
Freerun Error: $\pm 0.004\%$ (4 frames/hour) maximum (after 5 minutes training)
Phasing Error: $\pm 20us$ maximum w.r.t. SMPTE/NTSC and EBU/PAL specs

VIDEO INPUT:

Connector Type: Isolated BNC(f)
Impedance: 75ohms (differential)
Input Level: 0.65Vpp to 2.0Vpp (1.0Vpp nominal)
DC on Input: $\pm 1.0V$ maximum
CMRR: $>60dB @ 60Hz$ to 4MHz
Video Standards: NTSC and PAL (or SECAM) (automatically selected)

VIDEO OUTPUT:

Connector Type: Grounded Shield BNC(f)
Impedance: 75ohms (source terminated)
Gain Error: $\pm 0.2dB$ maximum (when terminated)
DC on Output: $\pm 50mV$ maximum (when terminated)
Frequency Response: $+0.05dB/-0.25dB$ maximum, 0-4MHz

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SERIAL INTERFACE OPTION:

Connector Type: RJ-12 (6P6C) Telco Jack (with custom pinout)
RS-232 TX/RX Pins: Meet all RS-232 electrical specifications.
RS-422 TX/RX Pins: Meet all RS-422 electrical specifications.

POWER REQUIREMENTS (for a fully stuffed PCI-VLTC/RG1 board with SIO):

+5V Supply: 66mA (330mW) typical
+3.3V Supply: No DC connection; bypass capacitors only.
+12V Supply: 71mA (850mW) typical
-12V Supply: 71mA (850mW) typical
Total Power: 2.0W typical

Actual power consumption depends on the exact board type, signal levels, part tolerances, the external loads being driven, temperature, possible external short circuits, etc.. For example, the total power required for a PCI-LTC/RDR board is only 0.5W typical.

MISCELLANEOUS:

Operating Temperature: 0-50 degrees Celsius (32-122 degrees Fahrenheit)
Operating Humidity: 0-95%, noncondensing
Board Dimensions: 95mm (3.75") high x 125mm (4.90") deep
Board Weight: 86 grams (0.19 pounds)

RELIABILITY:

MTBF (mean time before failure) is approximately 450 years, based on actual product return rates to date. Our previous generation of time code boards (for the ISA bus) had an actual MTBF, as measured over thousands of boards and 10 years of experience, of about 800 years. The PCI boards are new for us, so calculating MTBF numbers is a bit of a guess, but we expect them to eventually be more reliable than the ISA boards because there are fewer interconnects, and all components run very cool. Only time will tell for sure. In either case, the numbers quoted here are based on actual product return rates (for repairs), and are well in excess of the expected useful product lifetime.

ELECTROMAGNETIC COMPATIBILITY:

The PCI-TC board family has been tested by an independent certified testing agency and found to meet all FCC and CE-Mark requirements, including electromagnetic emissions, electromagnetic immunity, ESD protection, fast transient protection, and so forth. Do not attempt to shock the PCI-TC board to see if it survives, because these tests only apply to external connector pins after the board is securely fastened into its host PC, and such tests could shorten the useful lifetime of your PCI-TC board.

DISCLAIMER:

All specifications are subject to change without notice as the product evolves.