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Find the *Orolia / Spectracom TPRO-PCI-66U* at our website: *Click HERE*

spectracom

Timecode Reader/Generator

Model TPRO-PCI-66U



- **PCI local bus operation**
- **PCI-X compatible**
- **Universal PCI bus signaling (3.3V and 5.0V/33 or 66 MHz)**
- **Autodetects IRIG-A, B, or NASA36 time code inputs; optional 1PPS input**
- **±1μs accuracy to input**
- **Zero latency time reads**
- **Freewheel capability**
- **IRIG-B timecode generator**
- **External event time capture/interrupt**
- **Programmable frequency output/interrupt**
- **Programmable alarm output/interrupt**

The TPRO-PCI-66U is a synchronized timecode reader/generator card. The input timecode format (IRIG-B, IRIG-A, or NASA36) is automatically detected and synchronization to the input timecode is automatic, enabled/disabled through the PCI bus.

The board can synchronize to an external 1PPS in lieu of an incoming timecode. The TPRO-PCI-66U provides precise, zero-latency time via the PCI bus on 33 and 66 MHz systems. With a 32-bit data interface, the unit offers better than 1 μs data access. Universal signaling allows the unit to function in either 5.0V or 3.3V backplanes.

The 10 MHz oscillator, central to the TPRO-PCI-66U timing functions, permits the board to increment time ("freewheel") based on the last known reference in the absence of an input source. When the timing reference is reestablished, the board synchronizes automatically.

The TPRO-PCI-66U may be used as an IRIG-B timecode generator. The user simply sets the initial time through the PCI bus. A propagation delay offset may be specified to compensate for cable delays. Other features include multiple event time-tag TTL inputs, a programmable periodic pulse or "heartbeat," and a programmable "alarm" start/stop time output.

Key to the TPRO-PCI-66U functionality is the ability to generate interrupts. With one of the many available Spectracom driver packages, the user may configure the card using interrupt-driven algorithms that support our customers' unique applications. The software packages include a demonstration program to exercise the board's functionality, as well as a clock utility to synchronize the host system.

PCI SIG

solaris

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Specifications

Timecode Input
Code Format (Autodetect): IRIG-A (A132), IRIG-B (B122), NASA36
Amplitude: 1.2 Vp-p min, 8.0 Vp-p max
Polarity: Detected Automatically
Modulation Ratio: 2:1 min, 3:1 typ, 4:1 max
Input Impedance: >10K Ohms
Input Time Accuracy: Better than 100 ppm (not suitable for tape playback)
Common Mode voltage: Differential input, ±100 V max

Timecode Output
Code Format: IRIG-B (B122)
Amplitude: 2.6 Vp-p typical
Modulation Ratio: 3:1
Output Impedance: 600 Ohms

1PPS Sync Input
Input Voltage: 2.4 V min, 16.0 V max (high)
Rise/Fall Time: 500 nS max
Trigger Edge: Rising
1PPS Accuracy: Must be 100 ppm or better

On-Board Clock
Resolution: 1 µS
Range: 366:23:59:59:999999
Date Format: Integer (001–366)
Propagation Delay Correction:
–1000 µS through +8999 µS
Propagation Delay Setting: Programmed over bus
Synchronization Time: <20 seconds
Stability:
Disciplined to timecode: 2×10^{-7}
Undisciplined: 1×10^{-6}

Time-Tag Input
Input Voltage:
–0.5 V min, +0.8 V max for logic 0
+2.0 V min, +5.5 V max for logic 1
Tags rising edge
Input Current:<5 mA for logic 0 and logic 1
Rise/Fall Time: 500 nS max
Repetition Rate: 1000 events per second maximum
Timing Resolution: 1 µS

Heartbeat Output
Output Voltage:
High: 3.8 V min at 6 mA
Low: 0.4 V max at –6 mA
Wave Shape: Pulse or squarewave (programmable)
Pulse Width: 150 nS min, 450 nS max
Pulse Polarity: Negative
Squarewave: 45%–55%
Timing: Falling Edge on-time
Range: 1.000 µS to 21.845 mS in 1µS steps (1 MHz to 45.7771 Hz)
Power-on Default Rate: 100 PPS (Pulse)

Time Match Output
Output Voltage:
High: 3.8 V min at 6 mA
Low: 0.4 V max at –6 mA
Settability: 1 µS

Bus Interface
PCI Local Bus
3.0 compliant
PCI-X compatible
32-bit data interface better than 1 µs data access

General
Size: H 106.7 mm, L 175.26 mm
Power (from bus):
+5 Vdc @ 425 mA max
+12 Vdc @ 225 mA max
–12 Vdc @ 50 mA max
Operating Temperature: –30° to +70° C (–22° to + 156° F)
Storage Temperature: –40° to +80° C (–40° to +176° F)
Connectors: BNC and DB-15

Agency Approvals
RoHS CE

Drivers
Linux* 64/32 bit, Windows 64/32 bit, Solaris 10
*Contact Sales for specific kernel versions.

Ordering Information
TPRO-PCI-66U Timecode Reader/Generator (+ option #)

Option
–CC: Conformal Coating

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Specifications subject to change or improvement without notice.
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