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Find the *Microsemi / Symmetricom / TrueTime PCI-SG 2U* at our website: *Click HERE*

PCI-SG 2



Model PCI-SG 2
Multi-Functional Time and Frequency PCI Plug-in Card

- PCI local bus operation
- IRIG-A, B or 1 PPS input
- IRIG-B and 1 PPS outputs
- 1 PPS to 1 MPPS rate synthesizer output
- 1, 5, 10 MPPS rate generator output
- External event input/interrupt
- Time compare input/interrupt
- Real time clock backup
- Windows control panel interface software
- Optional software development kit and drivers

The PCI-SG 2 provides precise time to computers that have PCI expansion slots. The time is derived from an IRIG-A or B time code input or the internal oscillator in the stand-alone generator mode. The frequency of the internal oscillator is precisely disciplined to that of the external synchronization input. Synchronization to an external 1 PPS is also possible.

Time, microseconds through years, and status information is supplied on demand over the 32-bit PCI bus. In addition to time and status, the PCI-SG 2 provides a 1 PPS pulse rate, a programmable time-compare register, a programmable frequency pulse rate, an external event time capture, and an IRIG-B serial time code output.

Rear panel BNC connectors are used for the IRIG code input/output. A rear panel mounted multipin connector contains the 1 PPS pulse rate output, the programmable pulse rate output, the external event input signal and the input/output connections for the RS-422 versions of the input/output IRIG time code. You can also configure the analog input code with various input impedance choices.

Information provided over the PCI bus includes time, status, and the time of occurrence of the external event. Interrupts generated by the programmable rate generator, the rate synthesizer, the occurrence of an external event input, and the time compare occurrence are also provided. Depending upon the operating mode, you can program the hours offset from UTC, leap second, year and daylight savings time. An on-board, capacitor-powered clock maintains time during a power failure condition for up to 48 hours.

A TrueTime software development kit, SDK for PCI, is optionally available for Windows 95/98/NT/2000. The SDK includes a Windows NT/2000 kernel mode device driver, a Windows 95/98 VxD device driver, a DLL for accessing either of the drivers, and code examples. This TrueTime SDK is a tremendous time saving tool for quickly integrating all of the features of the PCI-SG 2 into an application program. Complete access to timing information, status, and control is easily available using the SDK. See the TrueTime SDK for PCI data sheet for complete specifications.

TRUETIME

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Specifications: PCI-SG 2

Synchronized Generator Mode

Analog Input Code: IRIG-A or B

Ratio: 2:1 to 5:1
Amplitude: 0.5–10 Vpp
Impedance: 50-600-10k ohms, selectable
Connector: BNC
Timing Accuracy: 3 microseconds

RS-422 Input Code: IRIG-A or B

Timing Accuracy: 1 microsecond
Connector: 9 pin D subminiature

Error Bypass: Factory set to three frames

External 1 PPS Input*: 1 microsecond timing accuracy (uses external event input port)

Stand-Alone Generator Mode

Allows the user to preset, start and stop the PCI-SG 2 over the PCI bus.

General Specifications

IRIG-B Serial Code Output (Analog):

Amplitude: 3 Vpp into 600 ohms
Ratio: 3:1
Connector: BNC

IRIG-B Serial Code Output (RS-422):

Amplitude: RS-422 levels
Input Termination: Selectable, 120 ohms or none
Connector: 9 pin D subminiature, selectable to BNC (ACMOS)

Oscillator:

Accuracy: $5x10^{-8}$ (when disciplined to IRIG Code)
Stability: 2.5 PPM, 0˚C to +50˚C, unlocked

1 PPS Pulse Rate Output:

Amplitude: 0–5 Vdc**
Timing: Positive edge on time
Duty Cycle: 50%
Connector: 9 pin D subminiature, selectable to BNC

Pulse Rate Generator Output:

Rates: 1 PPS, 10 PPS, 100 PPS, 1 kPPS, 10 kPPS, 100kPPS, 1MPPS, 5 MPPS, 10 MPPS
Outputs: Interrupt and pulse
Amplitude: 0–5 Vdc**
Connector: 9 pin D subminiature, selectable to BNC

Pulse Rate Synthesizer Output:

Rates: 1 PPS to 1MPPS, step size 1 PPS
Outputs: Interrupt and pulse
Amplitude: 0–5 Vdc**
Connector: 9 pin D subminiature, selectable to BNC

External Event Time Capture:

Resolution: 100's ns–years
Output: Interrupt
Event Input: Selectable positive or negative edge of 2–5 Vdc pulse
Impedance: Approximately 2k ohms
Connector: 9 pin D subminiature

Time Compare Output:

Resolution: 100's ns–years
Outputs: Interrupt and pulse at compare time
Amplitude: +5 Vdc** on compare
Connector: 9 pin D subminiature

Mechanical/Environmental

Power: <5 watts

Size: PCI 5 V short card

Operating Temperature: 0˚C to +50˚C

Storage Temperature: -17˚C to +85˚C

Humidity: To 95%, noncondensing

Certification: FCC, CE, UR

Real Time Clock: On board capacitor-powered clock maintains time during power fail conditions for up to 48 hours.

Software

The PCI-SG 2 includes the TrueTime PCI_Panel application program for Windows 95/98/NT/2000. Using this program you can review the PCI-SG 2 card status and adjust board configuration and output parameters. The program can also operate as a background task keeping the host computer clock synchronized to the PCI-SG 2 card.

Options

- *TrueTime Software Development Kit (SDK) for PCI for Windows 95/98/NT/2000*
- *For GPS synchronization, see the GPS-PCI 2 data sheet*
- *Transformer Coupled Input Code (single ended or balanced)*
- *Transformer Coupled Output Code (balanced)*

* When external 1 PPS is used as sync input, the external event is not available.
** 5 Vdc outputs have ACMOS levels.

Specifications subject to change without notice.

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