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Find the *Microsemi / Symmetricom / Datum bc635PCI-V2* at our website: *Click HERE*

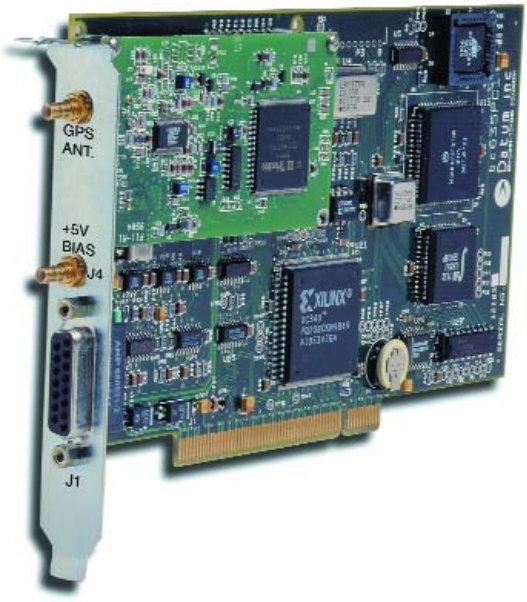
Features

PCI Local Bus Operation
GPS or Time Code Inputs
Time Code Outputs
Pulse Rate Outputs
Frequency Outputs (1, 5, or 10 MHz)
External Event Capture Register/Interrupt
Programmable Periodic Output/Interrupt
Programmable Time Strobe Output/Interrupt
Battery Backed Clock
IEEE 1344 Compliant IRIG B Time Code
Windows 95/98/2000/XP Support

PCI Time & Frequency Processor



Photo shown with optional GPS module and antenna.



Overview

The Datum bc635/637PCI receiver module provides precision time and frequency reference to the host computer system and peripheral data acquisition systems. Time is acquired from either the GPS satellites using a supplied antenna/receiver (bc637PCI only) or from time code signals, typically IRIG B. Integration of the module is facilitated with optional drivers for Windows 95/98/2000/XP, Linux, Solaris, LabVIEW or VxWorks.

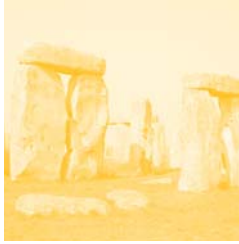
Central to the operation of the module is a disciplined 10 MHz oscillator and 100 nanosecond clock. Current time (days to 100 nS) can be accessed across the PCI bus with zero latency, which allows for very high speed time requests. The onboard oscillator is rate-matched (disciplined) to the input time source and drives the precision 10 MHz frequency output and time code generator circuitry. If time is lost, the module will continue to maintain time (flywheel). If power is lost, a 10 PPM battery backed clock is available to maintain time.

Both time code generation and translation are supported. The generator supplies IRIG B time code output that is synchronized to the input time source. The translator reads IRIG A, IRIG B and NASA 36.

An Event Time Capture feature provides a means of latching time for an event input. The module can also be programmed to generate a periodic pulse rate as well as to generate a single time strobe at a predetermined time.

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Model bc635/637PCI



BUS LEVEL PRODUCTS

VME, VXI, PCI, PC/AT/XT, Sbus, SBX

Specifications

Real Time Clock

Bus Request Resolution	100 nanoseconds
Latency	Zero
Major Time Format	Binary or BCD
Minor Time Format	Binary

Time Code Translator

Time Code Formats	IRIG A, IRIG B*, NASA 36 (Modulated or DCLS)
Time Accuracy	<5 µS (modulated) <1 µS (DCLS)
Modulation Ratio	3:1 to 6:1
Input Amplitude	500 mV to 5V P-P
Input Impedance	>10KΩ, AC coupled

* See IEEE 1344 Compliance below

Time Code Generator

Time Code Format	IRIG B*
Modulation Ratio`	3:1
Output Amplitude	4 V P-P (fixed) into 50
DC Level Shift	TTL/CMOS

* See IEEE 1344 Compliance below

IEEE 1344 Compliance

The translator processes the 27 control function bits of IRIG B time code as set forth in IEEE 1344. The 27 control function bits provided by the input IRIG B time code are output in the generated IRIG B time code one time frame after received. If the input IEEE 1344 bits are not present in the input IRIG B time code, the last two digits of year are placed in bits 1-9 of the control function field of the generated IRIG B time code.

Timing Functions

Heartbeat Clock (TTL, 50Ω)	Programmable Periodic, <1 Hz to 250 kHz
Time Strobe (TTL, 50Ω)	Programmable 1 µSec through hours
Event Capture (TTL)	100 nSec resolution, zero latency
1 PPS Pulse Rate (TTL, 50Ω)	Positive edge on-time

Disciplined Oscillator

Frequency	10 MHz
Outputs	1, 5, or 10 MHz (selectable)
Rate Stability:	
Standard VCXO	5E-8 short term 'tracking' 5E-7 /day long term 'flywheeling'
Optional Oven Osc	2E-9 short term 'tracking' 5E-8 /day long term 'flywheeling'
Sync Sources	GPS, Time Code, 1 PPS, 10 MHz

PCI Local Bus™

Specification	Meets PCI Local Bus™ Specification 2.2
Size	Single-width (4.2" x 6.875")
Device Type	PCI Target, 32 bit, 5V signalling
Data Transfer	Byte, Half Word, Word
Interrupt Levels	Automatically Assigned (PnP)
Power	+5 VDC @ 350 mA +12 VDC @ 10 mA (bc635PCI) +12 VDC @ 100 mA (bc637PCI) - 12 VDC @ 10 mA

GPS Subsystem (bc637PCI only)

Time Accuracy	<1 µSecond
Position Accuracy	10 to 20 meters SEP (SA off)
Maximum Velocity	300 meters/sec (1,080 KPH)
Number of Channels	6
Receiver Frequency	1.575 GHz (L1, C/A code)
Time to First Fix	Worst case: 5 to 15 minutes
Solution Modes	1, 3, and 4 satellites

Connector Types

J1 - Module I/O	15-pin 'DS'
J2 - GPS ANT	SMB socket
+5V BIAS	SMB socket

Environment

	Module	Ant/Rcvr
Temperature:		
Operating	0° C to 70° C	-40° C to 70° C
Storage	-30° C to 85° C	-55° C to 85° C
Humidity:		
Operating	5% to 95%*	95%
	*non-condensing	
Operating Altitude	Up to 18,000 meters MSL	

Options

GPS Receiver**
GPS Firmware**
Bullet GPS Antenna**
Airborne GPS Antenna
Magnetic GPS Antenna
Extended Length GPS Antenna Cable
Isolation Transformer Time Code Input
Ovenized Crystal Oscillator
'D' Connector (J1) to BNC Adapter
Drivers: Windows 95/98/2000/XP, Linux, LabVIEW, Solaris, VxWorks
Contact factory for additional driver support

**part of upgrade from bc635PCI to bc637PCI

Specifications subject to change without notice.

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