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Find the *Microsemi / Symmetricom / Datum bc635VME* at our website: *Click HERE*

Symmetricom

bc635/637VME & bc350/357VXI

VME/VXI Time & Frequency Processors

KEY FEATURES

- 6U, Single Width VME or VXI Module
- Optional VXI C-Size Configuration
- GPS or Time Code Inputs
- Time Code Output
- 1 PPS Pulse Rate Output/Interrupt
- Frequency Outputs (1, 5, 10 MHz)
- External Event Capture/Interrupt
- Programmable Periodic Output/Interrupt
- Programmable Time Strobe Output/Interrupt
- Battery Backed Clock
- Extensive Driver Support

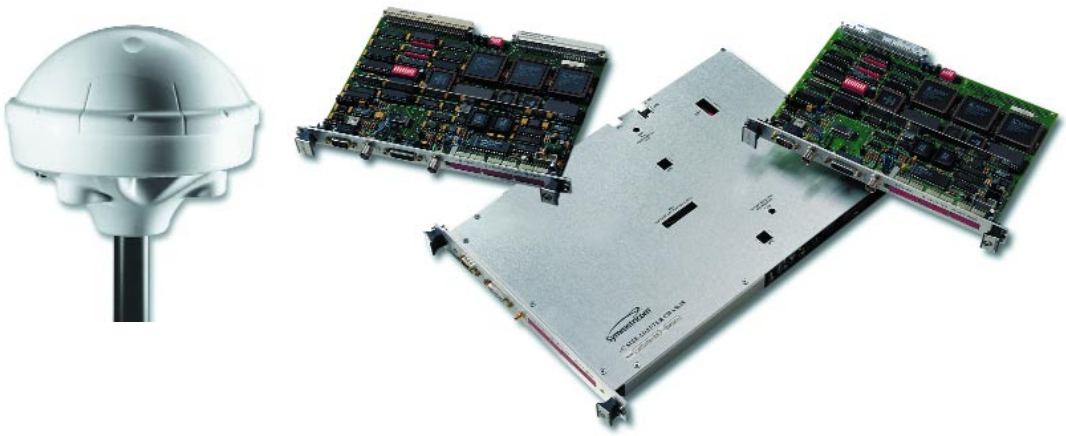
Symmetricom's bc635/637VME and bc350/357VXI time and frequency processor modules provide precision time and frequency reference to the host computer and peripheral data acquisition systems. Time is acquired from either the GPS satellites using a supplied antenna/receiver (bc637VME and bc357VXI only) or from time code signals, typically IRIG B. Integration of the module is facilitated with optional drivers for several operating systems (see Options). Time is displayed on the front panel (hours, minutes, seconds) via LED digits.

Central to the operation of the module is a disciplined 10 MHz oscillator and 100 nanosecond clock. Current time (days to 100 nanoseconds) can be accessed across the bus with zero latency, which allows for very high speed time requests. The oscillator is rate matched (disciplined) to the input time source and drives the precision 10 MHz frequency output and time code generator circuitry. If the time source 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 or IRIG H time code output that is synchronized to the input time source. The translator decodes IRIG B, 2137 or XR3 time code inputs.

An event time capture feature provides a means of latching the time of an event input and/or generating a bus interrupt that is coincident with an external TTL pulse. The module can also be programmed to generate a periodic pulse rate/interrupt as well as to generate a strobe/interrupt at a single predetermined time.

The bc635/637VME & bc350/357VXI models will be discontinued July 30, 2004. The form, fit and function replacements are the TTM635/637VME & TTM350/357VXI models.



VME Time & Frequency Processor (shown with optional antenna/receiver, bc637VME or bc357VXI)

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bc635/637VME - bc350/357VXI Specifications

ELECTRICAL SPECIFICATIONS

- Real time clock
  - Bus request resolution: 100 nanoseconds
  - Bus request latency: Zero
  - Major time format: Binary or BCD
  - Minor time format: Binary
- Time code translator
  - Time code formats: IRIG B (modulated or DCLS)
IRIG A (DCLS only)
XR3, 2137 (modulated only)
  - Modulation ratio: 3:1 to 6:1
  - Input amplitude: 500 mV to 5 V P-P
  - Input impedance: >10KΩ (AC coupled)
- Time code generator
  - Time code format: IRIG B (modulated or DCLS)
IRIG H (DCLS only)
  - Modulation ratio: 3:1
  - Output amplitude: 0 V to 10 V P-P (adjustable)
  - DC level shift: TTL/CMOS
- Timing functions
  - Heartbeat (TTL, 50Ω): Programmable periodic
2.3 mHz to 2.5 MHz
  - Time strobe (TTL, 50Ω): Programmable, 1mS through hrs
  - Event capture (TTL, 50Ω): 100 nS resolution, zero latency
  - 1 PPS pulse rate (TTL, 50Ω): Positive edge on-time
- Disciplined oscillator
  - Frequency: 10 MHz
  - Outputs (50): 1, 5, or 10 MHz (selectable)
  - Rate accuracy
    - Standard VCXO: 5.0E-8 short term (tracking)
5.0E-7/day long term (flywheeling)
    - Optional oven oscillator: 2.0E-9 short term (tracking)
5.0E-8/day long term (flywheeling)
  - Sync sources: GPS, time code, 1 PPS, 10 MHz
- VME/VXI Bus
  - Size: 6Ux160 mm; B size, single width
Optional VXI-C configuration
  - Address space: A16, AM codes $29 and $2D,
64 bytes
  - Data transfer: D16
  - Interrupter: D08(O), I(1-7), ROAK
  - Power: +5 VDC @ 1.5 A
+12 VDC @ 50 mA
+12 VDC @ 250 mA (GPS)
-12 VDC @ 30 mA
- GPS Subsystem (bc637VME & bc357VXI only)
  - Time accuracy: <±1 microsecond
  - Position accuracy: 10 to 20 meters SEP (SA off)
  - Maximum velocity: 300 meters/second
(1,080 KPH)
  - Number of channels: 8
  - Receiver frequency: 1.757 GHz (L1, C/A code)
  - Time to first fix: Brief power off: 1.5 min.
(1, 3 and 4 satellites)
  - Solution modes: 1, 3 and 4 satellites
- Environment

	Module	Ant/Rec
Temperature		
Operating:	0° C to 70° C	-30° C to + 70° C
Storage:	-50° C to 125° C	-55° C to +100° C
Humidity		
Operating:	5% to 95%* *non-condensing	95%

OPTIONS

- IRIG A decoding
- NASA 36 decoding
- ACUFIRM GPS firmware**
- ACUTIME GPS antenna/receiver**
- Antenna cable
- Extender modules
- Isolation transformer time code input
- Ovenized crystal oscillator
- 'D' connector (J1) to BNC adapter
- Driver for SUNOS Version 4.x
- Driver for Solaris Version 2.x
- Generic UNIX System V Driver
- VxWorks Real Time OS Driver
- LabVIEW Driver

** included with bc637VME or bc357VXI-B & C

VME and VXI cards all use a common design. The main difference is that the VXI modules do not include the P2 bus connector. The VXI-C module is functionally identical to the VXI-B module, the only difference being the length of the module.

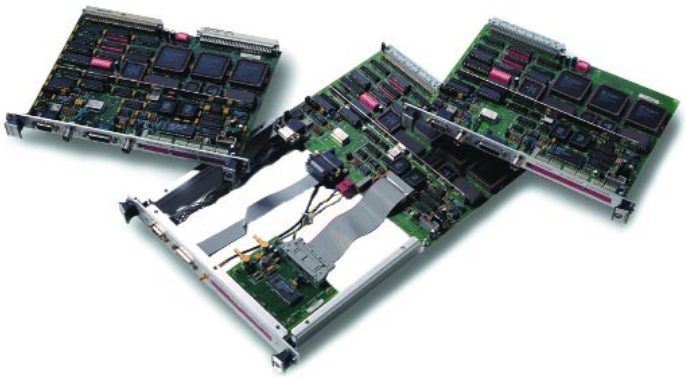
ORDERING INFORMATION

• bc635VME	VME Time & Frequency Processor
• bc637VME	VME GPS Time & Frequency Processor*
• bc350VXI**	VXI Time & Frequency Processor
• bc357VXI**	VXI GPS Time & Frequency Processor*
• VME-VXDRV	VME/VXI VxWorks Driver
• VME-S5DRV	VME/VXI Solaris Driver
• VME-UXDRV	VME/VXI Generic System V Unix Driver
• VME-LVDRV	VME/VXI LabVIEW Driver
• BC11736-1000	Ovenized oscillator option (factory installed)
• BC11576-1000	'D' to BNC adapter (provides IRIG in, IRIG out, 1 pps out, event in, periodic out)
• ACUFIRM-VME	GPS firmware upgrade
• GPS-ACU/2K	Spare antenna
• 812597-050	Spare RS422 50' (15m) antenna cable***
• 812597-100	Spare RS422 100' (30m) antenna cable***
• 812597-200	Spare RS422 200' (60m) antenna cable***

* includes GPS antenna/receiver and 50' (15 m) cable

** please specify VME, VXI-B or VXI-C to ensure system compatibility

*** contact factory regarding longer cabling requirements



VME and VXI cards

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