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Find the *Microsemi / Symmetricom / Datum PC03V* at our website: *Click HERE*

## Features

PC03V Time Code Translator
Translates IRIG A, IRIG B, IRIG G, 2137, XR3, NASA 36
Translates Codes Forward, Reverse, High Speeds, Low Speeds
Accepts Carrier Frequencies From 250 Hz to 500 kHz
Zero Latency Access to Decoded Time
Two Programmable Time Coincident Strobes/Interrupts
Programmable Heartbeat Pulse/Interrupt
External Event Time Capture/Interrupt

PC05V Time Code Generator
Generates IRIG A, IRIG B, IRIG G, 2137, XR3, NASA 36
Generates Codes Forward, Reverse, High Speeds, Low Speeds
External Time Base Frequency of 10 MHz, 5 MHz or 1 MHz
Internal Time Base Crystal Oscillator

# VMEbus Time Code Processors



## Overview

The PC03V is a double height VMEbus module designed to translate serial time code signals and to provide additional capabilities not normally found in a single board time code reader.
Any of the six most commonly used time codes are translated in either the forward or reverse direction and at tape speeds that are slower or faster than real time. This makes the PC03V an ideal unit for use in tape search applications.

Time output resolution depends on the code type and whether the time code is coming in at the real time rate (i.e., from a satellite receiver or a central timing facility) or at a non-real time rate (i.e., from a magnetic tape recorder). When processing a time code at the real time rate, a synchronized 1 MHz time base reference maintains time of day (TOD) down to a resolution of 1 microsecond. In the case of a non-real time rate, the PC03V maintains TOD to carrier cycle resolution (e.g., 1 mS for IRIG B with a 1 kHz carrier).

High speed time tagging applications require minimal access time (the time from the data request until the requestor receives the data — termed latency). To miminize this latency, the PC03V continually maintains current time from microseconds to days. In response to either a VMEbus READ at the PC03V Base Address Location (CAPTR, time capture register) or an external time capture strobe, the current time is transferred to, and held in, four 16 bit output registers for subsequent access across the bus. Internal handshake protocol logic ensures that the transfer does not take place during state changes.

The PC05V Time Code Generator operates in a 6U VMEbus system. It is unique in its ability to generate time code in either forward or reverse direction with rates from 1/8 to 16 times real time. Time is maintained using either an internal oscillator or an externally supplied time base reference.


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# Models PC03V & PC05V

BUS LEVEL PRODUCTS

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

# Specifications

## PC03V Time Code Translator

### Time Code Input

| | |
|---|---|
| Code Formats | IRIG A, B, G; XR3, 2137, NASA 36 |
| Carrier Range | 125 Hz to 500 kHz |
| Code Direction | Forward and reverse |
| Modulation Ratio | 3:1 to 6:1 |
| Input Amplitude | 500 mV to 10 V P-P |
| Input Impedance | >10KΩ |

### Time Data

| | |
|---|---|
| Bus Request Resolution | 4 ms - XR3<br>1 ms - IRIG B, 2137 & NASA 36<br>100 µs - IRIG A<br>10 µs - for IRIG G |
| Bus Request Latency | Zero |
| Time Format | Binary coded decimal (BCD) |

### Timing Functions

| | |
|---|---|
| Heartbeat | TTL, active low, programmable periodic |
| Strobes 1 & 2 | TTL, active high or low, 1 µS to Hours |
| Event Capture | TTL, positive or negative edge triggered, 50 nS minimum width |

### VMEbus Interface

| | |
|---|---|
| Specification | Meets VMEbus Spec, Revision C.1 |
| Size | 6Ux4HP (160 mm); B-size, single width |
| Address Space | A16, AM codes $29 and $2D, 256 bytes |
| Data Transfer | D16 |
| Interrupter | D08(O), I(1-7), ROAK |
| Power | +5 VDC @ 1.7A<br>+12 VDC @ 100 mA<br>- 12 VDC @ 100 mA |

### Operating Environment

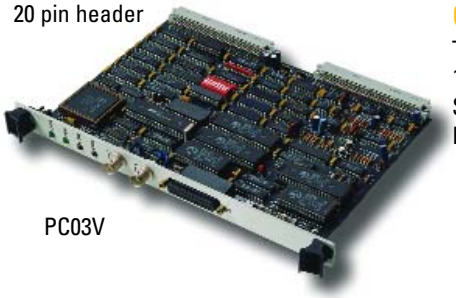
| | |
|---|---|
| Temperature | 0° to 50° C |
| Humidity | 10% to 80%, non-condensing |

### Connector Types

| | |
|---|---|
| Time Code Inputs | BNC |
| Event Input | BNC |
| Signal I/O | 25 pin 'D' socket; P2, rows A & C |
| PDC Output | 20 pin header |

### Options

Generic UNIX Driver
Solaris Driver



PC03V

## PC05V Time Code Generator

### Time Code Output

| | |
|---|---|
| Code Formats | IRIG A, B, G; XR3, 2137, NASA 36 (modulated or DCLS) |
| Time Code Rates | 1/8X, 1/4X, 1/2X, X, 2X, 4X, 8X |
| Code Direction | Forward or reverse |
| Modulation Ratio | 3:1 to 8:1 |
| Output Amplitude | 0 V to 10 V P-P (unloaded)<br>0 V to 5 V P-P (50 load) |
| Output Impedance | 50Ω |

### Time Data

| | |
|---|---|
| Bus Request Resolution | 1 sec - XR3, IRIG B, 2137 and NASA 36<br>100 ms - IRIG A<br>10 ms - IRIG G |
| Bus Request Latency | 150 µs |
| Time Format | ASCII |

### Internal Time Base

| | |
|---|---|
| Stability | ±0.0005%, 20° C to 35° C<br>±0.0025%, 0° C to 70° C |
| Adjustment Range | 30 ppm |
| Accuracy | ±0.0001%, +25° C |

### External Time Base

| | |
|---|---|
| Frequency | 1 MHz, 5 MHz or 10 MHz |
| Signal | TTL or Sine (1 V to 10 V P-P) |

### VMEbus Interface

| | |
|---|---|
| Specification | Meets VMEbus Spec, Revision C.1 |
| Size | 6Ux4HP (160 mm); B-size, single width |
| Address Space | A16, AM Codes $29 and $2D, 512 bytes |
| Data Transfer | D16 |
| Power | + 5 VDC @ 700 mA<br>+12 VDC @ 50 mA<br>- 12 VDC @ 50 mA |

### Operating Environment

| | |
|---|---|
| Temperature | 0° to 50° C |
| Humidity | 10% to 80%, non-condensing |

### Connector Types

| | |
|---|---|
| Time Code Output | BNC |
| 1 PPS Output | BNC |
| Signal I/O | 25 pin 'D' socket; P2, rows A & C |
| PDC Output | 20 pin header |

Specifications subject to change without notice.



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