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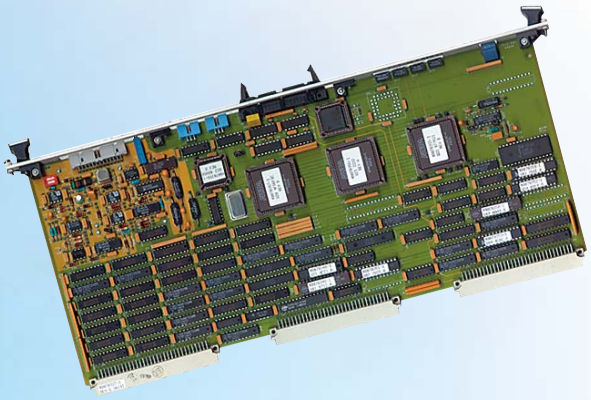
Find the *L-3 Communications TCM542* at our website: ***Click HERE***

Telemetry - West

Time Code Generator/Translator

TCM542





The IRIG Time Code Decoder/Generator/Translator (TCM542) module combines the functions of a time code decoder, generator, and tape search control unit to provide complete system time capabilities. It accepts a serial time signal, creates a synchronous clean modulated output, and supports internal parallel time for time tagging external events and MUXbus* data words, including PCM or 1553 data.

The TCM542 time code module can be operated in four modes: Decode, Generate, Decode/Generate, and Internal. In Decode mode, the module accepts an external serial time signal and operates at the real-time rate or at 1/2, 1, 2, 4 or 8 times the real-time rate to allow playback of a tape at multiples of the recorded rate. In Generate mode, the module generates an IRIG signal that is output through a rear panel port, making the Time Code module a serial IRIG time source. In Decode/Generate mode, the module accepts an external serial time signal, but only operates at the real-time rate. This mode also provides a synchronous modulated output that either repeats the incoming time signal, adds an offset to the incoming time signal, or translates it to another time type. In the Internal mode, the internal reference crystal on the Time Code module generates a stable IRIG time code and outputs the signal onto the MUXbus. In all modes, the time signal is available to the MUXbus for time stamping.

* The MUXbus (on P3 of the VMEbus) is the Model 550's high-speed real-time broadcast data bus, running at a sustained 16 Mwords per second (96 MB/sec).

KEY FEATURES

- Decodes and generates IRIG-A, -B, and -G time codes
- Controls videocassette or analog tape recorders
- Adjusts playback time factor to enable post-processing data rate requirements
- Tags and merges external time data, PCM frames, or MUXbus data
- Employ multiple modules to time-tag independent streams using independent time sources
- Three types of triggers:
  (1) MUXbus Event Parameter (the occurrence of a particular parameter or parameters on the MUXbus, including frame sync and subframe sync);
  (2) Interval Timer Parameter (a time interval); and
  (3) External Trigger Parameters (the rising edge of an external signal)

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Telemetry - West

Time Code Generator/Translator

TCM542 SPECIFICATIONS

External Inputs

Format . . . . . Standard IRIG-A, -B, or -G (10,000 Hz, 1,000 Hz, or 100,000 Hz)
Time Factor . . . . . A: ¼, ½, 1x, 2x, 4x, 8x
B: ½, 1x, 2x, 4x, 8x
G: ¼, ½, 1x, 2x, 4x
Direction . . . . . Forward or reverse automatically (if search available in recorder)
Amplitude . . . . . 0.6 to 20V peak-to-peak (auto-range)
Impedance . . . . . 100K Ω (termination also provided for 50 Ω or 75 Ω)
Modulation Ratio . . . . . 2:1 to 6:1 (3:1 optimum)
Signal to Noise Ratio . . . . . 14 dB or better
External Frequency
Reference . . . . . 16 MHz (RS-422)
External Trigger . . . . . RS-422, 50 nsec min. pulse width

External Outputs

Time:
Format . . . . . IRIG-A, -B, or -G (modulated); TTL/RS-422 levels (demodulated)
Frequency . . . . . 1 kHz, 10 kHz, 100 kHz
Direction . . . . . Forward only
Amplitude . . . . . 0 to 20V peak-to-peak (adjustable) into high-impedance load
On-Board Stability . . . . . ± 3 PPM; tunable to less than 1 PPM
Impedance . . . . . 50 Ω
Modulation Ratio . . . . . 3:1 nominal
Signal to Noise Ratio . . . . . 30 dB
External Tape Control:
Format . . . . . RS-232C/RS-422 serial

Display Outputs

Status Panel CRT
IRIG Time . . . . . DDD:HH:MM:SS
Setup . . . . . Prompted programmable pages

Functions

Time Trigger Sources:
External . . . . . External pulse, positive edge (RS-422)
Interval . . . . . 1-100 msec
MUXbus . . . . . Any MUXbus parameter (i.e., frame/subframe sync)
Format . . . . . IRIG - four 16-bit words, standard IRIG BCD days, hours, minutes, seconds, milliseconds, microseconds
Resolution . . . . . 1 µsec; 2 µsec in time factor x4; 4 µsec in time factor x8
Code Conversion . . . . . IRIG-A, -B, or -G in any combination, input to output (real-time rates only)

Program Setup

Keyboard and Mouse . . . . . Fill-in-the-blank OSF/Motif™ displays aided by list-pick selections
ASCII Text File . . . . . User-created description

General Requirements

Chassis Requirement . . . . . 1 9U slot
Maximum per Chassis . . . . . 8 (550) / 4 (Avalon)
Maximum per System . . . . . Virtually unlimited
Power . . . . . 5V @ 2.0 A
Rear Panel . . . . . 4 slots
Connector Type . . . . . 3 DB-25S, 2 BNC, 4 triaxial
Environment . . . . . See Base 550 System Chassis (PRO550A, PRO550B) and Avalon System Chassis (AVALON-R) data sheet
Module Size . . . . . 365mm (9U) x 160mm
Diagnostic Display . . . . . 16 status LEDs

Compatibility

Base 550 System Chassis (PRO550A, PRO550B)
Avalon System Chassis (AVALON-R)
SWA500 Applications Software
VISTA Software

Ordering Information

TCM542 . . . . . Time Code Generator / Translator Module (IRIG -A, -B, and -G)

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