

PMC IRIG TIME CODE GENERATOR/TRANSLATOR

TCZ542



OVERVIEW

The PMC IRIG Time Code Generator/Translator (TCZ542) module combines the functions of a time code decoder and generator 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.

APPLICATIONS

The TCZ542 time code module can be operated in four modes:

Decode: Accepts an external serial time signal and operates at the real-time rate or at $\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 4, 8, or 16 times the real-time rate to allow playback of a tape at multiples of the recorded rate.

Generate: Generates an IRIG signal that is output through a rear panel port, making the Time Code module a serial IRIG time source.

Decode/Generate: Accepts an external serial time signal, but only operates at the real-time rate. This mode also provides a synchronous modulated output that repeats the incoming time signal, adds an offset to the incoming time signal, or translates it to another IRIG time type.

Internal: The internal reference crystal on the TCZ542 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.

TECHNOLOGY

The small footprint PMC form factor uses L-3's VME carrier board (up to 4 PMC modules) for a convenient technology upgrade path that can mix-and-match with other PMCs from L-3 and third-party suppliers.

KEY FEATURES

- Decodes and generates standard IRIG-A, -B, and -G time codes, and translates among time codes
- Creates a serial IRIG time source output through a rear panel port
- Adjusts playback time factor for post-processing applications
- 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
 - Occurrence of one or more specific parameters including frame sync and subframe sync
 - (2) Interval Timer Parameter
 - A time interval
 - (3) External Trigger Parameters
 - Rising edge of an external signal

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TCZ542 SPECIFICATIONS

External Inputs

FormatStandard IRIG-A, -B, or -G
(10 KHz, 1 KHz, or 100 KHz)
Time FactorA: ¼x, ½x, 1x, 2x, 4x, 8x, 16x;
B: ¼x, ½x, 1x, 2x, 4x, 8x, 16x;
G: ¼x, ½x, 1x, 2x, 4x, 8x
DirectionForward
Amplitude0.2 to 10V peak-to-peak (auto-range)
Impedance100K Ω
Modulation Ratio2:1 to 6:1 (default 10:3)
Signal to Noise Ratio14 dB or better
External FrequencyNo
External TriggerRS-422

External Outputs

Time:
FormatIRIG-A, -B, or -G (Standard);
TTL (PWM)
Frequency10 KHz, 1 KHz, 100 KHz
DirectionForward
Amplitude0 to 10V peak-to-peak into
high-impedance load
On-Board Stability2.4 PPM
Impedance75 Ω
Modulation Ratio3:1 nominal
Signal to Noise Ratio30 dB or better

Display Outputs

Status Panel CRT
IRIG TimeDDD:HH:MM:SS
SetupPrompted programmable pages

Program Setup

Keyboard and MouseDisplays aided by list-pick selections
ASCII Text FileUser-created description

Functions

Time Trigger Sources:
ExternalYes
Interval1-100 msec
MUXbusProgrammable
FormatIRIG - five 16-bit words or 3 32-bit
words, standard IRIG BCD year, days,
hours, minutes, seconds, milliseconds,
microseconds
Resolution1 µsec
4 µsec in time factor x8
Code ConversionIRIG-A, -B, or -G in any combination,
input to output (real-time rates only)
IRIG Standard SupportedIRIG 200-4

General Requirements

Form FactorPMC, IEEE 1386-2001
Chassis Requirement1 PMC slot on a VME Mezzanine
Carrier
Maximum per Carrier4
Maximum per Chassis8 (550) / 8 (Avalon)
Maximum per SystemVirtually unlimited
Power< 5W
Rear Panel1 slot
Connector TypeBNC / MDR / TRIAX
EnvironmentSee Base 550 System Chassis
(PR0550B) and Avalon System
Chassis (AVALON-R) data sheets
Dimensions75mm x 150mm (PMC standard)
Diagnostic Display12 status LEDs

Compatibility

Base 550 System Chassis (PR0550B)
Avalon System Chassis (AVALON-R)
VME Mezzanine Carrier with Arbiter (ZCA596)
VME Mezzanine Carrier (ZCM596)
VISTA Software (Version 3.3 or higher)

Ordering Information

TCZ542PMC Time Code Generator / Translator
Module (IRIG -A, -B, and -G)

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