DTS-100

Telemetry PCM Decommutator

DTS-100 is an IRIG 106 class II standard 2-channell PCM Decommutator capable of decoding telemetry data up to 10 Mbps rates, suited for flight test missions.

It permits real-time monitoring of parameters and events, local recording, playback and data reduction for future data analysis.

Easy configuration setup is accomplished via a telemetry user application with an intuitive graphical user interface (GUI), that is additionally coupled with airborne processing capabilities. A unique set of programmable PCM Frame and parameters is applied to both, decoder and encoder units, simplifying test engineering work.

It may be directly plugged to the Ethernet network and delivers complete telemetry frames to the destination IPs.

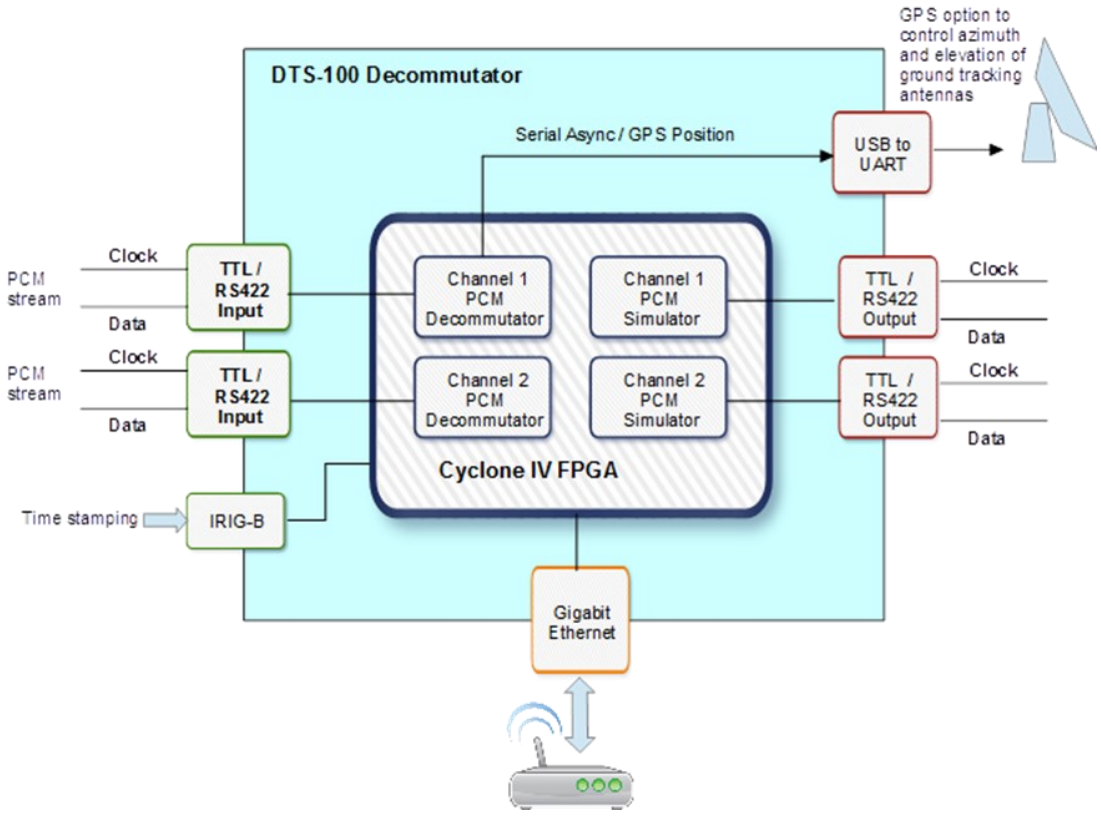
DTS-100 includes two simulators capable of generating PCM serial signals in the IRIG-106 format, which can be used to test the whole system.

An IRIG-B Time Code reader provides synchronized time to decommuted PCM frames for time stamping of telemetry data. Internal extension to 1 microseconds provided.

PCM channel 1 is connected to a serial port to output embedded serial async data like GPS position.

Key Features

- IRIG 106 Class II Compliance
- High speed operation up to 10 Mbps
- Miniature rugged construction
- Two independent channels
- Two independent PCM simulators
- Single ended or differential input sw selectable
- IRIG-B time acquisition
- Ethernet Gigabit
- Serial Async USB port can output embedded GPS position to control azimuth and elevation of tracking ground antennas.
- Telemetry inputs and Lock status LED indicators
- Programmable data stored in non-volatile memory
- DLL library for custom applications



Technical Specifications

PCM Decommutator

Standard	IRIG 106 Class II
Input Data Rates	10 bps to 10 Mbps
No. of channels	Two independent channels
Input Format	NRZ-L, NRZ-M, NRZ-S, BiØ-L, BiØ-M , BiØ-S
Input Levels	TTL and RS-422
Data Polarity	Normal or Inverted
Data Alignment	MSB first or LSB first
Major Frame Length	1 to 1024 Minor Frames per Major Frame
Minor Frame Length	2 to 16.384 bits per Minor Frame
Word Length	6 to 16 bits
Frame Sync Pattern	Up to 33 bits
Frame Sync Location	Leading or trailing the frame
Frame Sync Strategy	Adaptive mode (search-lock-verify) & burst mode (search lock)
Sync Error Tolerance	0 - 7 bits
Sub-Frame Sync	SFID, FCC & URC

PCM Simulator

Standard	IRIG 106 Class II
Output Data Rates	10 bps to 10 Mbps
No. of channels	Two independent channels
Output Format	NRZ-L, NRZ-M, NRZ-S, BiØ-L, BiØ-M , BiØ-S
Output Levels	TTL or RS-422
Data Polarity	Normal or Inverted
Data Alignment	MSB first or LSB first
Major Frame Length	1 to 1024 Minor Frames per Major Frame
Minor Frame Length	2 to 16.384 bits per Minor Frame
Word Length	6 to 16 bits
Frame Sync Pattern	Up to 33 bits
Sub-Frame Sync	SFID, FCC & URC

UART TO USB

Description	USB to asynchronous serial data transfer interface
Data Rates	300 baud to 3 Mbaud

IRIG-B Time Code Reader

Input Signal:	1 KHz ASK (Amplitude Shifting Key) amplitude modulated
Time frame	1 second
Counter Indice	10 ms (100 pps)
Year time	BCD (Binary Coded Decimal).
Day seconds	SBS (Straight Binary Seconds).
30 bits (BCD)	days (10), hours (6), minutes (7) and seconds (7).
17 bits (BCD)	Day seconds
9 bits (BCD)	year
18 bits	control

ENVIRONMENTAL

Temperature	Operation: -40 °C to +85 °C Storage: -54 °C to +125 °C
Humidity	0% to 90% Relative

Physical and Power

Size	115 x 135 x 33 length, width, height (mm)
Weight	0.9 Kg
Chassis Material	Aluminum
Power Supply	10 VDC to 20 VDC 10 W