Programmable Telemetry Bit synchronizer

Telemetry test ranges provide effective means of receiving data from multiple on board sensors for post flight analysis. The flight data collection without loss of information is very crucial in telemetry. To ensure successful data reception with high reliability telemetry receiver are realized in multiple stages; Receiver, Bit synchronizer and PCM decommuator. Each stage has standard input and output specifications as per IRIG standard.

The UTS's Bit synchronizer is state of the art telemetry equipment realized with modern Software Defined Radio (SDR) principles. Fast timing recovery loops are employed for quick clock recovery. Programable loop bandwidths allow user to select optimal value under given SNR conditions. Several other options are provided for user configuration.

Key Features

- State of the art DSP algorithms for Bit synchronization.
- All digital bit synchronization techniques
- Configurable loop bandwidth
- Selectable line codes
- Can be extended for multi channel application.
- Remote control (optional feature)
  - RS-232
  - LAN
- Rack mount Chassis (19" W rack mount)

Model No. : UTS-TMSE-PBS-V2.2

Parameter	Value
Input	1 /2 /3/4 Bit synchs (Depending on model) Single ended (or) Differential support
Input impedance	Hi-Z, 1K Ohm, 75 Ohm and 50 Ohm Selectable option
Input voltage	Voltage level : 500 mV to 10 V (Peak to peak)
Output voltage	Data and clock with TTL, 3.3V / 5 V RS 422 (optional)
Clock	0,90,180 and 270 degrees
Bit rate	Range : 1 kbps to 20 Mbps (other options available) Resolution : 0.1% of Bit rate
Loop filter	Bandwidth : 0.001% to 5%
Timing recovery Capture and Tracking	+/- 5% bit rate +/- 20% loop bandwidth
Line codes	NRZ-L/M/S, BiΦ-L/M/S, RZ,RNRZ-L .Direct or invert bits can be selected
De-randomization options	RNRZ 11/15, forward/reverse, programmable
ECC decoding (optional)	Viterbi Decoder Constraint length 7 and rate 1/2
BER performance	Within 1 dB
Indicators	Signal present, search, check and lock indicators
Output type	BNC-F for data and clock (optional buffered outputs)
User interface	(a) LCD with Keypad and (b) Remote Ethernet based GUI (optional) **Flash based configuration storage.** **RS-232, LAN**
Size	2U, 19" Rack mountable (other options are available).
Power Supply	230V +/- 10V, 45-55 Hz, single phase 12/24 Volts DC (optional), Dual power supply(optional)

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