

Telemetry systems 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. Simulators, which can generate practical telemetry nature of signals, are very useful in design, test and validation phases of telemetry receivers.

The UTS's Telemetry Signal Simulator (TSS) is modern method for injection mode test and validation of telemetry systems. The simulator can provide four types of outputs to cover complete range of test requirements of telemetry receiver.

- RF - 1 GHz to 4 GHz
- IF - 70 MHz
- Base band - Analog
- Base band - Digital (TTL, RS422)

The multi band RF section can generate signals covering L & S bands (1 GHz to 4 GHz) based on user selection. The 70 MHz output is very useful in IF level receiver testing. The base band signals can be used for testing the bit synchronizers or PCM deframmers.

TSS can simulate variable power levels at RF and IF level. The software defined radio based modulator allows configuration of required modulation schemes. The simulator also provides features for modeling fading and noise conditions. These features are very useful to evaluate the receivers, against practical signal conditions.

The baseband data is generated through user selected settings in GUI. TSS supports both standard and non-standard PCM formats. Frame header and payload sizes are fully configurable. The simulator is offered with user friendly GUI for parameter configuration and control. The external data input allows user to feed known pattern and check the receiver performance. The simulator is offered with user friendly GUI for parameter configuration and control. Remote control option enables remote operation of unit from any other terminal in LAN.

Model No. : UTS-TMSE-TSS-V2.2-CH1
(other models with multi-ch options available)

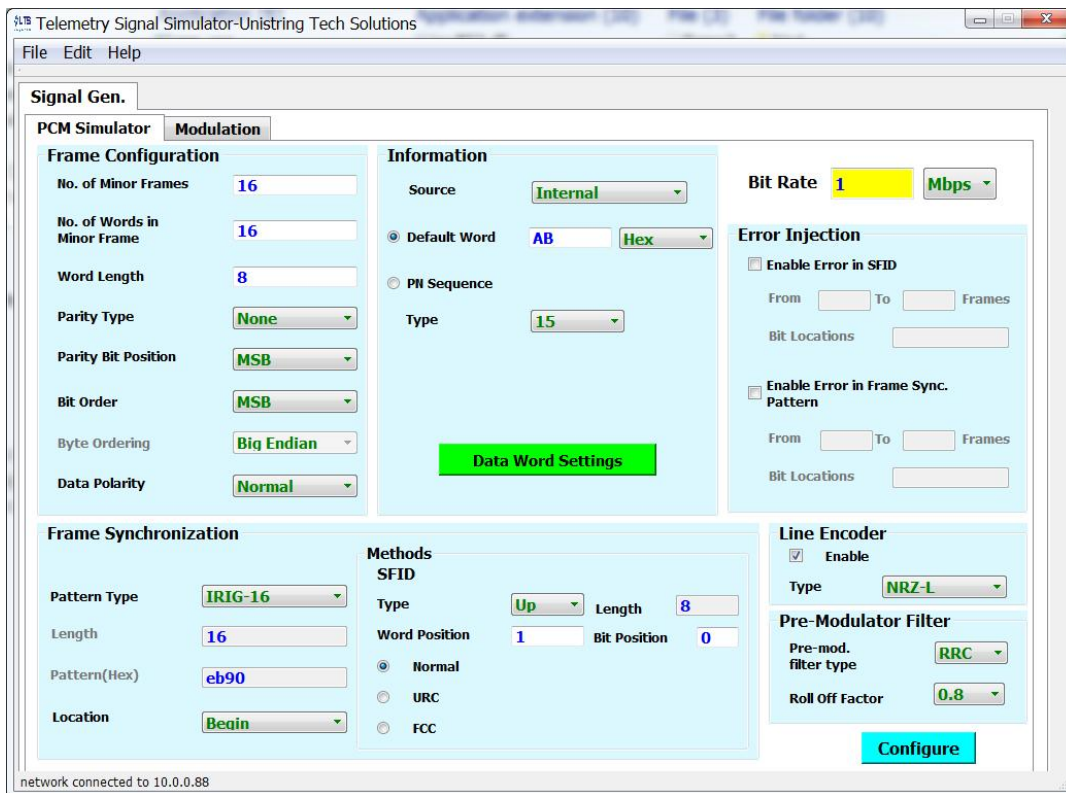


Specifications (Customizable as per user requirements)

| Parameter | Value |
|---|--|
| Frequency range | 1 GHz to 4 GHz (L and S bands) (other frequency ranges can be offered based on user requirements) |
| Number Of Channels | 2(L and S bands) Power & Phase shift Control independently |
| LO Step size | 10 KHz |
| RF output | 50 Ohm, SMA |
| IF output | 50 Ohm, SMA |
| Output range | -90 dBm to -10 dBm |
| Modulation types | AM, FM, PCM/FM, PM, BPSK, QPSK, 8-PSK, QAM8, QAM16, QAM32, QAM64, FSK2, FSK4, SQPSK and Multi-h CPM (ARTM CPM) |
| (Compliant to IRIG 106 standard) | MSK, GMSK |
| Data input | PC simulated PCM frame Internal PR sequences External TTL input External IQ |
| Fading | Rayleigh and Rician fading models. Sinusoidal fading support |
| Maximum data rates | Upto 20 Mbps |
| BER sequences as base band data | PR sequences of configurable polynomial |
| BER Display | Bitsync/BERT display Graph |
| Display | GUI running on PC |
| Power supply | 230 V +/- 10%, 50 Hz AC, 3 Amp |
| Dimensions (customizable) | 3U, 19" Rack mountable |
| Weight | < 20 Kg |
| Temperature | Operating (0°C to 35°C) Storage (-20°C to 50°C) |

| Parameter | Value |
|--------------------------|---|
| Word length | 3 to 32 bits |
| Minor frame length | 2 to 32k words per minor frame |
| Major frame length | 1 to 1024 minor frames per major frame |
| Bit rate | 10kbps to 20Mbps for NRZ, upto 10Mbps for bi Ø |
| Bit order | MSB or LSB, selectable |
| Byte ordering | Big Endian or Little Endian |
| Frame Sync pattern | up to 64 bits |
| Frame Sync location | Beginning or end of the frame (selectable) |
| Parity | Odd or even or none, selectable. |
| Parity Bit Position | LSB or MSB, selectable |
| Major Frame sync method | Selectable from SFID, URC & FCC. |
| SFID counter | Increment or decrement, programmable |
| SFID position | Anywhere in the major frame or minor frame, configurable |
| Embedded message support | Supports 32 embedded IRIG messages that can be programmed through GUI. The position of embedded frame in main frame is programmable and embedded frame can occur at commuted or sub commuted frequency. |
| Signal generation | In built math functions for sine, cosine, square, ramp and triangular waveforms. User defined waveforms also can be loaded. |
| Error simulation | Error injection is supported in sync and SFID patterns at configurable bit locations in the selected range of frames. |
| Pre modulation filter | Pre-mod filters with bandwidth 0.7 and 1.4 times for NRZ and BiØ codes respectively. Other filter types can be supported (optional) |
| Output codes | NRZ-L/M/S, BiØ-L/M/S, DM-M/S, MDM-M/S and RNRZL (based on user selection) |
| Output Levels | TTL and RS-422 |
| I/O | SMA connectors for RF and IF, TTL and RS-422 outputs on BNCs. (Multiple outputs can be offered based on user requirement) |

Graphical user interface (GUI)



Contact us for other GUI options and more details

