

T1200HDR

High Data Rate Receiver

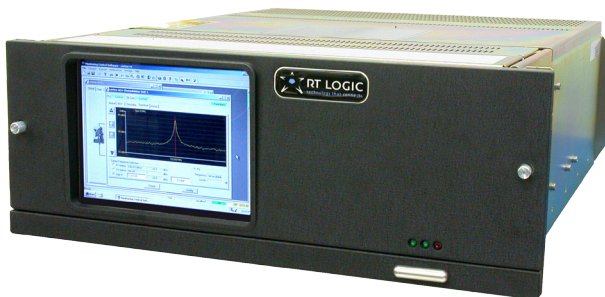
The 1200 High Data Rate (T1200HDR) brings the multimission benefits of digital receiver technology to high data rate requirements. The T1200HDR provides industry-leading Bit Error Rate (BER) performance, as well as user-selectable support for a variety of waveforms and data rates. The T1200HDR supports carrier tracking, demodulation, bit synchronization, and digital processing of a dual 720 MHz or a single 1.2 GHz Intermediate Frequency (IF) signal at transmission rates adjustable up to 2 Gbps. The digital signal processing implementation provides flexibility to support different demodulation and processing schemes and, unlike legacy analog implementations, requires no calibration. The soft-programmable implementation allows support for new requirements without building new hardware.

Application

The T1200HDR supports downlink processing of BPSK, QPSK, 8PSK, 16APSK, and 16QAM signals. Symbol rates from 0.5 Msps to 575 Msps are supported for all modulation types. The demodulation processing is supplemented by bit synchronization, Pulse Code Modulation (PCM) code conversion, digital filtering, and adaptive signal equalization for transmission optimization. Multiple Forward Error Correction (FEC) options are currently supported including Viterbi, Reed-Solomon (RS), and Low Density Parity Check (LDPC). Output from the unit is available as differential Emitter-Coupled Logic (ECL) data and clock or as frames available over Ethernet.

The T1200HDR provides a number of sophisticated test and simulation capabilities based upon the digital implementation. Spectral and In-Phase/Quadrature (I/Q) vector displays are available to aid with signal characterization and troubleshooting. The optional test modulator provides composite signal generation and output at 720 MHz or 1.2 GHz IF from an internal PCM simulator or external data and clock signals. A noise source and Bit Error Rate Test (BERT) capability is also available.

The unit implements a TCP/IP-based interface, allowing control, status, and data delivery over Ethernet, including spectrum and vector analysis data. The unit has been closely integrated with the RT Logic T500HR for high-rate CCSDS processing, RAID data archival, and network data distribution.

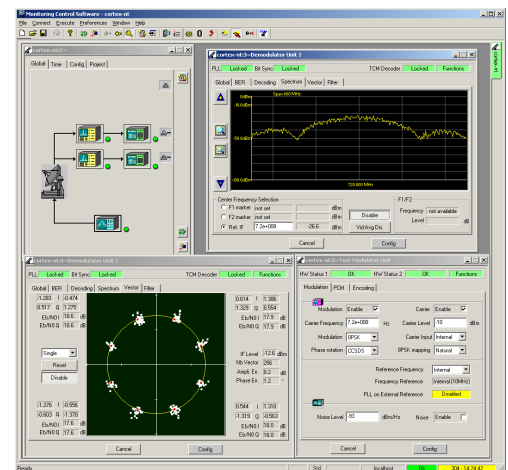


Key Features

- ✓ 720 MHz and 1.2GHz IF
- ✓ Dual, independent 720MHz IF receivers
- ✓ Digital demodulator (BPSK, QPSK, SQPSK, UQPSK, 8PSK, 16APSK, 16QAM, GMSK)
- ✓ Bit synchronization, PCM code conversion, ambiguity resolution, I/Q reinterleave, ECL output
- ✓ Spectrum and I/Q Vector GUI displays
- ✓ Optional FEC decoding (Viterbi, RS, rate 7/8 LDPC, rate 1/2 LDPC AR4JA)
- ✓ Optional test modulator with noise injection
- ✓ 5 MHz or 10 MHz synchronization (external or internal)

Supported Missions

- ✓ TDRSS, NPP, NPOESS, LandSat, SDO, LRO, WorldView 1 and 2, Quickbird, GeoEye 1 and 2, Ikonos



SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE.