From the world leader in Earth Observation ground systems, the Viasat High-Rate Receiver 1200 provides high-speed demodulation and decoding of wideband transmissions at X- and Ka-band. Supporting current and future optical, SAR, scientific, and meteorological satellites with the latest waveforms, a single receiver can provide multi-channel support up to 2.4 Gbps data rate. With two IF inputs, each with two demodulators, it is particularly suited for high-resolution multi-channel or dual polarization satellites with wideband downlinks such as Worldview or Pleiades.

The receiver is designed to optimize the entire ground station, simplifying station design and maximizing reliability. With user selectable IF frequency bands and multi-channel tuning, legacy station components can be eliminated and overall station design optimized. The high reliability, FPGA/Linux-based design maximizes station reliability, ensuring images are received when it counts.

The receiver interfaces to popular image processors through ECL or 10 GbE connections and is typically used with a companion Viasat data processor to provide further data processing, data storage, and FTP and TCP forwarding.

The true multi-mission design allows it to be used in a variety of applications, from multi-satellite ground stations to satellite test-bench environments.

**SUPPORTED SATELLITES**
- Aqua/Aura/Terra
- Worldview-1/2/3
- Landsat-7/8
- Pleiades-1A/1B
- Spot-6/7
- Kompsat Series
- RadarSat-1/2
- TerraSAR-X/TanDEM-X
- IRS Series
- CartoSat Series
- COSMO-Skymed
- Gokturk-1/2/3
- GeoEye-1
- CBERS Series
- Sentinel Series
- Many Others...
### MODULATIONS AND RATES

**Modulations**
- BPSK, QPSK, OQPSK, AQPSK, 8PSK, 16QAM
- 2, 8PSK, 16QAM

**Variable Modulations**
- OQPSK/8PSK (Worldview-3)

**Symbol Rates**
- 7.5 to 200 MBd x 4 channels
- 7.5 to 400 MBd x 2 channels

**Baseband Interfaces**
- Dual 10 GbE
- ECL, data/clock interface

**Data Rates**
- 7.5 to 600 Mbps x 4 channels
- 7.5 to 1200 Mbps x 2 channels

**Pulse Shaping Filters**
- Root-raised cosine (0.2 to 1.0), Unshaped (sinc spectrum/I&D)

### FEC

**Convolutional/Viterbi**
- CCSDS r=1/2 (131.0-B)
- I+Q', 4I+4Q, 8I+8Q (450-SNUG)

**4D-8PSK-TCM**
- All CCSDS rates (401.0-B)

**Reed-Solomon**
- CCSDS-223, -239 (131.0-B);
- DVB-S-239 (ETSI EN 300 421);
- Intelsat-235 (IESS-308)

**Shortening**
- 0 to 32

**Interleave Type**
- CCSDS; Convolutional

**Interleave Depth**
- 1 to 16

**LDPC**
- CCSDS r=7/8, (131.0-B)

### FEC THROUGHPUT

**BPSK**
- Uncoded: 400 MBd
- Reed-Solomon: 200 MBd

**QPSK AND OQPSK**
- Uncoded: 400 MBd
- Convolutional/Viterbi: 200 MBd
- Reed-Solomon: 200 MBd
- LDPC: 400 MBd

**8PSK**
- Uncoded: 400 MBd
- 4D-8PSK-TCM: 200 MBd
- Reed-Solomon: 200 MBd

### ADDITIONAL FRAME PROCESSING

**Randomization**
- CCSDS, DVB-S, Intelsat, WorldView

**Primary Framing Layer**
- CCSDS, DVB-S, Intelsat

**Secondary Framing Layer**
- Asynchronous

**Frame Length**
- 16 to 4096 bytes

**Advanced Data Processing, Recording, and TCP/IP**
- Available with Viasat Data Processor (VDP)

### ADDITIONAL FEATURES

**Receive Equalization**
- Static tilt compensation
- Digital adaptive equalization

**Built-in Test**
- Bit Error Rate Tester
- Transmit and receive; 2^23-1, 2^25-1, 2^41-1, 2^47-1 PRBS (ITU-T O.150) and other sequences
- Link Reporting
- Es/N0, offsets, decoder and frame processing statistics
- GUI
- Constellation, spectrum, digital equalizer display
- IF Loopback
- Internal loopback without cable changes
- TX Noise Generator
- AWGN with calibrated Es/N0 (0 to 30 dB)

**Baseband Data Metadata**
- Time-tagging, frame quality information

### INTERFACES

**IF Signal**
- Connector: SMA female
- 720 MHz Band Frequency: 720 ± 200 MHz; tunable
- 1200 MHz Band Frequency: 1200 ± 400 MHz; tunable
- 2400 MHz Band Frequency: 2400 ± 750 MHz; tunable
- TX Signal Level: -50 to 0 dBm
- RX Receive Level: -50 to -10 dBm

**Baseband Data**
- Protocol:
  - ECL (SMA)
  - 10G Ethernet (SFP+)

**Monitor and Control**
- Remote Connector: 10/100/1000 Ethernet (RJ-45)
- Remote Protocol: JSON-RPC over TCP/IP
- Remote GUI: Web browser
- Local Interface: Front panel display

**External Reference Input**
- 10 MHz (SMA)

**Mains Power**
- 90 to 264 VAC, 47 to 63 Hz; ≤300 W
- Power Supply Redundancy: 1:1; dual inputs

### OTHER

**Size**
- 19 x 3.5 x 21 in (EIA rack-mountable)

**Weight**
- ≤15 kg

**Certification**
- CE

### NOTES

1. Non-standard functionality, consult factory for availability
2. Available in 2 channel mode only
3. Separate optional unit