



Accelerate your connectivity
NOVELSAT Xstream

A Powerful Multi-Purpose Gateway

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PRODUCT SHEET

MULTI-PURPOSE GATEWAY FOR MULTIPLE APPLICATIONS

NOVELSAT Xstream Multi-Purpose Gateway is the ideal choice for multiple interfaces satellite networks requiring any-to-any high-speed connectivity solution. Addressing multiple applications including video delivery, Earth observation, SIGINT, Cloud and IoT, NOVELSAT Xstream delivers highly integrated, optimized, and efficient multi-interface solution.

HIGH AVAILABILITY AND FLEXIBILITY

NOVELSAT Xstream features modular design according to network needs, allowing for multiple configurations and service options. Designed to deliver highest levels of availability and flexibility, NOVELSAT Xstream presents comprehensive set of capabilities and features. Built on off-the-shelf servers with software-defined modular architecture and carrier grade management system, NOVELSAT Xstream delivers high availability operation and service continuity. Supporting multiple inputs and outputs of various types, NOVELSAT Xstream maximizes network flexibility and scalability, adapting to any network architecture and allowing future upgrades and expansions.

HIGH DENSITY AND RESILIENCY

NOVELSAT Xstream high density architecture utilizes a compact chassis to support multiple versatile inputs and outputs. NOVELSAT Xstream incorporates multiple satellite modulators and demodulators, supporting the most bandwidth-efficient waveform, NOVELSAT NS4™, as well as standard DVB-S2 and DVB-S2X. In addition, NOVELSAT Xstream integrates multiple independent ASI interfaces, multiple independent IP interfaces with port mirroring, high availability SMPTE 2022 FEC and hitless merge options.

POWERFUL SWITCHING, RE/MULTIPLEXING AND STREAM PROCESSING

NOVELSAT Xstream presents a powerful re/multiplexing system, supporting advanced PSI/SI and descriptor handling capabilities as well as program analysis, including program level bit rate measurements on both incoming and outgoing streams. Offering multiple modes of operation and comprehensive configuration, NOVELSAT Xstream supports any-to-any failover matrix, including IP to IP, ASI to IP, and ASI to ASI, together with stream and service redundancy based on any ETR 101 P1 triggers. NOVELSAT Xstream also supports 1:1 and N:1 interface redundancy with automatic failover, ensuring very high system and service availability.

BEST-IN-INDUSTRY CONTENT PROTECTION

Heightening content protection and security, NOVELSAT Xstream provides multi-layer content protection, securing service, transport, and payload. Utilizing NOVELSAT DRM with AES-256 encryption and BISS2-CA compliant scrambler / descrambler, together with highly flexible entitlement management system and automatic and dynamic key generation with over-the-air distribution, NOVELSAT Xstream provides superior content protection.

HIGHLIGHTS

- Any-to-any video gateway
- Future proof software defined processing
- High density design
- Service filtering & remux
- BISS2-CA encryption / decryption
- IP/TS/Service/PID level monitoring
- Any-to-any input failover matrix
- High scalability and redundancy options
- PID/Service redundancy based on any ETR 101-290 P1 triggers
- Seamless stream/port/packet level switching
- Carrier grade management functionalities
- Dual redundant power supply



INTERFACES

IP INTERFACES

- 4xGbE / 10GbE (input / output)
- Optional SFP
- Up to 850Mbps per port TS rate
- Up to 200 services per port
- UDP / RTP, Unicast / Multicast support
- MPTS / SPTS
- VLAN support
- Service filtering
- MPEG-2 TS support
- Hitless merge SMPTE 2022-7
- Jitter recovery SMPTE 2022 FEC
- IP de-jittering PCR / CBR

ASI INTERFACES

- EN50083-9
- 4 independent ports
- SPTS / MPTS
- BNC (F) 75 Ohm
- 4 different Transport Streams
- 213.7Mbit/s per port

SATELLITE MODULATORS

- L-band output
- SMA (F) 50 Ohm
- Frequency range: 950–2150MHz (1Hz steps)
- Power level: -30 to 0 dBm in 0.1 dB steps (± 0.5 db stability @ temperature)
- Return Loss: >12dB
- Spurious: <-55dBc
- 10Mhz reference (managed)
- Up to 80Mps / 425Mbps
- DVB-S / DVB-S2 / DVB-S2X / NS4™
- QPSK, 8PSK, 8APSK, 16APSK, 32APSK, 64APSK
- All FEC supported
- Frame Length: 64800, 16200
- ROF: 2%, 5%, 10%, 15%, 20%, 25%, 35%
- Monitor interface

SATELLITE DEMODULATORS

- SMA (F) 50 Ohm
- Frequency range: 950–2450Mhz (20KHz Steps)
- Input Power level: -105/+10Log(F), F in Msps, -20dBm Max.
- Max input power: 0dbm
- Return loss: >12dB
- 10Mhz reference (Managed)
- DISEqC: 11.5V - 14V (Vert. Pol.), 16V – 19V (Horiz. Pol), 22Khz (± 4 Khz), 350mA
- Serial console via USB / UART
- Up to 80Mps
- DVB-S / DVB-S2 / DVB-S2X / NS4™
- QPSK, 8PSK, 8APSK, 16APSK, 32APSK, 64APSK
- All FEC supported
- Frame Length: 64800, 16200
- ROF: 2%, 5%, 10%, 15%, 20%, 25%, 35%
- Support for BBframe Raw Data with SNR indication

PROCESSING

SYSTEM CAPACITY

- Up to 850Mbps per physical port.
- Up to 100 TS per input / output (total 200)
- Up to 500 services / 3Gbps per platform
- ETSI Pro MPEG complaint (for jitter / delay)

RE/MUX AND STREAM PROCESSING

- PID filtering / Remapping / Passthrough on each input
- PID tracking
- Service/PID sharing
- Service duplication
- Auxiliary PID synchronization with video
- Remultiplexing of services and components
- Modify, remove, rename, extract services
- Content routing from any input to any output
- Re-route complete transport streams or individual PID/services
- Create new TS Bouquets, MPTS and SPTS
- On-the-fly transformation or injection of content and signaling
- PSI/SI: extraction, injection, spooling, regeneration
- NIT table regeneration

MPEG TS STREAM ANALYSIS / REGENERATION

- Mirror input stream
- PCR jitter measurement
- ASI and TS over IP monitoring

CONTENT PROTECTION & SECURITY

- ES scrambling / descrambling
- BISS 1 / 2 / CA based on EBU TECH 3292-s1 standard
- DVB CAS Simulcrypt compliant
- AES-256 TS encryption / decryption
- NOVELSAT Managed DRM NMS

SYSTEM

REDUNDANCY

- Redundant ASI port
- Redundant GbE port
- Redundancy with main TS over ASI and back-up TS over IP input
- Stream and Source redundancy on TS over IP inputs
- Unit level redundancy
- Input redundancy with TR 101 290 priority 1 parameters as switching criteria

RESILIENCY

- Modulator / Demodulator: 1+1 / 1+N redundancy
- 2022 FEC input / output
- 2022-7 Seamless switching / Hitless merge

MANAGEMENT

- SSH CLI
- Web Based EMS and NMS options
- User and Privilege support
- REST API
- SNMP traps for alerts
- Stream analysis and event logs
- User management
- Receiver input devices and streams with detail structure from TS Mux/Demux
- Management of TS Mux/Demux module
- Management of the I/O modules
- Encryption/Scrambling module
- Monitor and alert notification of the system load
- Configuration channel
- SPTS and MPTS structures
- Configuration input and output profiles

PHYSICAL AND ENVIRONMENTAL

- COTS-based server
- 19" x 1RU / 2RU / XRU
- Management Interface
- 500W/800W/1600W power options
- Dual power supply
 - o Active – Active
 - o 100 – 240VAC
- Temperature
 - o Operational: 10° to 35°C (50° to 95°F)
 - o Storage: -30° to 60°C (-22° to 140°F)
- Humidity
 - o Up to 90% non-condensing

CERTIFICATES

- CE, FCC, BIS, CCC
- Electrical safety EN60950-1, EN 62479
- Electromagnetic EN 55032, EN 55024
- ROHS compliant
- WEEE compliant