UHP-232

Wideband Satellite Router

STEP ELECTRONICS
A Division of Av-Comm

UHP. NETWORKS

Wideband Satellite Router UHP-232 represents a significant extension of the HTS series of multi-beam/multi-satellite UHP Hubs. The new HTS Hub supports wideband DVB-S2/S2X Outbounds (forward link) carrier with symbol rate up to 200 Msps.

The UHP-232 router comprises the new HUBMUX feature which is based on the Time-Slicing DVB-S2X standard and facilitates scalability in the Hub. The HUBMUX feature enables aggregation of multiple TDM/TDMA networks and SCPC links in a single wideband carrier up to 240 MHz. HUBMUX is compatible with UHP-100 and UHP-200 series routers and permits use of compact low-cost terminals in very large VSAT networks with wideband HTS transponders.

This new product is addressed to the key problem of efficient loading of wideband satellite transponders, as it allows HTS operators to combine different services and business models just in one carrier with full traffic isolation of embedded networks.

UHP-232 is based on a UHP-200 series satellite router and comprises multichannel DVB and MF-TDMA demodulators, a wideband DVB-S2/S2X modulator, and powerful IP router. UHP-232 wideband satellite router is supplied in a compact 1U chassis for installation in a standard 19-inch rack.

Key Features:

- 1U Rack-mountable wideband satellite router for HTS Hubs
- Efficient DVB-S2/S2X ACM modulations with 5% or 20% roll-off and support for wideband HTS transponders
- Single-signal transponder operation up to 240 MHz per carrier
- Wide range of symbol rates: 300 ksps – 200 Msps
- HUBMUX feature with support for 4 subnetworks
- Aggregation of TDM/TDMA Hubs or SCPC channels in a single wideband carrier
- 650 Mbps aggregate throughput per carrier
- Multiple services in the same carrier for diversification of applications and customers
- Dedicated bandwidth and full traffic isolation of embedded networks
- Efficient use of HTS capacity and new dimension of VNO cooperation
- Pay-as-you-grow HTS Hub infrastructure
- Hot-standby M:N Smart Redundancy option

Applications:

- High-performance TDM/TDMA networks for HTS with slicing and load balancing
- Ultra high speed SCPC channels for GSO and NGSO satellites
- Multiservice VNO networks with dedicated virtual Hubs and traffic isolation

TECHNICAL SPECIFICATIONS: UHP-232 WIDEBAND SATELLITE ROUTER

NETWORK		
Topology	Point-to-Point, Star, Mesh, Dual-Gateway	
Network role	Wideband modulator of HTS Hub with HUBMUX feature	
TDM (SCPC) CHANNEL	**MODULATOR**	**DEMODULATOR**
Standard	DVB-S2 / DVB-S2X with Adaptive Coding and Modulation	
Channels	One wideband modulator	Two demodulators with selectable IF inputs
Modulation	QPSK, 8PSK, 16APSK, 32APSK, 64APSK; Roll-off: 5% or 20%	QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK; Roll-off: 5% or 20%;
FEC	1/4, 14/45, 1/3, 2/5, 9/20, 7/15, 1/2, 8/15, 11/20, 26/45, 3/5, 23/36, 2/3, 25/36, 32/45, 13/18, 3/4, 7/9, 4/5, 5/6, 77/90, 8/9, 13/45	All DVB-S2 & DVB-S2X MODCODs
Symbol Rate	300 ksps - 200 Msps; step 1 ksps Up to 4 time-slices 64 Msps each	300 ksps - 500 Msps
Data Rate	Up to 650 Mbps	150 kbps - 225 Mbps

TDMA CHANNEL (DEMODULATOR)	
Standard	LDPC TDMA with Adaptive Coding and Modulation
Channels	Four-channel MF-TDMA demodulator
Modulation	QPSK, 8PSK, 16APSK; Roll-off: 5%, 20%
FEC	1/2, 2/3, 3/4, 5/6
Symbol Rate	100 ksps - 11 Msps; step 1 ksps
Data Rate	100 kbps - 35 Mbps
TDMA Protocol	Frame 50 -1000 ms, 14 slot sizes, manageable minimal bandwidth; fast MF-TDMA hopping
QoS	8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP

ROUTER	
Performance	Up to 190 000 packets per second
Support	DSCP, multiple IP/VLANs, PAT, proxy ARP, L2 Bridging, TCP Acceleration, Jumbo frames, AES-256
Protocols	IPv4/IPv6, IGMP, cRTP, SNMP, RIP, SNTP, TFTP, PPP, DHCP, DHCP Relay, OpenAMIP
Management	HTTP interface, SNMP, Telnet, NMS with VNO support

INTERFACES (ROUTER)	
User LAN	2 x Gigabit 10/100/1000 Base-T
Maintenance console	miniUSB, B female
IF Rx (both inputs)	950-2150 MHz; Ref. 10 MHz/+5 dBm [RX1]; 13.5/18 VDC 0.75A; F type

INTERFACES (HUBMUX MODULATOR)	
User LAN	1 x Gigabit 10/100/1000 Base-T
IF Tx	950-2150 MHz, -1...-46 dBm; Ref. 10 MHz/+5 dBm; F type

MECHANICAL / ENVIRONMENTAL	
Power	90-264 VAC or 24 VDC; 15 W
Operating temperature	0...+50 ℃
Size / Weigh	440x44x170 mm / 2.3 kg