UHP-130

SATELLITE ROUTER

TDM/TDMA | SCPC Rx-only

DUAL INPUT | DUAL GATEWAY | BEAM SWITCHING

High-Throughput Satellites (HTS) open unprecedented opportunities for networking over satellite. UHP-130 is a high-performance router designed specifically for large-scale deployment in broadband VSAT networks operating over HTS and traditional satellites. This product combines the Universal Hardware Platform (UHP) architecture, which was developed in the previous generation of the award-winning UHP product line.

The integrated router can process 150 000 IP packets per second, 220 Mbps of traffic and two carriers up to 500 Msps, it can do this with best utilization of the precious satellite resource, as evidenced by up to 256APSK modulation, 5% spectral roll-off, adaptive modulation and coding, adaptive power control and 96% efficient TDMA protocol. This satellite router is a good fit for rack-mountable TDM/TDMA terminals or can be used as a multi-channel SCPC receiver / concentrator.

Two demodulators with separate IF interfaces allow simultaneous reception of two TDM and/or SCPC carriers from few distinct satellite beams or from several antennas. In conjunction with a built-in advanced beam switching algorithm it facilitates seamless roaming of mobile satellite terminals between beams of HTS satellites.

UHP-130 satellite router is supplied in a compact 1U chassis for installation in a standard 19 inch rack. The built-in power supply ensures reliable operations of the router itself and of the outdoor RF equipment from multiple vendors. Low power consumption, optional DC power input, and uniquely fast start on power-up facilitate use of alternative power sources, such as solar batteries.

- High-performance Satellite Router for TDM/TDMA networks with aggregate throughput up to 220 Mbps
- Two independent DVB demodulators with separate IF inputs and rate up to 500 Msps
- Efficient DVB-S2/S2X ACM modulations with 5% or 20% roll-off and support for wideband HTS transponders
- MF-TDMA modulator with innovative protocol and proven efficiency of 96% compared to SCPC
- Adaptive coding and modulation and transmission power control in forward and return channels
- Dual satellite or dual band operations with dynamic traffic balancing and automatic beam switching
- Superior IP router productivity up to 150 000 PPS, rich set of supported protocols
- Layer 3 routing architecture and Layer 2 bridging mode with IPv6 transport
- Support of VLAN, multilevel QoS, codec independent handling of RT traffic, TCP acceleration, AES encryption
- Built-in adaptive hierarchic traffic shaper specially designed for VSAT applications
- Two Ethernet user ports with built-in switch simplifies connection of CPE and maintenance
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations
- Support of 1:1 automatic redundancy schemes without external controllers

UHP Beam Switching feature uses OpenAMIP protocol to communicate with a mobile antenna controller to retrieve an actual geographic location and command antenna pointing, activate transmission, etc. UHP router selects the most appropriate satellite beam according to its current geographic position and pre-defined coverage maps, dynamically adjusts frequencies, levels and changes the mode of operation to ensure compatibility with new network.

UHP Dual Gateway provides optimum solution for hierarchical networks and makes it possible to design such networks with single-hop connectivity using low-cost VSAT terminals and affordable Regional Gateways. The Central Gateway has a UHP TDM/TDMA Hub with at least one DVB carrier (TDM) and several TDMA return carriers. The Regional Gateway also transmits a DVB carrier and is capable of receiving one or more TDMA carriers.

UHP-130 SATELLITE ROUTER SPECIFICATIONS

NETWORK	
Topology	Point-to-Point, Star, Dual-Gateway
Modes of operation	SCPC Rx-only, TDM/TDMA Star
Network role	SCPC Receiver, TDM/TDMA Terminal
Frequency bands	C, X, Ku, Ka, including multi-beam HTS satellites
TDM (SCPC) CHANNEL - DEMODULATOR	
Standard	DVB-S2 / DVB-S2X with Adaptive Coding and Modulation
Channels	Two demodulators with selectable IF inputs Rx1 and Rx2
Modulation	QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK
FEC	All DVB-S2 & DVB-S2X MODCODs
Symbol Rate	300 ksps - 500 Msps
Data Rate	150 kbps - 225 Mbps
QoS	8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP
TDMA CHANNEL - MODULATOR	
Standard	LDPC TDMA with Adaptive Coding and Modulation
Channels	One MF-TDMA modulator
Modulation	QPSK, 8PSK, 16APSK; Roll-off: 5%, 20%
FEC	1/2, 2/3, 3/4, 5/6
Symbol Rate	100 ksps - 8 Msps; step 1 ksps
Data Rate	100 kbps - 26.7 Mbps
TDMA Protocol	Frame 50 -1000 ms, 14 slot sizes, manageable minimal bandwidth; slot-to-slot fast MF-TDMA hopping
QoS	8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP
ROUTER	
Performance	Up to 150 000 packets per second
Support	DSCP, multiple IP/VLANs, NAT*, proxy ARP, L2 Bridging, TCP Acceleration, Jumbo frames, AES-256
Protocols	IPv4/IPv6*, IGMP, cRTP, SNMP, RIP, SNTP, TFTP, PPP, DHCP, DHCP Relay
Management	HTTP interface, SNMP, Telnet, NMS with VNO support
INTERFACES	
User LAN	2 x Fast Ethernet 10/100 Base-T
Maintenance console	miniUSB, B female
IF Rx (two inputs)	950-2150 MHz; 13.5/18 VDC 0.75A; F type
IF Tx	950-2150 MHz, -1…-46 dBm; Ref. 10 MHz/+5 dBm; 24V/3A; F type
MECHANICAL / ENVIRONMENTAL (IDU)	
Power	90-264 VAC; 24 VDC or 48 VDC options; 8 W
Operating temperature	0^0…+50^0 C, humidity up to 90%
Size / Weight	440x44x172 mm / 1.7 kg

These specifications are subject to change without notice

** Available in a future SW release*

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