

# UHP-220

## OUTDOOR SATELLITE ROUTER

SCPC

TDM/TDMA

HUBLESS TDMA

SW DEFINABLE

SMART REDUNDANCY

DUAL GATEWAY

UHP-220 Outdoor Satellite Router is based on a new advanced hardware platform and is backward compatible with previous generations of UHP routers. It comprises multi-channel DVB and MF TDMA demodulators, a universal SCPC/TDMA modulator and a powerful IP router. The primary application of UHP-220 is complex remote SCPC, TDM/TDMA, or Hubless TDMA terminal with high throughput and multi-mode operation. This universal satellite router can also be used as a compact outdoor TDM/TDMA Hub.

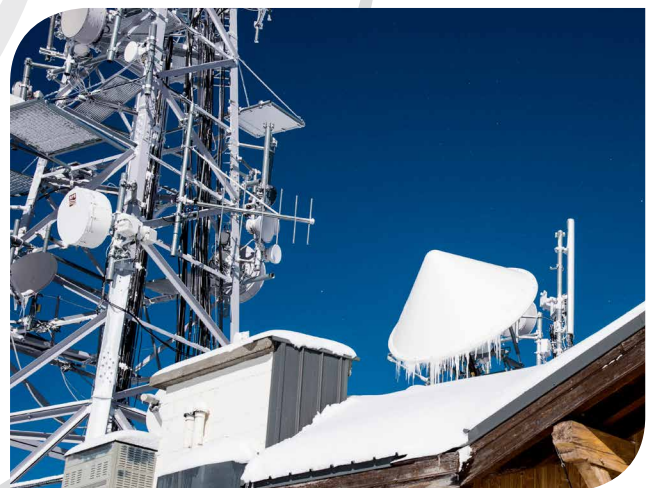
Innovative algorithms for network access, resource allocation and data encapsulation as well as advanced modulation and coding, implemented in the UHP routers, ensure efficient utilization of satellite resource.



Multiple demodulators allow simultaneous reception of two TDM or SCPC carriers and group of TDMA mesh carriers. Universal modulator can instantaneously switch from TDMA burst mode to SCPC mode, thus assuring high data throughput and efficiency.

Rugged weatherproof satellite router UHP-220 is designed for outdoor installation, for example, directly on the antenna. IP67 compliant enclosure guarantees quick start and operating performance over a wide range of temperatures and a harsh environment. Possible customization of the LAN and power supply connectors in accordance with specific customer's requirements.

- Rugged, weatherproof, IP67-class design with wide-range operating temperatures
- World's fastest VSAT router with aggregate throughput up to 450 Mbps and powerful UHP-RTOS™
- Two independent DVB demodulators with separate software-switchable IF inputs and rate up to 65 Msp
- Enhanced DVB-S2 QPSK, 8PSK, 16APSK and 32APSK modulations with 5% or 20% roll-off
- Multichannel MF-TDMA demodulator with innovative protocol and proven efficiency of 96% vs. SCPC
- Adaptive coding and modulation (ACM) in forward and return channels, including SCPC and TDMA modes
- Various modes of operation and topologies: SCPC, TDM/TDMA, TDM/TDMA Mesh, Hubless TDMA
- HTS-ready VSAT with support of multiple beams, bands, satellites reception with traffic balancing
- Superior IP router productivity up to 190 000 PPS and rich set of supported protocols, multi-level QoS
- Layer 3 routing architecture and Layer 2 bridging mode with IPV6 transport
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations
- Low power consumption allows using satellite terminals with alternative power sources
- Compatible with majority of C, Ku and Ka-band RF Systems, supplies power and reference signals





## UHP-220 OUTDOOR SATELLITE ROUTER SPECIFICATIONS

NETWORK		
Topology	Point-to-Point, Star, Dual-Gateway™, Mesh	
Modes of operation	Software-definable: SCPC, SCPC DAMA, TDM/SCPC, TDM/TDMA Star/Mesh, Hubless MF TDMA	
Network role	SCPC Modem, TDM/TDMA Terminal or Hub, Smart Redundancy™ Controller, Hubless Slave or Master	
Frequency bands	C, X, Ku, Ka, including multi-beam HTS satellites	
TDM (SCPC) CHANNEL	MODULATOR	DEMULATOR
Standard	DVB-S2 ACM	DVB-S2 ACM
Channels	One universal SCPC/TDMA modulator	Two demodulators with selectable IF inputs Rx1 and Rx2
Modulation	QPSK, 8PSK, 16APSK, 32APSK; Roll-off: 5% or 20%;	QPSK, 8PSK, 16APSK, 32APSK
FEC	1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9	1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9
Symbol Rate	300 ksp/s - 65 Msps; max 53.8 Msps for 32APSK; step 1 ksp/s;	300 ksp/s - 65 Msps; max 53.8 Msps for 32APSK; In dual-demodulator mode 44.5 Msps (8PSK); 33.7 Msps (16APSK); 27.0 Msps (32APSK) max
Data Rate	200 kbps - 225 Mbps	200 kbps - 225 Mbps (225 Mbps aggregate for two demods)
QoS	8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP	
TDMA CHANNEL	MODULATOR	DEMULATOR
Standard	LDPC TDMA with Adaptive Code and Modulation	
Channels	One universal SCPC/TDMA modulator	Four-channel MF-TDMA demodulator
Modulation	QPSK, 8PSK, 16PSK; Roll-off: 5%, 20%	QPSK, 8PSK, 16PSK
FEC	1/3, 2/3, 3/4, 4/5, 5/6	1/3, 2/3, 3/4, 4/5, 5/6
Symbol Rate	100 ksp/s - 8 Msps; step 1 ksp/s	100 ksp/s - 8 Msps; (8 Msps aggregate for all channels)
Data Rate	67 kbps - 27 Mbps	67 kbps - 27 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 190 000 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	Gigabit 10/100/1000 Base-T	
Maintenance console	miniUSB, B female	
IF Rx	950-2150 MHz (LO 10 MHz/+8 dBm [RX2], 13.5/18 VDC 0.75A), F type	
IF Tx	950-1750 MHz (optionally up to 2150 MHz), -45...-5 dBm, (LO 10 MHz/+8 dBm, 24V/2A), F type	
MECHANICAL / ENVIRONMENTAL (IDU)		
Power	24 VDC; 10 W	
Operating temperature	-40°...+50° C, humidity up to 90%	
Size / Weight	155x70x316 mm / 2.3 kg	

These specifications are subject to change without notice

\* Available in a future SW release



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