

# UHP-200

## COMPACT SATELLITE ROUTER

SCPC

TDM/TDMA

HUBLESS TDMA

SW DEFINABLE

SMART REDUNDANCY

DUAL GATEWAY

UHP-200 is a universal VSAT router with Software-Defined Architecture pioneered by UHP Networks. The device packs industry-highest processing capability into a very compact size with power consumption under 10W. It can process up to 450 Mbps of aggregate traffic. UHP-200 comprises two DVB demodulators, four TDMA burst demodulators, a universal TDMA/SCPC modulator and a powerful IP router capable of processing over 190 000 IP packets per second (PPS). The high processing capability allows implementation of uniquely efficient protocols for network access, resource allocation and data encapsulation as well as support for advanced modulation and coding.

UHP-200 is a truly universal router which can operate as a star or mesh TDM/TDMA remote or as a Tx/Rx SCPC IP modem, or as a node in a Hubless TDMA (full mesh) network, or as a building block (universal controller) in a large TDM/TDMA Hub.



This unique device can even implement multiple access protocols and sophisticated QoS, so that it can work as a fully-fledged TDM/TDMA Hub with one Outbound TDM and up to 4 Inbound TDMA carriers. UHP-200 can switch on-the-fly between the modes, using any of the 9 configuration profiles stored in the device.

Multiple demodulators allow simultaneous reception of two DVB (TDM or SCPC) carriers and a group of up to 4 mesh TDMA carriers from two distinct satellite beams or from two antennas. This makes UHP-200 an optimum choice for TDMA Mesh networks and also for hierarchical networks with multiple DVB carriers.

Small size, low power consumption and low count of active electronic components ensure highest reliability with over 200 000 hours MTBF.

- 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 Msps
- 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
- Two Gigabyte Ethernet user ports with built-in switch simplifies scalability and connection of CPE
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operation
- Industry's most compact full-scale Hub with multiple MF-TDMA channels and up to 2 000 terminals
- 1:1 automatic redundancy without external controllers or M:N Smart Redundancy™





## UHP-200 COMPACT 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 kbps - 65 Msps; max 53.8 Msps for 32APSK; step 1 kbps;	300 kbps - 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	1/2, 2/3, 3/4, 5/6	1/2, 2/3, 3/4, 5/6
Symbol Rate	100 kbps - 8 Msps; step 1 kbps	100 kbps - 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	2 x Gigabit 10/100/1000 Base-T	
Maintenance console	miniUSB, B female	
IF Rx (two inputs)	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 or 100-240 VAC (external adaptor); 10 W	
Operating temperature	0°...+50° C, humidity up to 90%	
Size / Weight	145x29x144 mm / 485 g	

These specifications are subject to change without notice

\* Available in a future SW release



**UHP Networks Inc.**  
6600 Trans-Canada Highway, Pointe-Claire (Montreal), Quebec, Canada H9R 4S2  
T: +1-514-695-VSAT (8728) | F: +1-514-697-0186 | www.uhp.net | info@uhp.net

