

UHP-200

COMPACT SATELLITE ROUTER



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 12W. 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.



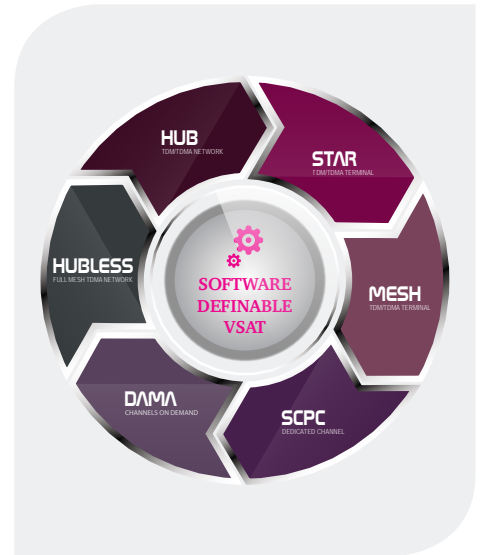
This unique device can even implement multiple access protocols and sophisticated QoS, so that it can work as a fully-fledged TDM/TDMA Hub with one Outbound TDM and up to 4 Inbound TDMA carriers. UHP-200 can switch on-the-fly between the modes, using any of the 9 configuration profiles stored in the 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 500 Msps
- Efficient DVB-S2/S2X ACM modulations with 5% or 20% roll-off and support for wideband HTS transponders
- 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-defined router: SCPC, SCPC DAMA, TDM/SCPC, TDM/TDMA Star/Mesh, Hubless MF TDMA |
| Network role | SCPC Modem, TDM/TDMA Terminal or Hub, Universal Controller of HTS Hub, Hubless Slave or Master |
| Frequency bands | C, X, Ku, Ka, including multi-beam HTS satellites |

| TDM (SCPC) CHANNEL | MODULATOR | DEMODULATOR |
|--------------------|--|--|
| Standard | DVB-S2 / DVB-S2X with Adaptive Coding and Modulation | |
| Channels | One universal SCPC/TDMA modulator | Two demodulators with selectable IF inputs Rx1 and Rx2 |
| Modulation | QPSK, 8PSK, 16APSK, 32APSK, 64APSK; Roll-off: 5% or 20%; | QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK |
| 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 kspcs - 65 Mspcs; step 1 kspcs (51 Mspcs @32APSK, 43 Mspcs @64APSK) | 300 kspcs - 500 Mspcs |
| Data Rate | 200 kbps - 225 Mbps | 200 kbps - 225 Mbps |
| QoS | 8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP | |

| TDMA CHANNEL | MODULATOR | DEMODULATOR |
|---------------|---|---|
| Standard | LDPC TDMA with Adaptive Coding and Modulation | |
| Channels | One universal SCPC/TDMA modulator | Four-channel MF-TDMA demodulator |
| Modulation | QPSK, 8PSK, 16APSK; Roll-off: 5%, 20% | QPSK, 8PSK, 16APSK |
| FEC | 1/2, 2/3, 3/4, 5/6 | 1/2, 2/3, 3/4, 5/6 |
| Symbol Rate | 100 kspcs - 8 Mspcs; step 1 kspcs | 100 kspcs - 8 Mspcs; (8 Mspcs aggregate for all channels) |
| Data Rate | 67 kbps - 26.5 Mbps | 67 kbps - 26.5 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; Ref. 10 MHz/+5 dBm [RX2]; 13.5/18 VDC 0.75A; F type |
| IF Tx | 950-2150 MHz; - 46...-1 dBm; Ref. 10 MHz/+5 dBm; 24V/2A; F type |

MECHANICAL / ENVIRONMENTAL (IDU)

| | |
|-----------------------|--|
| Power | 24 VDC or 100-240 VAC (external adaptor); 12 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

