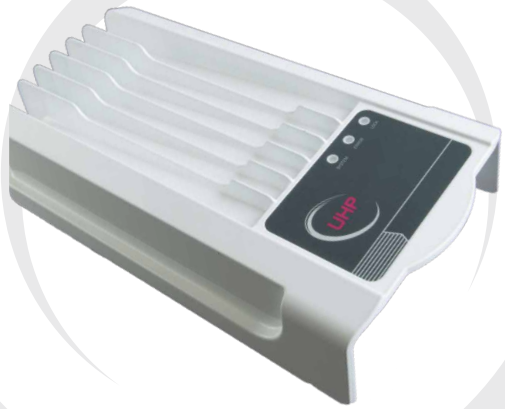
# UHP-120

## OUTDOOR SATELLITE ROUTER

TDM/TDMA | SCPC Rx-only | OUTDOOR | DUAL GATEWAY | BEAM SWITCHING

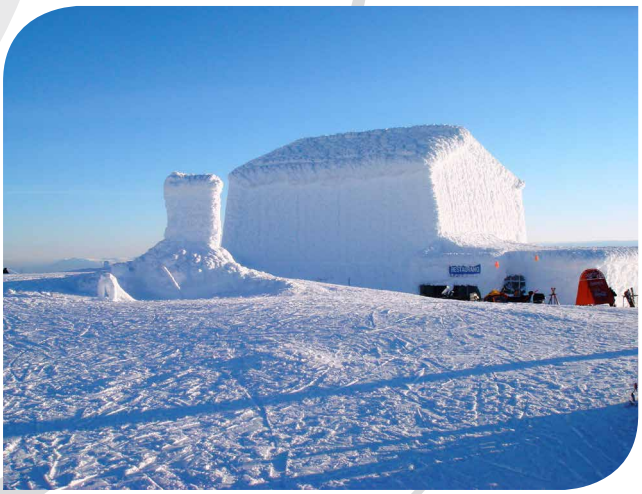
High-Throughput Satellites (HTS) open unprecedented opportunities for networking over satellite. UHP-120 is a high-performance router designed specifically for large-scale deployment in broadband VSAT networks operating over HTS. This product combines the Universal Hardware Platform (UHP) architecture, which was developed in the previous generation of the award-winning UHP product line, with the state-of-the-art semiconductor technology. The result is its unique performance. Not only UHP-120 can process 150 000 IP packets per second, 220 Mbps of traffic and two 65 Msps carriers, it can do this in a super-compact size, with low power consumption (less than 10W) and with best utilization of the precious satellite resource, as evidenced by up to 32APSK modulation, 5% spectral roll-off, adaptive modulation and coding, adaptive power control and 96% efficient TDMA protocol.

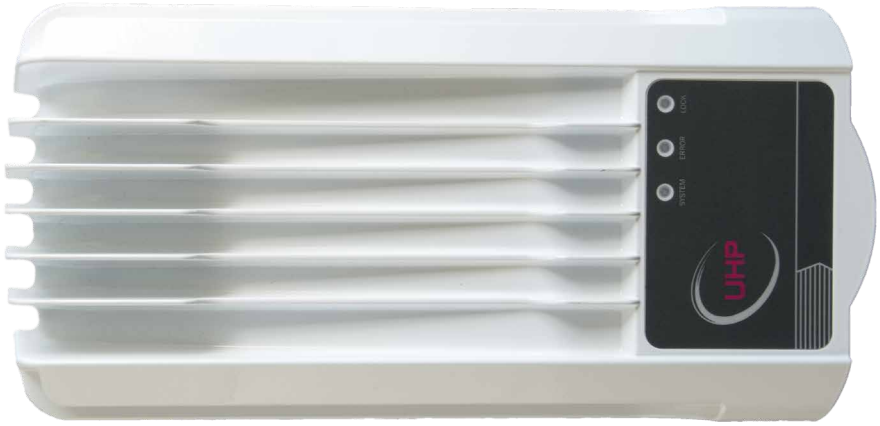


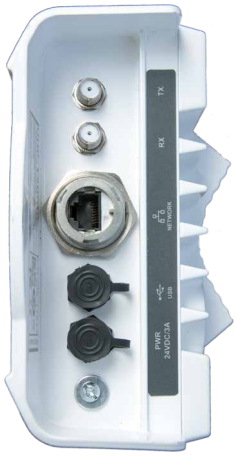

UHP-120 is equipped with two high-speed demodulators. The dual demodulator in conjunction with a built-in advanced beam switching algorithm facilitates seamless roaming of mobile satellite terminals between distinct beams of HTS satellites.

Rugged weatherproof satellite router UHP-120 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.

- 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 65 Msps
- Enhanced DVB-S2 QPSK, 8PSK, 16APSK and 32APSK modulations with 5% or 20% roll-off
- 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
- 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-120 OUTDOOR SATELLITE ROUTER SPECIFICATIONS

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|---|---|
| **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 CHANNEL** | |
| Standard | DVB-S2 ACM |
| Channels | Two demodulators with selectable IF inputs Rx1 and Rx2 |
| Modulation | QPSK, 8PSK, 16APSK, 32APSK |
| FEC | 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9 |
| Symbol Rate | 300 ksps - 65 Msps; max 53.8 Msps for 32APSK;<br>In dual-demodulator mode 44.5 Msps (8PSK); 33.7 Msps (16APSK); 27.0 Msps (32APSK) max |
| Data Rate | 200 kbps - 225 Mbps (225 Mbps aggregate for two demodulators) |
| QoS | 8-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP |
| **TDMA CHANNEL** | |
| Standard | LDPC TDMA with Adaptive Code and Modulation |
| Channels | One TDMA modulator |
| Modulation | QPSK, 8PSK, 16PSK; Roll-off: 5%, 20% |
| FEC | 1/3, 2/3, 3/4, 4/5, 5/6 |
| Symbol Rate | 100 ksps - 8 Msps; step 1 ksps |
| Data Rate | 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 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 | Fast Ethernet 10/100 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 | $-40^0$…$+50^0$ 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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