UHP-1200

OUTDOOR SATELLITE ROUTER

SCPC | TDM/TDMA | Hubless TDMA

UHP-1200 satellite router is a universal component of highly-efficient satellite networks of any operation mode or topology. UHP-1200 router can work as a SCPC modem with the satellite carrier fixed or assigned on-demand. It can also be a mini-hub or a remote terminal in TDM/TDMA network or any node (master or slave) in a fully meshed Hubless TDMA network. Inexpensive, highly scalable and very flexible hardware provides the best cost of network ownership.

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. Two built-in demodulators allow simultaneous reception of both TDM carrier from the hub and TDMA mesh carrier. Universal modulator can instantaneously switch from TDMA burst mode to SCPC dedicated mode, thus assuring high data throughout and efficiency.

- Rugged, weatherproof, IP67-class design with wide-range operating temperatures
- Various modes of operation: SCPC, SCPC-DAMA, TDM/TDMA, Hubless TDMA
- Support of any topologies: point-to-point, star, multilevel, full-mesh
- The world's first TDM/TDMA Mini-Hub in outdoor enclosure
- DVB-S2 ACM VSAT technology with bandwidth-efficient adaptive LDPC coding in TDMA channel
- Superior productivity up to 60'000 pps and 150 Mbps aggregate throughput and 150 voice calls compressed
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations
- Support of VLAN, multi-level QoS, codec-independent handling of real-time traffic, TCP acceleration
- Built-in adaptive hierarchic traffic shaper specially designed for VSAT applications
- Web-based Network Management System allows to operate the network from everywhere
- Fast network startup — network is ready for use in less than a minute upon power-up
- 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

Rugged weatherproof satellite router UHP-1200 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.

UHP-1200 router is a good fit for transportable and mobile terminals, for enterprise networks and for SCADA and M2M networks as well as for cellular backhaul over satellite and emergency backup and news contribution networks. The router interfaces with mobile antenna systems via OpenAMIP or various proprietary protocols.

UHP-1200 SATELLITE ROUTER SPECIFICATIONS

NETWORK										
Topology	‘point-to-point’, ‘hub and spoke’, ‘multilevel tree’, ‘mesh’									
Modes of operation	SCPC, SCPC DAMA, TDM/SCPC, TDM/TDMA, TDM/TDMA Mesh, Hubless TDMA									
Network size	up to 252 TDMA Inroute channels or MF groups and 500 000 terminals per network									
SCPC (TDM) CHANNEL										
Modulation	DVB-S2 ACM: QPSK, 8PSK, 16APSK, 32APSK (Rx-only); TLC; roll-off 20%									
Symbol rate	300 kSps - 32 MSps with 1 kSps step									
Demodulator Performance C/N, BER $<10^{-8}$	**FEC**	**1/3**	**2/5**	**1/2**	**3/5**	**2/3**	**3/4**	**4/5**	**5/6**	**8/9**
	QPSK	-0.9	-0.0	0.9	2.6	3.3	4.2	5.0	5.5	6.4
	8PSK	-	-	-	7.6	7.5	8.6	-	9.9	11.3
	16APSK	-	-	-	-	10.3	11.0	11.8	12.2	13.4
	32APSK	-	-	-	-	-	12.7	13.6	14.3	15.7
QoS	4-level prioritization, traffic policies, CIR, MIR, group QoS, hierarchic traffic shaper, FAP									
TDMA CHANNEL										
Modulation	BPSK, QPSK, 8PSK; LDPC; ACM; TLC; roll-off 20%									
Symbol rate	100 kSps - 4 MSps with 1 kSps step									
TDMA Protocol	frame 30-1000 ms, 8 slot sizes, manageable minimal bandwidth; slot-to-slot fast MF-TDMA hopping									
Demodulator Performance C/N, BER $<10^{-7}$	**FEC**	**2/3**	**5/6**							
	BPSK (LDPC ACM)*	2.9	3.8							
	QPSK (LDPC ACM)	5.4	6.9							
	8PSK (LDPC ACM)	9.6	12.0							
QoS	CIR, MIR, group QoS, FAP, RT traffic support, day/night, hierarchic manager of TDMA bandwidth									
ROUTER										
Performance	up to 60’000 packets per second; 150 Mbps aggregate throughput									
Support	DSCP, multiple IP/VLANs, NAT, proxy ARP, L2 Bridging, TCP Acceleration and header compression									
Protocols	DHCP, IGMP, SNMP, RIP, SNTP, TFTP, cRTP									
Management	HTTP interface, SNMP, Telnet, NMS with VNO support									
INTERFACES										
User LAN port	Ethernet 10/100Base-T, RJ-45									
DC IN	24 VDC, 10W									
IF Rx	950-2050 MHz (LNB DC – 13.5V/18V 0.75A), N type									
IF Tx	950-1750 MHz, –30…- 5 dBm, (LO 10 MHz / +5 dBm, BUC DC – 24V / 2A), N type									
MECHANICAL / ENVIRONMENTAL (IDU)										
Operating conditions	-40^0…$+50^0$C, ingress protection rating - IP67									
Size / Weight	225x280x95 mm / 1.9 kg									

** Available with future SW releases*

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