ROMANTIS UHP-1000

UNIVERSAL SATELLITE ROUTER

SCPC | TDM/TDMA | Hubless TDMA

UNIVERSAL VSAT PLATFORM

UHP satellite routers are essentially a universal solution for geographically distributed VSAT-class satellite communication networks. UHP routers can be used to organize simple point-to-point channels, "star" and "mesh" topology networks with complex hierarchy and bandwidth-on-demand capabilities.

UHP VSAT platform is based on many innovation technologies. It was developed using long-term experience in satellite service provisioning. Nowadays electronics achievements made it possible to make VSAT platform compact and assure its efficiency and reach functionality. UHP networks are based on the newest modulation and coding technologies, ensuring very efficient utilization of satellite capacity. Inexpensive, highly scalable and very flexible hardware provides the best cost of ownership through all the phases of possible network development.

- Various modes of operation and topologies: SCPC, TDM/SCPC, TDM/TDMA, Hubless TDMA
- First DVB-S2 ACM VSAT technology with bandwidth-efficient LDPC coding in TDMA channel
- Innovative MF-TDMA protocol with proven efficiency of 96% in comparison with SCPC channels
- Ultra-low latency VSAT system with round-trip delay about 570 ms for TDMA mode of operations
- Fully operational network in minimal configuration requires just 120 kHz of satellite bandwidth
- 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
- Satellite router is capable of receiving signals from two satellites simultaneously
- 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
- Easy to install and operate hardware, user-friendly software configuration

UHP-1000

UHP-1000 satellite router is a universal and all-sufficient tool to deploy various VSAT networks of any topology and size. UHP satellite router can operate in various modes:

- SCPC modem in a pair with another UHP router;
- TDM/TDMA HUB of hub-and-spoke networks;
- TDM/TDMA Star Terminal;
- TDM/TDMA Mesh Terminal;
- Hubless TDMA.

Switching between the operation modes is software controlled without need to replace the hardware or even on-site visit.

UHP-1000 SATELLITE ROUTER SPECIFICATIONS

NETWORK											
Topology	'point-topoint', 'hub and spoke', 'multilevel tree', 'mesh'										
Modes of operation	SCPC, SCPC DAMA, TDM/SCPC, TDM/TDMA, TDM/TDMA Mesh, Hubless TDMA										

SCPC (TDM) CHANNEL											
Data Rate	from 250 kbps (250kSps @ QPSK 1/2) up to 86 Mbps (32MSps @ 8PSK 9/10)										
Modulation / Coding	FEC	1/3	2/5	1/2	3/5	2/3	3/4	4/5	5/6	7/8	8/9	9/10
	DVB-S (QPSK)	-	-	3.4	-	4.9	6.0	-	7.0	7.8	-	-
Demodulator Performance C/N, BER <10^{-8}	DVB-S2 (QPSK ACM-Long)	-	-	0.9	2.4	3.2	4.1	4.8	5.1	-	6.3	6.5
	DVB-S2 (8PSK ACM-Long)	-	-	-	5.7	6.9	8.2	-	9.7	-	11.1	11.3
	DVB-S2 (16APSK ACM-Long)	-	-	-	-	10.0	10.8	11.4	11.9	-	13.3	13.5
	DVB-S2 (QPSK ACM-Short)	-0.9	-0.0	0.9	2.6	3.3	4.2	5.0	5.5	-	6.4	-
	DVB-S2 (8PSK ACM-Short)	-	-	-	7.6	7.5	8.6	-	9.9	-	11.3	-
	DVB-S2 (16APSK ACM-Short)	-	-	-	-	10.3	11.0	11.8	12.2	-	13.4	-
QoS	3-level prioritization, traffic policies, CIR, hierarchic 680-channel traffic shaper, FAP										

TDMA CHANNEL											
Data Rate	From 133 kbps (100 ksps @ QPSK 2/3) up to 6,5 Mbps (4 Msps @ QPSK 5/6)										
Modulation / Coding	QPSK, LDPC										
Demodulator Performance, BER <10^{-7}	FEC	2/3	5/6									
	C/N	5.4	6.9									
QoS	3-level prioritization, traffic policies, CIR, Group CIR, hierarchic 680-channel traffic shaper										

ROUTER	
Performance	Up to 60'000 pps
Support	DSCP, end-to-end VLAN, RIP, L2 Bridging, CRTP, DHCP, IGMP, proxy ARP, TCP Acceleration
Management	HTTP user interface, Network Management System, SNMP, Telnet, Service Monitoring

INTERFACES	
User LAN port	Ethernet 10/100Base-T, RJ-45
Maintenance console	USB, B female
IF Rx	950-2050 MHz (LNB DC – 13.5V/18V 0.75A), F type
IF Tx	950-1750 MHz, –30…- 5 dBm, (LO 10 MHz / +5 dBm, BUC DC – 24V / 2A), F type

MECHANICAL / ENVIRONMENTAL (IDU)	
Power	176-283 VAC, 10 W
Operating temperature	0^0…$+50^0$C, humidity up to 90%
Size / Weight	147x144x29 mm / 530 g