

EASTAR™ UHP-1000

Broadband satellite router

Satellite communications without boundaries

Satellite communications is a fast deployable and efficient way to connect multiple remote offices into a powerful global corporate network. It is a time-proven choice of global corporations, governmental customers, industrial companies and telecoms. Today, satellite terminals help to solve a number of social tasks, allowing rural areas, educational and health institutions, public authorities and rapid response service units to be connected to the broadband infrastructure.



One-for-all VSAT router

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

- as a simple SCPC modem in a pair with another EASTAR router;
- as a HUB;
- as a terminal in multisite hub-and-spoke networks;
- within a fully meshed bandwidth-on-demand hubless network.

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

- SCPC Router for “Point-to-Point” channels;
- TDM/TDMA Terminal of “Hub-and-spoke” networks;
- TDM/TDMA MESH Terminal of “Hub-and-spoke” networks;
- TDM/TDMA HUB of “Hub-and-spoke” networks;
- TDMA Terminal of hubless Full Mesh networks.



- Universal ALL-IP device for any level of network hierarchy and different applications
- Various modes of operation: SCPC, TDM/SCPC, TDM/TDMA, TDMA-mesh
- Any topologies with migration ability: “point-to-point”, “star”, “hybrid”, “mesh”
- First VSAT technology with bandwidth-friendly LDPC coding in the return TDMA channel
- Innovative TDMA protocol with proven efficiency of 97% in comparison with SCPC channels
- 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
- Built-in adoptive 500-channel traffic manager specially designed for VSAT applications
- Fast network startup — network is ready for use in 30 seconds upon power-up
- Web-based Network Management System allowing operating the network from everywhere
- 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
- Affordable hardware costs with low operating expenses ensures the best cost of ownership

EASTAR VSAT platform is a bright example of modern international cooperation. Developed in Russia, the technology is based on the long-term experience of Romantis Group in deploying and operating VSAT networks over the world and boasts a number of innovative approaches traditional for Russian science. Reasonable R&D expenditures in combination with German high-quality production, reliable technical support and global logistics, makes this newest VSAT system available and affordable for majority of potential users worldwide.

Innovative hardware architecture

EASTAR UHP-1000 Satellite Router consists of a multi-purpose router, a high-speed demodulator, a burst demodulator, and a universal modulator. The high-speed demodulator receives the aggregated MCPC channel from the central station (HUB) for hub-and-spoke networks or a SCPC channel from another terminal in a point-to-point link. The burst demodulator allows receiving burst transmission directly from other network terminals or could be used as a return channel demodulator of the Hub in TDM/TDMA networks. Demodulators can operate simultaneously, even with different satellites. The universal modulator can operate in a continuous (SCPC / MCPC) or a burst mode (TDMA).

EASTAR UHP-1000 Router has a size of a standard 5.25" PC drive bay. The router can be used as a standalone device or can be integrated into a PC/Server chassis for simplicity of maintenance.



EASTAR UHP-1000 specifications

Network						
Topologies	«point-to-point», «star», «half mesh», «full mesh»					
Carrier modes	SCPC, MCPC, TDMA					
Scalability	Up to 31 Inroutes per network, up to 7812 terminals per network (252 per Inroute)					
Transport protocol	ALL-IP technology, 3-level traffic prioritization					
Forward link (outroute of TDM/TDMA networks, SCPC)						
IP Data Rate	Up to 54 Mbps, with efficiency up to 99% vs SCPC link					
Modulation / Coding	QPSK, 8PSK, RSV / LDPC&BCH (IESS-308 compliant)					
Demodulator Performance (10 ⁻⁹)	FEC	1/2	2/3	3/4	5/6	7/8
	E _b /N ₀	3.7	4.0	4.6	5.1	5.8
Return channel (inroute of TDM/TDMA, SCPC, MESH)						
IP Data Rate	Up to 54 Mbps (MCPC, SCPC), up to 4 Mbps (TDMA), with efficiency up to 97% vs SCPC link					
Modulation / Coding	QPSK, RSV / LDPC (IESS-308 compliant)					
Demodulator Performance (10 ⁻⁹)	FEC	2/3	5/6			
	E _b /N ₀	4.2	4.8			
Interfaces						
User Port	Ethernet 10 / 100 Base-T, RJ-45					
Maintenance console	USB					
IF Rx	950—2050 MHz (LNB DC -13.5 B / 18 B 0.75 A), F-connector					
IF Tx	950—1550 MHz, -30 ... -5 dBm, (LO 10 MHz / +5 dBm, power for BUC -24 VDC 2 A), F-connector					
Router						
Performance	96 Mbps or 28 000 packets per second					
Support:	IP/DSCP/VLAN/CRTP (management: WWW, Telnet, SNMP)					
Mechanical / Environmental (IDU)						
Power	176—283 VAC, 10W					
Operating temperature	0° to +40° C, humidity 90%					
Size / Weight	147 × 144 × 29 mm / 530 g					

Romantis GmbH

Lilienthalstraße 5d,
12529 Berlin-Schönefeld
+49 (30) 629 07 960
info@romantis.com
www.romantis.com

