

HUB-LESS NETWORK

UHP-1000 SATELLITE ROUTER



SCPC

TDM/TDMA

TDMA FULL MESH

HUBLESS VSAT PLATFORM

UHP Hub-less is a VSAT technology providing single hop connectivity between all the sites. Hub-less network comprises terminals interacting via a shared TDMA channel. The Station makes use of the TDMA channel to receive and transmit information ensuring dynamic resource distribution among both the stations and transmission routes. Hub-less network ensures the best bandwidth on demand distribution, using the same satellite capacity for all the terminals and all the directions of transmission.

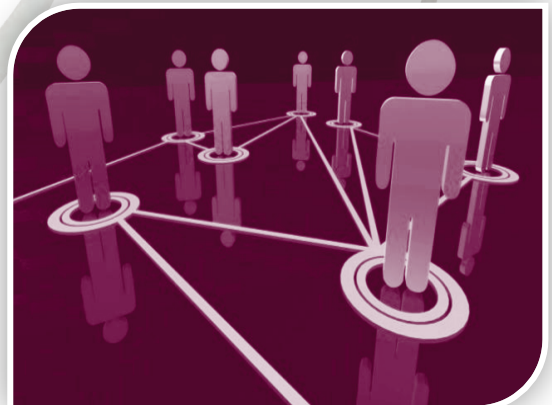
UHP Hub-less Network supports any topologies and seamlessly connects all the sites using IP protocol and built-in IP router. It is the most powerful product on the market in terms of throughput, flexibility and efficiency. The minimal network can be deployed just in 120 kHz of satellite capacity with ability for further expansion up to 6,5 Mbps per carrier.



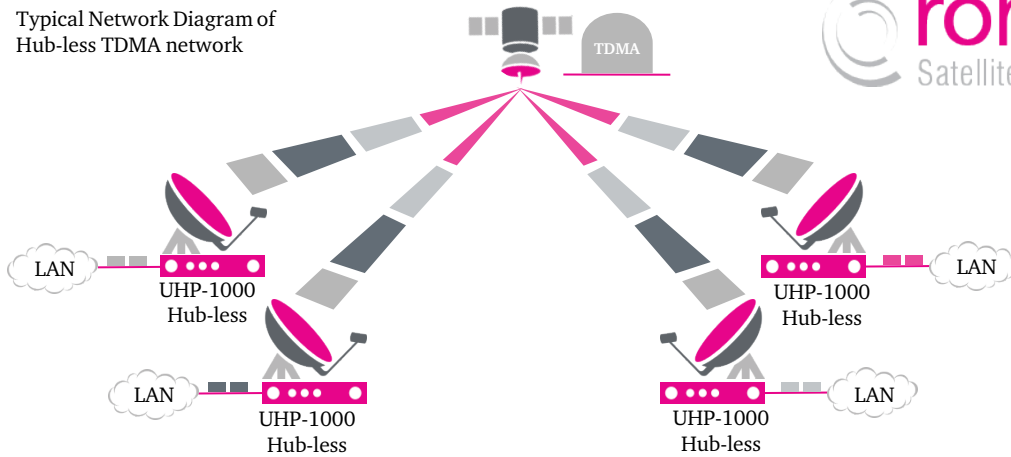
Hub-less UHP-1000 terminal includes an integrated DVB-S2 demodulator which can be used to receive some additional broadband carrier from the same or another satellite, boosting some star-topology heavy-traffic applications like Internet access, IPTV streaming etc.

With its low cost hardware and effective utilization of a satellite capacity UHP Hub-less technology is optimal solution for small-size networks of any topology and is above of any competition in networks with complicated topologies requiring Mesh connectivity. UHP Hub-less is also a very efficient replacement for traditional SCPC networks, allowing to combine number of links within a single TDMA throughput with a proper QoS.

- First TDMA Full Mesh technology with bandwidth-efficient LDPC coding
- Innovative TDMA protocol with proven efficiency of 96% in comparison with SCPC channels
- Ultra-low latency VSAT system with round-trip delay about 570 ms.
- Support of VLAN, multi-level QoS, codec-independent handling of real-time traffic, TCP Acceleration
- Built-in adaptive 500-channel traffic manager specially designed for VSAT applications
- Satellite router is capable of receiving signals from two satellites simultaneously
- Web-based Network Management System allowing operating the network from everywhere
- Fast network startup — network is ready for use in just in a minute upon power-up
- Automatic Transmission Level Control compensate the uplink fade caused by local weather conditions
- Low power consumption allows using satellite terminals with various 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
- Upgradable by just a software key to support other modes of operations: SCPC, TDM/SCPC, TDM/TDMA



Typical Network Diagram of Hub-less TDMA network



UHP-1000 HUB-LESS SATELLITE ROUTER SPECIFICATIONS

NETWORK

Topology	«point-to-point», «star», «full mesh»
Carrier mode	TDMA Full Mesh
Scalability	Up to 252 terminals per carrier

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 Eb/No, BER <math><10^{-7}</math>	FEC	2/3	5/6
	E _b /N ₀	4.2	4.8
QoS	3-level traffic prioritization, Committed Information Rate (CIR)		

ROUTER

Performance	96 Mbps or 28000 pps
Support	DSCP, end-to-end VLAN, RIP, L2 Bridging, CRTP, IGMP, TCP Acceleration
Management	WWW, Telnet, SNMP, NMS Configuration Manager

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	950-1550 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°...+40°C, humidity up to 90%
Size / Weight	147x144x29 mm / 530 g

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