

# TDM/TDMA TERMINAL

## UHP-1000 SATELLITE ROUTER



SCPC

TDM/TDMA

TDMA FULL MESH

### VSAT NETWORK

UHP Terminal is a compact satellite station that can be installed within few hours, virtually anywhere, regardless of status of the local infrastructure. UHP Terminal provides a continuous, interactive access to external networks via the network Hub. The terminal acts as a standard IP router, but is able to use a satellite as a communication channel.

Due to the high throughput, intelligent Quality of Service management and dynamic satellite resource reallocation, UHP VSAT network provides the users with various kinds of communications services - Internet access, e-mail exchange, client-server applications, telephony, video, etc.

UHP Terminals may operate in classical “hub and spoke” topology or in meshed connectivity ensuring a single satellite hop and when transmitting data in-between the network terminals.



### TDM/TDMA TERMINAL

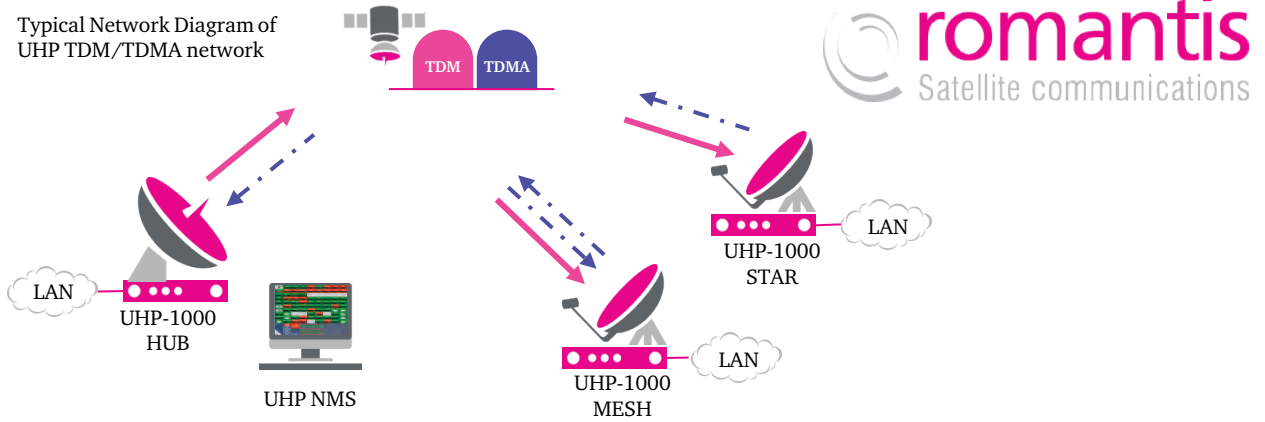
UHP Terminal requires no any local management and is fully managed by the Hub. The network terminal receives TDM channel from the Hub and is routing the data to respective users on its LAN port. UHP terminal transmits information back to the Hub as a time-divided bursts via collective TDMA channel.

Low-cost UHP hardware in conjunction with highly efficient bandwidth utilization ensure the market best cost of the network ownership, regardless of its size and purpose. Wide variety of additional software-activated features and modes of operation guaranty that the network will always fit to any user’s demands.

- Reliable and always on-line broadband communications virtually everywhere
- Any network topologies – “hub and spoke”, “multilevel tree”, “mesh”
- High throughput in forward channel (up to 86 Mbps) and in return channels (up to 6.5 Mbps per channel)
- DVB-S2 VSAT technology with bandwidth-efficient LDPC coding in TDMA channel
- 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 for TDMA mode of operations
- 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
- Fast network startup — network is ready for use in just in dozens of seconds upon power-up
- Compatible with majority of C, Ku and Ka-band RF systems, supplies power and reference signals
- Low power consumption with ability to be powered from alternative low-voltage power sources
- Easy to install and operate hardware, user-friendly software configuration
- Upgradable by just a software key to support other modes of operations: SCPC, Full Mesh TDMA



Typical Network Diagram of UHP TDM/TDMA network



## UHP-1000 STAR/MESH TERMINAL SPECIFICATIONS

### TDM CHANNEL

|                                                            |                                                                       |     |     |     |     |     |     |     |     |      |
|------------------------------------------------------------|-----------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Data Rate                                                  | from 250 kbps (250kSps @ QPSK 1/2) up to 86 Mbps (32MSps @ 8PSK 9/10) |     |     |     |     |     |     |     |     |      |
| Modulation / Coding                                        | FEC                                                                   | 1/2 | 3/5 | 2/3 | 3/4 | 4/5 | 5/6 | 7/8 | 8/9 | 9/10 |
|                                                            | DVB-S (QPSK)                                                          | 3.7 | -   | 4.0 | 4.6 | -   | 5.1 | 5.8 | -   | -    |
| Demodulator Performance<br>Eb/NO<br>BER < 10 <sup>-8</sup> | DVB-S2 (QPSK)                                                         | 1.0 | 1.6 | 2.0 | 2.4 | 2.8 | 2.9 | -   | 3,8 | 4.0  |
|                                                            | DVB-S2 (8PSK)                                                         | -   | 3.2 | 4.0 | 4.7 | -   | 5.8 | -   | 6.9 | 7.1  |
| QoS                                                        | 3-level traffic prioritization, adaptive 500-channels-Traffic Shaper  |     |     |     |     |     |     |     |     |      |

### TDMA CHANNEL

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| Data Rate           | From 133 kbps (100 kbps @ QPSK 2/3) up to 6,5 Mbps (4 Msps @ QPSK 5/6) |
| Modulation / Coding | QPSK, LDPC; FEC 2/3, 5/6                                               |
| 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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