U7400 ASAT™ System MF-TDMA/SCPC Satellite Modem

The U7400 is a telecom grade VSAT satellite modem for professional and mobility applications.

Features and Benefits

- Indoor 19" rack-mountable.
- Vast deployment flexibly.
  - Supports hub-less point-to-point deployments as well as ASAT™ System hub-spoke.
  - Start small with point-to-point SCPC links and grow to large hub-spoke MF-TDMA / SCPC network.
- WaveSwitch™ hub-spoke multi-waveform support:
  - Automatic on-the-fly MF-TDMA / SCPC Return Link switching, based on application, traffic density and scheduled triggers.
  - SCPC Return Link dynamic channel adaptation to meet traffic demand while conserving satellite bandwidth.
  - Real-time waveform switching provides real savings for applications seeing drastic traffic density changes such as cellular backhaul and trunk.
- Layer-2 and Layer-3 support.
- Built-in PEP (Performance Enhancing Proxy) enhancing user experience and conserving satellite bandwidth usage, optimizing the link in both in both point-to-point SCPC deployments and in hub-spoke mode.
- Encrypted VPN tunnel support, allowing traffic protection from VSAT modem to the hub or to enterprise own router (ordering option).
- OpenAMIP antenna interface support for SATCOM on the Move (SOTM) applications.

Typical Applications and Uses

- Broadband trunks.
- Mass-population Internet access.
- Dynamic video-stream contribution applications such as homeland security (HLS) and smart cities.
- Mission-critical backup links.
- Dynamic-throughput high-capacity links.
- Critical communications satellite-as-backup links.

Specification

Unit Characteristics	
Form Factor	Rack mountable
Installation	▪ Indoor. ▪ Matching variety of outdoor / RF options: C-band, X-band, Ku-band and Ka-band. ▪ OpenAMIP antenna integration, GPS integration for on-the-pause / on-the-move applications.
Typical Applications	▪ IP and Layer-2 trunks. ▪ Mobile on-the-move and on-the-pause applications, video contribution. ▪ Surveillance, government, defense and military. Point-to-point or hub-spoke.
Forward Link / RX	
Technology	DVB TDM Forward Link.
Channel Rate	Up to 500MHz.
Waveform	DVB-S2/S2X ACM, GSE encapsulation, QPSK up to 256APSK LDPC/BCH.
Channel Spacing	5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor).
Terminal IFL Input	F-type 75 ohm, 950 – 2150MHz satellite / band independent.

Return Link / TX	

Technology	▪ 3D BoD™ Return Link multi-waveform technology:
	  ▪ MF-TDMA CF-DAMA (Combined Free and Demand Assigned Multiple Access).
	  ▪ Point-to-point and hub-spoke DVB-S2 SCPC.
	▪ WaveSwitch™ on-the-fly and automatic waveform switching.
	▪ Terminal built-in Uplink Power Control (ULPC) and network-wide PowerACM™ link variability mitigation providing support for Ka, Ku and C-band.

MF-TDMA Channel Rate	64Ksps up to 8192Ksps.
MF-TDMA Waveform	BPSK, QPSK, 8PSK, 16QAM.
MF-TDMA Channel Spacing	10%, 15%, 20% or 25% channel spacing (roll-off factor).
SCPC Channel Rate	500Ksps up to 25Msps.
SCPC Waveform	DVB-S2 QPSK up to 32APSK LDPC/BCH.
SCPC Channel Spacing	5%, 10%, 20%, 25% or 35% channel spacing (roll-off factor).
Terminal IFL Output	F-type 75 ohm, 950 – 2150MHz satellite / band independent.
IP Services, PEP and QoS	
Interfaces	▪ 1x 10/100/1000 Mbps Eth RJ-45. ▪ 1x out-of-band satellite modem management.
Download Speed	Up to 100Mbps.
Upload Speed	Up to 100Mbps.
Connectivity	▪ Wireline transparent Layer-2 connectivity. ▪ VLAN and VRF (Virtual Routing and Forwarding) support. ▪ Layer-3 NAT and DHCP server / DHCP relay. RIP routing protocol. VRRP support. ▪ Full multicast support from hub or from behind remote.
Application Optimization	TCP/IP and HTTP acceleration.
QoS	Built in embedded QoS support integrated with Forward and Return Link ACM.
Multimedia Support	▪ VoIP, video-over-IP / video-conferencing Virtual Telephony™ support. ▪ Multimedia QoS support, bandwidth assurance for clear VoIP QoE.
Security	IPSec VPN tunnel strong encryption (availability limited by export control regulations).
Environmental and Mechanical	
Dimensions	435 x 45 (1RU) x 315mm (W x H x D)
Weight	3.3Kg
Power	▪ 35W (not including RF equipment / BUC power), universal 100-240V AC 50/60Hz power supply; -48V DC power supply option available. ▪ 24V DC provided to BUC. ▪ 80W available for installation and RF equipment.
Operating Temperature	0 – 50°C, 5% to 90% humidity non-condensing.
Certification	CE, FCC, CSA.
Available Configurations	
U7400 - standard satellite modem.	
U7400-E - satellite modem with VPN encryption option included.	
NOTE: The U7400 is also marketed as VR7400.	