Advantech Wireless

RAPTOR
DVB-RCS Transportable Hub

Features

- Up to 155 Mbps outbound / Up to 12 Mbps inbound per carrier
- DVB-S2 CCM/VCM/ACM outbound maximizes bandwidth efficiency
- Optimized for IP and multi-media content
- Open standard design (DVB-RCS)
- Qualified with multiple IP/DVB broadcast platform vendors
- Interoperable with 3rd party SatLabs certified terminal vendors
- Unique and powerful multi-carrier demodulation technology
- World-class scheduling efficiency, maximizing bandwidth utilization
- User-friendly Network Management System (NMS)
- Mesh Overlay (peer-to-peer) optional capability
- Always-on
- Quick deploy of hub for emergency networks or field operations

Overview

Advantech Wireless, a world leader in satellite communications, offers the world's leading two-way open standard (DVB-RCS) broadband satellite access system. Our DVB-RCS Hub, and in particular its Return Link Sub-System (RLSS), is at the heart of the broadband access system. The RLSS is a modular hub sub-system which can be integrated with new or installed IP/DVB broadcast platforms and IP switch/routing equipment to provide two-way satellite broadband access services.

The RLSS is designed to receive inbound traffic, handle inbound and outbound signaling, schedule and control networks of satellite interactive terminals (available from multiple suppliers). A single scalable RLSS unit can support networks ranging from just tens to 500 of simultaneously logged-on terminals.

The Raptor series of transportable hubs are turn-key systems which can be deployed in less than 1 hour, to enable a wide range of public and/or private network topologies with DVB-RCS satellite interactive terminals.

System Versatility

Advantech Wireless' Hubs and Terminals are highly flexible; several different network architectures are possible. Some key features of this DVB-RCS system include:

- Frequency independent - hubs, terminals and onboard processors can be operated in any frequency band (e.g., Ku, Ka, C, X or hybrids of these).
- Satellite versatility - the system can operate with the forward and return link on the same satellite, or on different satellites.
- Terminal diversity - networks can support receive-only terminals at the same time as two-way terminals, as well as terminals operating in both mesh and star network topologies.

Advantech Wireless' entire system, as well as the DVB-RCS standard, has been designed to minimize the cost of scaling a broadband access network from terminal populations as small as a few tens of terminals to tens of thousands.

Performance of access layer protocols is highly dependent on traffic profile. Advantech's implementation of DVB-RCS, utilizing dynamic assignment techniques mandated in the DVB-RCS specification, has been specifically designed and tuned for multi-media traffic. In comparison, other VSAT systems are less dynamic and less flexible.

RAPTOR DVB-RCS Transportable Hub

DVB-RCS Transportable HUB Features & Specifications

Air Interface - Outbound	DVB-S or DVB-S2, CCM/VCM/ACM, IP over MPEG
Modulation	QPSK, QPSK 8PSK, 16APSK, 32APSK (DVB-S2)
Information Rates	10 Mbps (other rates available on special order)
Air Interface - Inbound	DVB-RCS, IP over ATM or MPEG
Multiple Access Method	MF-TDMA
Modulation	QPSK, 8PSK
Max Burst Info rates	128 kbps—12 Mbps
Coding	RS/Convolutional or LDPC on the outbound; Turbo convolution on the inbound
MAC Layer—Inbound	
Protocol	CF-DAMA (Combined Free & Demand-Assigned Multiple Access)
QoS - Capacity Requesting Dynamic	Constant Rate Assignment (CRA), Volume Based Dynamic Capacity (VBDC), Rate Based Capacity (RBDC), Free Capacity Assignment (FCA)
Bandwidth on Demand (Return Link)	0-6 Mbps updated every 26.5 ms, framed in 1, or 2 ATM cells or 1 MPEG packet, with in-band and out-of-band capacity requesting mechanisms
Interfaces	
Network	IP over Ethernet (10/100/1000BaseT)
NMS	NetManager™, web interface control, remote terminal management, VNO 3rd Party Equipment - Standard SNMP interfaces available
Tx & Rx	Frequency Independent (can use any combination of C, Ku, Ka, X, etc.) Can interface with any frequency at L-band IF frequency
RLSS Expansion Options	
Additional Return Link Carriers and Rates	Demodulator is programmable with up to 96 carriers, at rates from 128 kbps - 12 Mbps up to a maximum total of 32 Mbps (on special order).
Number of Terminals Supported	Up to 500
Included Features	
Fade Countermeasures	VCM/ACM, ClearSky™
PEP & Compression	TCP/HTTP Acceleration & Data Compression
VoIP	Virtual Telephony™
QoS	Advanced QoS
Multicast	From hub or from behind remote terminals
Options	
Multiple Satellites/Beams	Designed to support multiple satellites in mix of frequencies (special order only)
Network Architecture	DVB-RCS, Mesh/Star/OBP
Geographic Redundancy	Automatic switchover between geographically redundant gateways
Scalability	Scalable forward & return link capacities + number of supported remotes
Mesh	Mesh overlay
Higher Layer Protocol Options	IPSec/VPN, VLAN
Access Technology	MF-TDMA, SCPC, A-SAT™

NORTH AMERICA
USA
Tel: +1 703 659 9796
Fax: +1 703 635 2212
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

An ISO 9001: 2008 Company

Ref.: PB-RAPTOR-HUB-001-14027

Specifications are subject to change without prior notice
"DVB and the DVB logos are trademarks of the DVB Project"