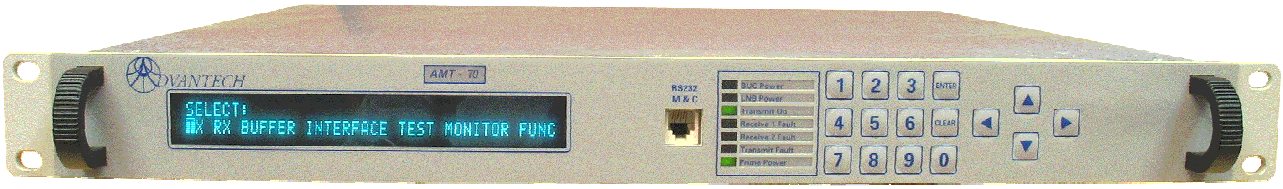
AMT 75R Receiver

S2 Broadcast Receivers

AMT 75R Series S2 Broadcast Receiver



Highlights

- **First DVB-S2 Receiver implementing both NORMAL and SHORT FEC Block**
- DVB-S and DVB-DSNG Compatible
- CCM as standard
- Single, Dual and Triple Receive options
- Optional VCM and ACM support
- Optional 16APSK for DVB-S2
- Demodulator Symbol Rates from 128ksps to 45Msps in DVB-S2
- (32Ksps to 45Msps in DVB-S/DSNG)
- **Software Defined Radio**
- Software Up-gradable
- Adaptive Frequency Domain Equalizer
- Up to 50% Spectral efficiency improvement .v. DVB-S
- L Band & 70/140MHz IF capable
- Future Optional 32APSK receive
- ASI Interfaces
- **Multiple ASI Outputs per Receive channel**
- **IP Gateway** option providing:
  - QoS Level 3
  - Routing Static & Dynamic RIP V 1.2
  - DHCP Client.

Applications

Advantech's AMT 75 S2 Series receivers provides a receive solution for multiple applications; broadcast video contribution and distribution, IP data contribution and distribution and transmission monitoring. Using the upgrade path enables the AMT75 to develop along with the network demands, and reduce stock holding and capital replacement costs.

Overview

AMT-75Series modems are designed using **"Software Defined Radio"** techniques to ensure unrivalled flexibility, and upgrade paths to meet the increasingly demanding requirements now and in the future. This is achieved by its ability to operate from 32ksps to 45Msps; implementation of powerful FEC's: - DVB-S, DVB-DSNG and DVB-S2; providing multiple traffic interfaces: - ASI, 10/100/1000BaseT Ethernet and HSSI. The unit can be ordered with or without an Active Front Panel.

Overview (cont)

The DVB-S2 implementation includes 16APSK and both 16k (SHORT) and 64k (NORMAL) FEC Block sizes in CCM format. The modem is upgradeable to provide support for VCM and ACM solutions. This performance gain can be translated directly into higher data throughput, reduced antenna size or reduced satellite bandwidth, which significantly reduces transponder costs; provides more link margin or decreases antenna cost. VCM and M-CCM solutions allow tailored distribution systems.

The **IP Gateway** option is a miniaturised fully-fledged IP router designed to give ease of use, support for a wide range of protocols, security and QoS. This flexibility ensures it will offer the performance needed in Internet café to IP backbone applications. (For more information see datasheet).

Monitoring and Control via Ethernet using a Web Server, Telnet or SNMP V1, and serial interface using terminal mode RS232.

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DESCRIPTION	SPECIFICATION			
PERFORMANCE SPECIFICATIONS				
Data Rate (Each Receive Channel)	64 kbps to 140 Mbps		Rates Options	16kbps to 10Mbps 16kbps to 20Mbps 16kbps to 52Mbps 16kbps to 140Mbps
Symbol Rate	32ksps to 45Msps DVB-S (128ksps to 45Msps DVB-S2)			
Data Interfaces	ASI		Optional 2nd ASI output per channel Optional 10/100 Base-T IP output Optional HSSI output	
Scrambling, Descrambling	DVB standard			
Data Connectors	BNC female for ASI RJ-45 for Ethernet option 50-pin SCSI-2 type connector for HSSI			
Monitoring and Control (M&C) Interface	***External M&C Interface:***	RS-232 Terminal mode 10/100BaseT for Web Server, SNMP, Telnet or HTTP		
	Configuration Parameter Storage:	NVRAM		
Detailed SPECIFICATIONS				
Data Rates	***DVB-S***			
	BPSK:	16 kbps to 36 Mbps	QPSK:	16 kbps to 70 Mbps
	DVB-DSNG			
	QPSK: OQPSK:	64 kbps to 70 Mbps 64 kbps to 72 Mbps	8PSK: 16QAM:	128 kbps to 110 Mbps 128 kbps to 140 Mbps
	DVB-S2			
	QPSK:	64 kbps to 70 Mbps	8PSK: 16APSK:	256 kbps to 110 Mbps 340 kbps to 140 Mbps
Demodulator Roll-Off Factor	0.15,0.2,0.25,0.35			
Forward Error Correction (FEC) Code Rates	DVB-S/DVB-DSNG Coding DVB-S2 SHORT and NORMAL FEC Block SHORT Block 16kbit $^{*}1/4, ^{*}1/3, ^{*}2/5, ^{*}1/2, ^{*}3/5, 2/3, 4/5, 5/6, 7/8, 8/9$ NORMAL Block 64kbit $^{*}1/4, ^{*}1/3, ^{*}2/5, ^{*}1/2, ^{*}3/5, 2/3, 4/5, 5/6, 7/8, 8/9, 9/10$ DVB-S2 Specification			* Only available in QPSK according to
Input Connector	***Type F (f) for L Band*** ***Impedance:*** 75 Ohms; Option: Type BNC (f) for 70/140MHz 50 Ohms ***Return Loss:*** ≥ 10 dB; ***LNB Alarm for Short Circuit***			
Input Frequency	*L Band:* 950-2150 MHz variable in 1Hz steps IF Band: 70 +/-18 MHz 140 +/-36 MHz			
Input Level	Nominal: 45 dBm - 10log(400/R) dBm, where R = Symbol Rate in kSymbols AGC range: +/-20dB minimum Max level: 0dBm			
Noise Figure	9 dB typical, 12 dB at maximum AGC gain			
LNB Power Supply Output and Control	***Selectable LNB Supply Voltage:*** ON/OFF, 18 VDC (Horizontal Pol.) or 13 VDC (Vert Pol.) ***LNB Control:*** 22 ±4 kHz single tone burst, amplitude = 0.6 ±0.2 V p-p			

Typical Eb/No Performance,	***QPSK***	***8PSK***	***16QAM/16APSK***
DVB-S	< 0.5dB margin	N/A	N/A
DVB-DSNG	< 0.5dB margin	<0.7dB margin	<1dB margin
DVB-S2	< 0.5dB Margin	<0.7dB margin	<1dB margin

INTERFACE SPECIFICATIONS		
Data Interface		
Connectors	BNC (f), 75 Ohms for ASI RJ-45 for Ethernet option 50-pin SCSI-2 type connector for HSSI	
Receiver/Transmitter ASI Interface	***Encoded Line Rate:*** ***Min. Sensitivity (D21.5 idle pattern):*** ***Max. Input Voltage:*** ***Min. Discrete Connector Return Loss:*** ***Max. Distance:***	270 Mbps ±100 ppm 200 mV 880 mV p-p 15 dB 150 Meters
PHYSICAL AND POWER SPECIFICATIONS		
Dimensions	Standalone or rack-mountable ***Height:*** ***Width:*** ***Depth:*** ***Weight:***	1U Rack or 1U EIA chassis 4.4 cm (1.75") 48.26 with mounting ears or 43.2 cm without (19" or 17") 40.0 cm (15.75") 8 lb (3.7 kg) maximum
Power, AC	***Power Supply Voltage***	90 – 264 VAC, 50/60 H
Power, DC (Option)	***DC Power:*** ***Power Consumption:***	-48 VDC (32 to 72 VDC) Up to 65 Watts (Triple Rx unit)
ENVIRONMENTAL SPECIFICATIONS		
Environmental	***Operating Temperature:*** ***Storage Temperature:*** ***Relative Humidity:*** Operating: Non-Operating: ***Altitude:*** Operating: During Transit:	0°C to 45°C (32°F to 122°F) -25°C to 85°C (-13°F to 185°F) Up to 90% non-condensing Up to 95% non-condensing Up to 10,000' (3,045 M) Up to 40,000' (12,180 M)

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