

IMT

Integrated Modem Transceiver (C-Band or Ku Band)



HIGHLIGHTS

- ▶ Complete Electronics Package
- ▶ Rugged Weatherproof Single Package Construction
- ▶ Easy Installation and Configuration
- ▶ Web Browser Capabilities
- ▶ Configuration, Monitor & Control Features Fully Programmable
- ▶ Output and Input Power Monitoring
- ▶ Ethernet Data Interface
- ▶ 2.4 Kbps to 20 Mbps, 1 bps Steps
- ▶ BPSK/QPSK/OQPSK/8PSK/16QAM Operation
- ▶ FEC - Viterbi, Reed-Solomon, Sequential, Trellis
- ▶ Turbo Product Code
- ▶ Fully Compliant with IESS 308/309/310/314/315
- ▶ Optional DVB to EN301-210 and EN300-421
- ▶ Optional ASI Interface
- ▶ Low Power Consumption
- ▶ Built-in High-Stability Reference Oscillator
- ▶ Independent Rx/Tx Control

OVERVIEW

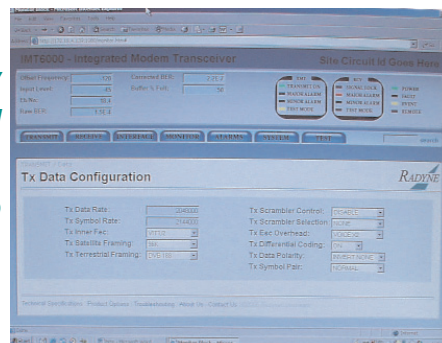
Designed for GSM, VSAT and quick deploy applications. Performance that meets or exceeds industry standards, features that provide ease of integration and operation and the ability to withstand extreme environments, the IMT can take it!

With transmitter output up to 10 Watts for C-band and 8 watts for Ku-band, the IMT's has been designed and built for outdoor use in extreme environments. The IMT serves as an integrated package consisting of the outdoor modem, block up-converter and LNB. The IMT satisfies all the requirements needed to monitor, control and operate remote sites. The IMT can eliminate the expense of sheltering site equipment. With the ability to support IBS, IDR and DVB standards, the IMT covers virtually all your satellite needs.

ENHANCED MONITOR AND CONTROL

The Integrated Modem Transceiver remote accessibility is exceptional. Remote control via RS-485 Serial port (RLLP) or 10Base-T SNMP Ethernet will control all of the modem features. Using the Ethernet port and a web browser such as Windows Explorer, the modem now is able to present its entire monitor and control functions on any PC or external terminal for easy setup and configuration. The web browser enables the user to interact more effectively with the IMT, both locally and remotely.

*Easy
setup and
configuration
through web
browser.*



The following can be monitored via the remote terminal or PC:

- Alarm Descriptions
- Transmitter Power Output Level
- Receive Input Level
- Modem Signal Level
- Bit Error Rate
- Modem Configuration

APPLICATIONS

Applications for the IMT Integrated Modem Transceivers include:

- SCPC/MCPC
- Emergency Link Restoration
- Video Conferencing
- Broadcast
- Rural Telephony
- Point-of-Sales

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IMT FEATURES

Modulator

Modulation:	BPSK, QPSK, and OQPSK (8PSK, 16QAM Optional)
On/Off Power Ratio:	>60 dB
Scrambler:	CCITT V.35 or IBS (Others Optional)
FEC:	Viterbi, K=7 at 1/2, 3/4 and 7/8 Trellis 2/3 Turbo Product Code (Optional) Per IESS 315 BPSK 21/44 Custom (N,K) Reed-Solomon QPSK/OQPSK 1/2, 3/4, 7/8 8PSK/16QAM 3/4, 7
Outer Encoder Options:	Reed-Solomon INTELSAT (DVB Optional)
Data Clock Source:	Internal, Rx Recovered
Internal Stability:	5.0×10^{-8}
BUC DC Voltage:	BUC 24V 4 Amps max or optional 48V 3 Amps max
BUC Reference:	10 MHz 0 dbm ± 3 dB

Demodulator

Demodulation:	BPSK, QPSK, and OQPSK (8PSK, 16QAM Optional)
FEC:	Viterbi, K=7 at 1/2, 3/4 and 7/8 Rate, Rate Sequential 1/2, 3/4, 7/8 (Optional) Trellis 2/3 Turbo Product Code (Optional) Per IESS 315 BPSK 21/44 Custom (N,K) Reed-Solomon QPSK/OQPSK 1/2, 3/4, 7/8 8PSK/16QAM 3/4, 7/8
Decoder Options:	Reed-Solomon INTELSAT (DVB Optional)
Descrambler:	CCITT V.35 or IBS (Others Optional)
Acquisition Range:	Programmable ± 1 kHz to ± 255 kHz
Sweep Delay Value:	100 msec to 6000 sec. in 100 msec Steps
LNB Reference:	10 MHz, 0 dBm ± 3 dB
LNB DC Voltage:	13, 15, 18, 20 VDC (750 mA maximum), Programmable

Plesiochronous Buffer

Size:	0 ms to 64 msec
Centering:	Automatic on Underflow or Overflow
Centering Modes:	IBS: Integral Number of Frames, IDR: Integral Number of Multi Frames
Clock:	Transmit, External, Rx Recovered or SCT (Internal)

Terrestrial Interfaces

RS-422, Ethernet, G703, DVB ASI

Drop and Insert (Optional)

Terrestrial Data:	1.544 Mbps or 2.048 Mbps, G732/733
Line Coding:	AMI or B8ZS for T1 and HDB3 for E1
Framing:	D4, ESF and PCM30 (PCM30C) or PCM31 (PCM31C) for E1
Time Slot Selection:	n x 64 Contiguous or arbitrary blocks for drop and insert
Time Slots:	TS1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 30, 31
Data Rates:	64, 128, 192, 256, 320, 384, 512, 640 768, 960, 1024, 1280, 1536, 1920 kbps

Monitor and Control

Remote RS-485 / Terminal RS-232 /
Ethernet 10BaseT / Web Browser

PHYSICAL CHARACTERISTICS FOR MODEM

Size:	14.5" L x 10" W x 4.5" H (37.33 cm x 24.76 cm x 11.43 cm)
Weight:	15 lb. (6.8 kg)
Primary Power:	100 to 240 VAC, 50 to 60 Hz, 1.0 A

* For modem BER performance, refer to the OM-20

Tx BUC

Available Power Levels:	C-Band: 10 Watts	Ku Band: 8 Watts
Tx Bands:	C-Band: 5850 to 6425 MHz 6425 to 6725 MHz 6720 to 7025	Ku Band: 14000 to 14500 MHz 13750 to 14250 MHz 13750 to 14500 MHz
Tx Gain Adjustment:	25 dB, 1 dB Step, M&C Controlled	
Tx Level Flatness:	± 1.5 dB/36 MHz	
Tx Gain Variation:	± 1.5 dB Over Frequency and Temperature (Modem)	
Tx Phase Noise (Maximum):	100 Hz: 1 kHz: 10 kHz: 100 kHz:	-60 dBc -70 dBc -80 dBc -90 dBc

* BUC specification will vary by manufacturer

Rx LNB

Rx Bands:	C-Band: 3400 to 4200 MHz 4500 to 4800 MHz	Ku Band: 11700 to 12200 MHz 12200 to 12750 MHz 10950 to 11700 MHz 11200 to 11700 MHz 11450 to 11950 MHz
Rx Gain:	+60	
Rx Noise Figure:	0.9 dB (65K) Maximum (Depends Upon LNB)	
Rx Linearity:	-35 dBc Intermod, Maximum	

* LNB specifications will vary by manufacturer for IMT

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature:	-40 to +50°C
Non-Operating Temperature:	-40 to +70°C
Rain Resistance:	≤ 20 Inches/Hour
Wind Resistance:	≤ 150 mph
Altitude:	To 10,000 Feet (3,048 m) AMSL

* For the physical characteristics for BUC and LNB contact factory

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