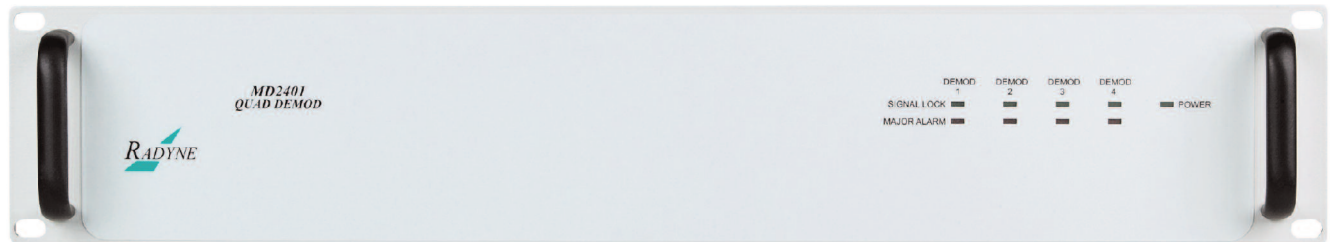




MD2401

Satellite Multi-Demod



HIGHLIGHTS

- ▶ Low Cost Multi-Demod
- ▶ Optional 10/100/1000 Base-T Ethernet Interface (Single RJ45)
- ▶ Synchronous RS422 Serial Port (Per Demod)
- ▶ 4 independent L-Band Rx Ports (950 to 1750 MHz)
- ▶ BPSK, QPSK, OQPSK and 8PSK Operation
- ▶ 4.8 to 5000 Kbps in One-Bit-Per-Second Steps
- ▶ Turbo Product Code 21/44, 1/2, 3/4, 7/8, 0.495 and 0.793 Rate
- ▶ 1/2, 3/4, and 7/8 Rate Viterbi
- ▶ 2/3 rate 8PSK

OVERVIEW

The Radyne MD2401 Multi-Demod offers the flexibility of receiving up to four independent L-band channels and outputs the data onto independent RS-422 synchronous interfaces or an optional single 10/100/1000 Base-T Ethernet interface.

The MD2401 offers variable data rates, frequency selection, FEC code rates, modulation types and L-Band frequencies. Each of the four demodulators can be monitored and controlled via a single RS485 remote port.

Each channel is designed for single channel per carrier (SCPC) operation and capable of supporting various FEC options. Standard features include Viterbi, Reed Solomon, 8PSK and RS422 data interfaces. The unit provides a reliable, cost-effective demod system that compliments Radyne's modem product lines.

The optional 10/100/1000 Base-T Ethernet data interface offers true plug and play connectivity. With Automatic Crossover, Auto-Polarity and Auto Negotiation, you will never need to hunt for a crossover or pass-thru cable. Just plug your LAN into the RJ45 port and the multi-demod system is up and running. The Ethernet interface also includes embedded Quality of Service making this demod system the ideal choice.

COMPLEMENTARY PRODUCTS

Radyne offers a full line of satellite products to complement the MD2401. These products include:

- DMD20 Universal Satellite Modem
- DMD20LBST Universal L-Band Modem
- DMD50 High-Speed Satellite Modem
- DMD15 Universal IBS/IDR Satellite Modem



MD2401 Satellite Multi-Demod Demodulator

SPECIFICATIONS

RECEIVE DATA RATES

MD2401:	BPSK - 4.8 to 1250 Kbps, Rate 1/2
	QPSK - 9.6 to 2500 Kbps, Rate 1/2
	QPSK - 9.6 to 3750 Kbps, Rate 3/4
	QPSK - 9.6 to 4375 Kbps, Rate 7/8
	OQPSK - 9.6 to 2500 Kbps, Rate 1/2
	OQPSK - 9.6 to 3750 Kbps, Rate 3/4
	OQPSK - 9.6 to 4375 Kbps, Rate 7/8
	8PSK - 64 to 5000 Kbps, Rate 2/3
Data Rate Setting:	Selectable in 1 bps Steps

DEMODULATOR SPECIFICATIONS

Frequency Range:	950 to 1750 MHz in 1 Hz Steps
Input Carrier Range:	-65 to -40 dBm (Symbol Rate < 64 kHz)
	-50 to -30 dBm (Symbol Rate > 64 kHz)
Aggregate Power:	Minimum of -10 dBm or 35 dBc
IF Input Impedance:	50 Ohm SMA
Return Loss:	14 dB SMA (Minimum)
Connector:	SMA-F
Carrier Acquisition:	+32 kHz in 1 kHz Steps

Typical E_b/N_0 (Viterbi)	<u>Rate 1/2</u>	<u>Rate 3/4</u>	<u>Rate 7/8</u>
@ BER= 10^{-5}	5.1	6.3	7.5
@ BER= 10^{-7}	6.2	7.7	8.6

Typical E_b/N_0 (8PSK Trellis)	<u>Rate 2/3</u>
@ BER= 10^{-5}	6.4
@ BER= 10^{-7}	8.1

Typical E_b/N_0 (Turbo)	<u>Rate 1/2</u>	<u>Rate 3/4</u>	<u>Rate 7/8</u>	<u>Rate 0.495</u>	<u>Rate 0.793</u>
	<u>(21/44)</u>				
B/O/QPSK @ BER= 10^{-5}	2.4	3.2	3.9	2.5	3.4
@ BER= 10^{-7}	2.8	3.7	4.1	2.7	3.8
8PSK @ BER= 10^{-5}	---	5.6	6.7	---	5.9
@ BER= 10^{-7}	---	6.0	7.5	---	6.4

Note: E_b/N_0 typical values include effect of using differential encoding and V.35 scrambler.

Descrambler:	Intelsat V.35, Mode Selectable
Data Buffering:	8 Bits to 262,144 Bits, in 8-Bit Steps

ALARMS

Summary Alarms: Each demodulator offers a fault indicator available at the rear panel.

FRONT PANEL LED INDICATORS FOR EACH DEMODULATOR

Unit:	Power
Demodulator:	Signal Lock
	Major Alarm

MONITOR AND CONTROL

All operating parameters for the entire system can be monitored and controlled via the RS-485 serial control channel. For users familiar with the terminal control, individual demods can be monitored or controlled via their respective RS-232 ports.

TERRESTRIAL INTERFACES

RS-422: All Rates, Differential, Clock/Data, DCE

STANDARD FEATURES

Turbo Product Code:	Per IESS 315
Concatenated Codec:	Reed-Solomon Codec
8PSK:	Per IESS 310/314

OPTIONS

Ethernet Data Interface: 10/100/1000 Base-T

ENVIRONMENTAL

Prime Power:	100 to 240 VAC, 50 to 60 Hz, 1.0 A (IEC 3-Pin Power Connector With Switch)
Operating Temperature:	0 to 50° C, 95% Humidity, Noncondensing
Storage Temperature:	-20 to 70° C, 99% Humidity, Noncondensing

PHYSICAL

Chassis size	19" x 15" x 3.5" (48.26 x 38.1 x 8.89 cm)
Weight	8 pounds (3.6 Kg)



(Shown with optional Ethernet Interface)

U.S.A./Canada: 3138 East Elwood Street, Phoenix, Arizona 85034 USA, Tel: +(1) 602.437.9620 Fax: +(1) 602.437.4811
7330 Trade Street, San Diego, California 92121 USA, Tel: +(1) 858.805-7000 Fax: +(1) 858.805-7001

Europe/Middle East/Africa: 13 The Enterprise Centre, Coxbridge Business Park, Farnham, Surrey, GU10 5EH, United Kingdom
Tel: +(44) 1420.540.233 Fax: +(44) 1420.540.232

Latin America: 3138 East Elwood Street, Phoenix, Arizona 85034 USA Tel: +(1) 561.487.7972 Fax: +(1) 561.892.2363

China: Room 405, Building B, Heqiao Mansion, No. 8 Guanghua Road, Chaoyang District, Beijing 100026 China,
Tel: +(86) 10.658.31975 Fax: +(86) 10.658.31974

Asia-Pacific: 150 Cecil Street, #08-02, Singapore 069543 Tel: +(65) 6325.1956 Fax: +(65) 6325.1950

Wisma Budi, 7th Floor Suite 702, J1. H.R. Rasuna Said Kav. C6, Jakarta 12940 Indonesia, Tel: +(62) 21.252.2676 Fax: +(62) 21.252.0142

www.radn.com

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