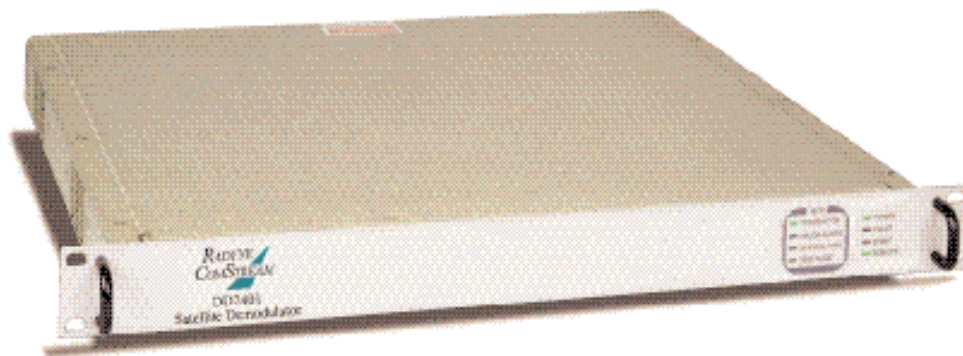




DD2401

Satellite Demodulator



HIGHLIGHTS

- ▶ Low Cost Demodulator
- ▶ L-Band Operation (950 to 1750 MHz)
- ▶ LNB Power Optional for L-Band
- ▶ BPSK, QPSK, and OQPSK Operation (8PSK Optional)
- ▶ 4.8 to 5000 Kbps in One-Bit-Per-Second Steps
- ▶ 21/44, 1/2, 3/4, 7/8, 0.495 and 0.793 Rate Turbo Product Code (L-Band Option)
- ▶ 1/2, 3/4, and 7/8 Rate Viterbi (Sequential Optional)
- ▶ 2/3 rate 8PSK (Optional)

OVERVIEW

The Radyne ComStream DD2401 Satellite Receiver is designed to perform as the receive-end of a satellite single-channel-per-carrier (SCPC) link or as a VSAT remote site demodulator in a TDMA hub system. It provides reliable, cost-effective data communication in applications requiring continuous reception.

The DD2401 offers fully variable data rates and frequency selection. Operating parameters, such as variable data rates, FEC code rate, modulation type and IF frequencies can be readily controlled and monitored via an RS-485 or RS-232 serial control channel located on the rear panel.

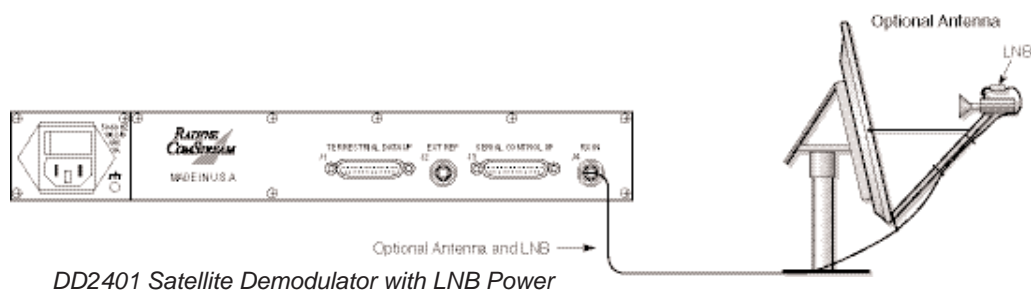
Available options for the DD2401 include Reed-Solomon or Turbo Product Code, both of which are available for applications requiring Bit Error Rates of 1×10^{-10} .

The L-Band DD2401 receives 950 to 1750 MHz input directly from a C- or Ku-Band phase locked LNB mounted on the antenna feed. The DD2401 can supply +15V to the LNB (optionally) via the L-Band input port.

COMPLEMENTARY PRODUCTS

Radyne ComStream offers a full line of satellite products to complement the DD2401. These products include:

- DMD20 Universal Satellite Modem
- DMD2401 VSAT/SCPC Satellite Modem
- DMD2401LBST Satellite Earth Station
- DMD15 Universal IBS/IDR Satellite Modem
- RCS20 1:N Redundancy Switch



DD2401 Satellite Demodulator with LNB Power



DD2401 Satellite Demodulator

SPECIFICATIONS

RECEIVE DATA RATES

DD2401:	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 (Optional)
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 > 640 kHz)
Aggregate Power:	Minimum of -10 dBm or 35 dBc
IF Input Impedance:	75 Ohm F-type, 50 Ohm SMA
Return Loss:	8 dB F-type, 14 dB SMA (Minimum)
Connector:	F-type (SMA-F Optional)
Carrier Acquisition:	±100 kHz in 1 kHz Steps

Typical E_b/N_0 (Viterbi)	Rate 1/2	Rate 3/4	Rate 7/8		
@ BER= 10^{-5}	5.1	6.3	7.5		
@ BER= 10^{-7}	6.2	7.7	8.6		
Typical E_b/N_0 (Sequential)	Rate 1/2	Rate 3/4	Rate 7/8		
@ BER= 10^{-5}	5.1	5.6	6.4		
@ BER= 10^{-7}	6.5	6.5	7.4		
Typical E_b/N_0 (8PSK Trellis)	Rate 2/3				
@ BER= 10^{-5}	6.4				
@ BER= 10^{-7}	8.1				
Typical E_b/N_0 (Turbo)	Rate 1/2	Rate 3/4	Rate 7/8	Rate 0.495	Rate 0.793
	(21/44)				
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:	Two separate form-C contacts available at the rear panel. Each provides a summary alarm of fault conditions.
-----------------	--

FRONT PANEL LED INDICATORS

Unit:	Power
Demodulator:	Signal Lock Major Alarm

MONITOR AND CONTROL

All operating parameters can be monitored and controlled via the RS-485 or RS232 serial control channel in either terminal or command modes.

TERRESTRIAL INTERFACES

RS-422/-449:	All Rates, Differential, Clock/Data, DCE
--------------	--

OPTIONS

Turbo Product Code:	Per IES 315 (Optional)
Concatenated Codec:	A Reed-Solomon Codec is Available
LNB Power:	15 V
70 or 140 MHz IF	
8PSK:	Per IESS 310/314 (Optional)

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 17" x 1.75" (48.26 x 43.2 x 4.45 cm)
Weight	8 pounds (3.6 Kg)
Shipping Weight	10 pounds (4.5 Kg)

U.S.A./Canada: 3138 East Elwood Street, Phoenix, Arizona 85034 USA Tel: +(1) 602.437.9620 Fax: +(1) 602.437.4811
6340 Sequence Drive, San Diego, California 92121 USA Tel: +(1) 858.458.1800 Fax: +(1) 858.657.5400
Europe/Middle East/Africa: Charwell House, Wilsom Road, Alton, GU34 2PP, 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
JI M.T. Haryono Kav 25, Jakarta, Indonesia 12820 Tel: +(62) 21.521.3733 Fax: +(62) 21.252.0142

www.radn.com

Prices, specifications, and product availability subject to change without notice. All trademarks acknowledged.

© Copyright 2006 Radyne ComStream Corporation. All rights reserved.

ML-0032B-06-23-06

