



Overview

The DMDVR20 LBST is based on the proven design and technology of the DMD20 Universal Satellite Modem and the DD240 professional grade MCPC satellite demodulator with industry leading reliability.

The DMDVR20 LBST is ideal for high quality private networks requiring low latency and low jitter transmission. With its ability to support asymmetrical link operation with IESS compliant transmission and LDPC reception, the DMDVR20 LBST can receive large shared TDM carriers and provide small to medium sized return carriers for data/voice/video applications in a hub and spoke environment. DMDVR20 LBST is one of the most advanced remote site terminals in a single one rack unit size.

The DMDVR20 LBST's impressive remote management capability surpasses all others in the field. It can be remotely monitored and controlled via the RLLP (Radyne Link Level Protocol) or through the RS-232 Terminal port.

Supported by an extensive line of redundancy switches, converters, encoders and decoders, the DMDVR20 LBST can be integrated into any network compatible with the MD2401 Quad Demodulator and the DM240XR Broadcast modulator.

Typical Users

- Internet Service Providers
- Enterprise

Common Applications

- G.703 Trunking

Features

Modulator

- IESS-309/310/314/315 compliant Satellite Modulator
- 950 to 2050 MHz L-Band Operation, 1 Hz steps
- BPSK/QPSK/OQPSK/8PSK/16-QAM modulation
- 2.4 Kbps to 20 Mbps, 1 bps steps
- Forward Error Correction (FEC) – Viterbi, Reed-Solomon, Trellis, Turbo Product Code
- Integrated 10 MHz high-stability BUC reference
- Optional 24 or 48 VDC for up to 10 W BUC

Demodulator

- Configurable for unframed clear channel serial data transmission for Telco grade hub & spoke services
- Supports MCPC/SCPC networks using industry standard LDPC
- 950 to 2150 MHz L-Band operation, 1 Hz steps
- QPSK/8PSK/16APSK demodulation
- 2.0 Mbps to 20 Mbps, 1 bps steps
- Industry standard forward error correction LDPC+BCH
- LNB Power: 18 VDC \pm 0.5 V (350 mA max.)

Hardware Options

- Turbo FEC (Transmit)
- 48 VDC Input Power
- High-Stability Reference
- BUC/LNB Power

Software Options

- Data Rate Upgrades
- 8PSK (Modulator/ Demodulator)
- 16-QAM (Modulator)
- 16APSK (Demodulator)

Interface Options

- RS-530/422 Serial

Specifications

Modulator

Modulation	BPSK, QPSK, and OQPSK (8PSK, 8-QAM & 16-QAM optional)
L-Band Tuning Range	950 to 2050 MHz in 1 Hz steps
Impedance	50 Ohm
Connector	Type N female
Return Loss	10 dB minimum
Output Power	0 to -25 dBm
Output Accuracy	± 1.0 dB over frequency and temperature
Output Spectrum	Meets IESS-308/309/310 power spectral mask (DVB-S optional)
Spurious	-55 dBc In-band -45 dBc Out-of-band
Harmonics	-45 dBc
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 Sequential 1/2, 3/4 and 7/8 (optional) Turbo Product Code (optional) BPSK: 21/44 QPSK/OQPSK: 1/2 (21/44), 3/4, 7/8 8PSK/8-QAM, 16-QAM: 3/4, 7/8 Legacy Turbo Rates: 0.495, 0.793 (optional) LDPC (optional) BPSK: 1/2 QPSK/OQPSK: 1/2, 2/3, 3/4 8PSK/8-QAM: 2/3, 3/4 16-QAM: 3/4
Outer Encoder Options	Reed-Solomon Intelsat (DVB-S optional) Custom (N, K) Reed-Solomon (optional)
Data Clock Source	Internal, external, RX recovered
Internal Stability	5 x 10 ⁻⁸
BUC DC Voltage	BUC 24 V @ 4 A maximum BUC 48 V (optional)
BUC Reference	10 MHz, 3 dBm ± 3 dB
BUC FSK	710/590 KHz nominal (optional)

Monitor and Control

Remote	RS-485/RS-232 selectable
Terminal	RS-232

Environmental & Physical

Prime Power	100 to 240 VAC, 50 to 60 Hz, 150 W maximum with 10 W BUC
Operating Temperature	0 to 50°C, 95% humidity, non-condensing
Storage Temperature	-20 to -70°C, 99% humidity, non-condensing
Dimensions (height x width x depth)	1.75" x 19" x 19.25" (4.45 x 48.26 x 48.89 cm)
Weight	8.5 lbs (3.83 kg)

Demodulator

Demodulation	QPSK, (8PSK, 16APSK optional)
L-Band Tuning Range	950 to 2150 MHz in 1 Hz steps
Impedance	75 Ohm
Connector	Type F female
Return Loss	7 dB minimum
Spectrum	ETSI EN 302 307 compliant
Input Level	-60 to -25 dBm
Composite Power	<-20 dBm total input power
FEC	LDPC concatenated BCH per ETSI EN 302 307
Normal Blocks	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9 and 9/10
Short Blocks	1/2, 3/5, 2/3, 3/4, 4/5, 5/6 and 8/9
Decoder Options	Per ETSI EN 302 307
Descrambler	Per ETSI EN 302 307
Acquisition Range	Programmable
LNB DC voltage	13, 15, 18, 20 selectable

Demodulation/FEC	Code Rate	Data Rate Range
QPSK LDPC+BCH	1/2	2.0 Mbps - 20.0 Mbps
QPSK LDPC+BCH	3/5	2.4 Mbps - 20.0 Mbps
QPSK LDPC+BCH	2/3	2.6 Mbps - 20.0 Mbps
QPSK LDPC+BCH	3/4	3.0 Mbps - 20.0 Mbps
QPSK LDPC+BCH	4/5	3.1 Mbps - 20.0 Mbps
QPSK LDPC+BCH	5/6	3.2 Mbps - 20.0 Mbps
QPSK LDPC+BCH	8/9	3.5 Mbps - 20.0 Mbps
QPSK LDPC+BCH	9/10	3.6 Mbps - 20.0 Mbps
8PSK LDPC+BCH	3/5	3.5 Mbps - 20.0 Mbps
8PSK LDPC+BCH	2/3	3.9 Mbps - 20.0 Mbps
8PSK LDPC+BCH	3/4	4.3 Mbps - 20.0 Mbps
8PSK LDPC+BCH	5/6	4.8 Mbps - 20.0 Mbps
8PSK LDPC+BCH	8/9	5.2 Mbps - 20.0 Mbps
8PSK LDPC+BCH	9/10	5.4 Mbps - 20.0 Mbps
16APSK LDPC+BCH	2/3	5.1 Mbps - 20.0 Mbps
16APSK LDPC+BCH	3/4	5.7 Mbps - 20.0 Mbps
16APSK LDPC+BCH	4/5	6.0 Mbps - 20.0 Mbps
16APSK LDPC+BCH	5/6	6.4 Mbps - 20.0 Mbps
16APSK LDPC+BCH	8/9	6.9 Mbps - 20.0 Mbps
16APSK LDPC+BCH	9/10	7.2 Mbps - 20.0 Mbps