

CDD-562L Dual Demodulator



INTRODUCTION

The CDD-562L is a 2-channel/Dual L-Band demodulator, intended for Closed Network applications. The CDD-562L receives two, independent L-Band channels and combines them into a single, network-ready, 10/100 Base-T Ethernet port. The two demodulators, integral router and IP Module are housed in a 1RU chassis. These products are designed to operate with Comtech EF Data's IP-enabled product line, including modems and performance enhancement proxies.

FEATURES FOR EACH DEMODULATOR

- 950 to 1950 MHz each demodulator
- 16 kbps to 9.98 Mbps data rate (optional: > 512 kbps)
- Fast acquisition demodulator
- QPSK modulation (8-PSK, 16-QAM optional)
- 2nd Generation Turbo Product Coding (TPC) forward error correction
- LNB support: 10 MHz reference and LNB power
- SNMP, HTTP (Web Server), and Telnet

STANDARD FEATURES

- Static IP routing for unicast and multicast
- Powerful network management via SNMP, Web or Telnet
- IGMP v1 and v2
- Point-to-Point or Point-to-Multi-Point configuration
- 10/100 Base-T Ethernet data interface (RJ-45)
- Reflash using FTP via Ethernet port
- FAST feature upgrades from factory or field
- Front Panel LEDs for Unit Status, Stored Event and the status of each of the two receive channels
- Interoperable with the CDM-570(L) with IP Module

QUALITY OF SERVICE (QoS)

The CDD-562L transparently passes through QoS prioritization established at the transmit end by the CDM-570/570L.

OPTIONAL FEATURES

- Header Decompression
- Payload Decompression
- 3xDES Decryption

HEADER DECOMPRESSION OPTION

Configurable on a per demodulator basis, header decompression reduces the required Voice over Internet Protocol (VoIP) bandwidth by as much as 60%.

Example: A G.729 voice codec, operating at 8 kbps, will occupy 32 kbps once encapsulated into IP framing on a LAN. Using IP/UDP/RTP header compression, the same traffic needs only 10.8 kbps total WAN satellite bandwidth to cross the link. Normal Web/HTTP traffic can be reduced an additional 10% via IP/TCP header compression.

PAYLOAD DECOMPRESSION OPTION

Compressing payload reduces both the data frame size and satellite bandwidth required to transmit across the link. Configurable on a per demodulator basis, payload compression optimizes traffic and reduces bandwidth up to 40%.

DATA DECRYPTION OPTION

The CDD-562L supports 3xDES data decryption to prevent unauthorized access to data over the satellite link, and is configurable on a per demodulator basis.

NETWORK TOPOLOGIES

The CDD-562L simplifies hub site installations by reducing rack space and costs with two independent demodulators in a chassis. A bank of CDD-562L demodulators is ideal for a star network consisting of a single outbound carrier at the hub with multiple carriers returned from the remote sites.

At remote sites, the CDD-562L supports mesh connectivity between multiple sites. Operating in mesh topology with links directly between sites eliminates double-hops through the hub, conserving bandwidth and reducing latency.

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Rear Panel

SYSTEM SPECIFICATIONS

Frequency Range	950 to 1950 MHz, 100 Hz frequency resolution
Inputs	2 separate Type N female
Input Impedance	50Ω, 17 dB minimum return loss
Traffic & Management Interface	10/100 Base-T Ethernet, RJ-45
Command Line Interface (CLI)	RS-232, RJ-11
Factory Test Connector	DB-9 male
Frequency Reference	± 0.06 ppm, 32 to 122°F (0 to 50°C) internal External – none
Symbol Rate Range	16 kspss to 3.0 Msps
Data Rate Range – Each demodulator independently in 1 bps increments	
Rate 3/4 QPSK TPC	16 kbps to 4.5 Mbps
Rate 7/8 QPSK TPC	16 kbps to 5.25 Mbps
Rate 0.95 QPSK TPC	16 kbps to 5.66 Mbps
Rate 3/4 8-PSK TPC	16 kbps to 6.75 Mbps
Rate 0.95 8-PSK TPC	16 kbps to 8.50 Mbps
Rate 3/4 16-QAM TPC	16 kbps to 9.00 Mbps
Rate 7/8 16-QAM TPC	16 kbps to 9.98Mbps

(See the CDD-562L manual for details)

Descrambling	Comtech or IESS-315
FEC Turbo Product	Rate 3/4, 0.95 QPSK, Rate 3/4, 0.95 8-PSK,
Decoding (Standard)	Rate 3/4 16-QAM, Rate 7/8 8-PSK, 16-QAM

DEMODULATOR

Input Power Range	-130 + 10 log(Symbol Rate) to -90 + 10 log(Symbol Rate)
Max Composite Level	+40 dBc, up to -10 dBm ± 1 to ± 32 kHz (1 kHz steps) < 625 kHz
Acquisition Range	± 1 to ± 200 kHz ≥ 625 kspss
Monitor Functions	E _b /N ₀ , Frequency Offset, BER, LNB current and voltage Rx receive signal level

LOW-NOISE BLOCK CONVERTER (LNB) SUPPORT

LNB Voltage	+13 volts, +18 volts and +24 volts DC or OFF at 500 mA max per Rx Input
10 MHz Reference	-3 dBm ± 3dB via Rx center conductor.
Power Level	Selectable ON or OFF per Rx Input

ENVIRONMENTAL AND PHYSICAL

Temperature	
Operating	32 to 122°F (0 to 50°C)
Storage	-13 to 185°F (-25 to 85°C)
Power Supply	100 to 240 volts AC, 50/60 Hz Optional 48 VDC Input (38 to 60)
Power Consumption	75 W typical (120 W max – powering 2 LNBs)
Physical Dimensions	1RU high, 16 inches deep (40.6 cm)
Weight	7 lbs (3.2 kg)
Agency Approvals	CE Mark FCC Part 15 Class B

NETWORK PROTOCOLS

RFC 768 – UDP	RFC 1812 – IPv4 Routers
RFC 791 – IP	RFC 2045 – MIME
RFC 792 – ICMP	RFC 2236 – IGMP v2
RFC 793 – TCP	RFC 2474 – Diff Serv
RFC 826 – ARP	RFC 2475 – ADS
RFC 856 – Telnet	RFC 2578 – SMI
RFC 862 – Ping	RFC 2616 – HTTP
RFC 894 – IP	RFC 2821 – SMTP
RFC 959 – FTP	RFC 3412 – SNMP
RFC 1112 – IP Multicast	RFC 3416 – SNMPv2
RFC 1213 – SNMP MIB II	RFC 3418 – SNMP MIB

AVAILABLE OPTIONS

How Enabled	Option
Standard	Variable Rate to 512 kbps
FAST	Variable Rate to 2.048 Mbps
FAST	Variable Rate to 5.0 Mbps
FAST	Variable Rate to 9.98 Mbps
FAST	8-PSK modulation
FAST	16-QAM modulation
FAST	Header Decompression
FAST	Payload Decompression
FAST	3xDES Data Decryption
Hardware	-48 VDC Prime Power Supply

