INTRODUCTION
The CDD-564L and CDD-564 receive four, independent L-Band or 70/140 MHz channels and combine them into a single, network-ready, 10/100 Base-T Ethernet port. The four 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
- CDD-564L, 950 to 1950 MHz each demodulator
- CDD-564, 50 to 90 or 100 to 180 MHz IF range
- 16 kbps to 5.0 Mbps data rate
- 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

STANDARD FEATURES
- Static IP routing for unicast and multicast
- Powerful network management via SNMP, Web or Telnet
- IGMP v1
- Point-to-Point or Point-to-Multi-Point configuration
- 10/100 Base-T Ethernet data interface (RJ-45)
- Fast 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 four receive channels
- Interoperable with the CDM-570L with IP Module, CDM-IP 550 and CDM-IP 300L

QUALITY OF SERVICE (QoS)
The CDD-564/564L transparently passes through QoS prioritization established at the transmit end by the CDM-570/570L.

OPTIONAL FEATURES
- Header Decompression
- Payload Decompression
- 3DES Decryption

HEAD 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-564/564L supports 3DES data decryption to prevent unauthorized access to data over the satellite link, and is configurable on a per demodulator basis.

NETWORK TOPOLOGIES
The CDD-564/564L simplifies hub site installations by reducing rack space and costs with four independent demodulators in a chassis. A bank of CDD-564/564L 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-564/564L 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.
CDD-564/564L Quad Demodulator

SYSTEM SPECIFICATIONS

Frequency Range
- CDD-564L: 950 to 1950 MHz
- CDD-564: 50 to 90 or 100 to 180 MHz, 100 Hz frequency resolution

Inputs
- CDD-564L: 4 separate Type N female
- CDD-564: 4 separate BNC Type

Input Impedance
- CDD-564L: 50Ω, 17 dB minimum return loss
- CDD-564: 50 or 75Ω user selectable, 17 dB minimum return loss

Traffic & Management Interface
- CDD-564: 10/100 Base-T Ethernet, RJ-45

Command Line Interface
- 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 ksps 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 5.0 Mbps
- Rate 3/4 8-PSK TPC: 16 kbps to 5.0 Mbps
- Rate 3/4 16-QAM TPC: 16 kbps to 5.0 Mbps
- Rate 7/8 16-QAM TPC: 16 kbps to 5.0 Mbps

(See the CDD-564/564L manual for details)

Descrambling
- Comtech or IESS-315

FEC Turbo Product & Decoding (Standard)
- Rate 3/4, 0.95 QPSK, Rate 3/4, 0.95 8-PSK, Rate 3/4, 16-QAM

DEMODULATOR

Input Power Range
- CDD-564L: -130 + 10 log(Symbol Rate) to -90 + 10 log(Symbol Rate)
- CDD-564: -30 to -60 dBm

Max Composite Level
- +40 dBc, up to -10 dBm for CDD-564L
- +35 dBc, up to -5 dBm for 70/140

Acquisition Range
- ±1 to ±32 kHz (1 kHz steps) ≤ 625 kbps
- ±1 to ±200 kHz ≥ 625 kbps (CDD-564L only)

Monitor Functions
- E_b/N_o, 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 48VDC Input (38 to 60)

Power Consumption
- 75 W typical (140 W max – powering 4 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 792 – ICMP
RFC 2578 – SMI
RFC 793 – TCP
RFC 2616 – HTTP
RFC 826 – ARP
RFC 2821 – SMTP
RFC 856 – Telnet
RFC 3412 – SNMP
RFC 862 – Ping
RFC 3416 – SNMPv2
RFC 894 – IP
RFC 3418 – SNMP MIB
RFC 959 – FTP
RFC 1112 – IP Multicast
RFC 1213 – SNMP MIB II

AVAILABLE OPTIONS

How Enabled
- Standard
- FAST

Option
- Variable Rate to 512 kbps
- Variable Rate to 2.048 Mbps
- Variable Rate to 5.0 Mbps
- 8-PSK modulation
- 16-QAM modulation
- Header Decompression
- Payload Decompression
- 3xDES Data Decryption

Hardware
- -48VDC Prime Power Supply