CDD-880 Multi-Receiver Router

Advanced VSAT Solutions

Overview

Comtech EF Data's Advanced VSAT Solutions portfolio provides high-performance satellite-based communication solutions for a diverse range of applications, including maritime and offshore communications, mobile backhaul with RAN optimization, IP trunking and backhaul, corporate and enterprise networks, emergency and disaster recovery. Incorporating advanced technologies developed by Comtech EF Data, AHA Products Group, Memotec and Stampede, the solutions provide unmatched performance, industry-leading bandwidth efficiencies and network optimization – while minimizing Total Cost of Ownership.

Designed for use at the hub site, the CDD-880 can receive transmissions from up to 12 CDM-840 Remote Routers. It combines a number of advanced technologies in a 1RU platform enabling the most efficient return channel for hub-spoke networks:

- High-performance packet processing
- Lossless Payload decompression
- Header decompression
- Dynamic SCPC with VMS
- VersaFEC® low-latency LDPC
- Ultra low overhead Streamline Encapsulation (SLE)

Typical Users

- Offshore & Maritime
- Mobile Operators
- Telecom Operators
- Enterprise
- Internet Service Providers (ISPs)

Common Applications

- Maritime & Offshore Communications
- Mobile Backhaul with RAN Optimization
- IP Trunking & Internet Access (ISP)

Features

- Up to 12 Demodulators in 1RU chassis
  - Data rate: 16 kbps to 15.35 Mbps
  - Symbol rate: 16 ksps to 4.5 Msps
  - VersaFEC low-latency LDPC Forward Error Correction - Adaptive Coding and Modulation (ACM) capable
  - Modulation: BPSK, QPSK, 8-QAM, 16-QAM
  - Rolloff: 20%, 25%, 35%
- High-Performance Integrated Packet Processing
  - Layer 2 (Bridged Point to Multipoint - BPM) or Layer 3 (Routed) operation
  - Jumbo frame support
  - VLAN support in BPM mode
  - Header decompression, including Layer 2 headers in BPM mode
  - Lossless payload decompression
  - Ultra low overhead Streamline Encapsulation
- Integrated with NetVue Integrated Management System and Vipersat Management System
- Operating Frequency: 950 to 2150 MHz
- Traffic Interface: 10/100/1000Base-T Ethernet
- Management Interface:10/100/1000Base-T Ethernet for web and SNMP
- Redundancy options
- LNB support

Specifications

Receivers/Demodulators per 1RU Chassis	2, 4, 6, 8, 10 or 12
Receive Data Rate (Each Demodulator)	16 kbps to 15.35 Mbps, in 1 bps step (CCM mode) (Modulation and FEC dependent)
Maximum Aggregate Receive Data Rate	50 Mbps
Symbol Rate (Each Demodulator)	16 ksps to 4.5 Msps (CCM mode)
FEC	VersaFEC Decoder (ACM and CCM modes)
Modulation & Code Rate	**Data Rate Range**
BPSK 0.488	16 kbps – 2.19 Mbps
QPSK 0.533	18 kbps – 4.8 Mbps
QPSK 0.631	21 kbps – 5.67 Mbps
QPSK 0.706	23 kbps – 6.34 Mbps
QPSK 0.803	26 kbps – 7.22 Mbps
8-QAM 0.642	31 kbps – 8.67 Mbps
8-QAM 0.711	35 kbps – 9.6 Mbps
8-QAM 0.780	38 kbps – 10.53 Mbps
16-QAM 0.731	47 kbps – 13.16 Mbps
16-QAM 0.780	50 kbps – 14.04 Mbps
16-QAM 0.829	54 kbps – 14.91 Mbps
16-QAM 0.853	55 kbps – 15.35 Mbps
Operating Frequency	950 to 2150 MHz L-Band, 100 Hz frequency resolution
Operating Bandwidth	All carriers must be within 70 MHz
Connector	Type N (female)
Impedance	50 Ω
Return Loss	18 dB, minimum (typical 20 dB)
Input Power Range, Desired Carrier	-130 + 10 log(symbol rate) to -80 + 10 log(symbol rate) dBm
Maximum Composite Operating Level	Lesser of +10 dBm or 105 - 10 log (symbol rate, desired carrier) dBc, uniformly spread across 950-2150 MHz less desired carrier occupied bandwidth. This spec allows the entire 950-2150 MHz. L-Band to be filled with an average uniform spectral density that is 14 dB greater than the desired carrier spectral density
Absolute Maximum, No Damage	+20 dBm
Rolloff	20%, 25%, 35%
Acquisition Range	Receive Symbol Rate (Rs) < 64 ksymbols/sec ± Rs/2 kHz (fixed), Rs in ksymbols/sec Receive Symbol Rate (Rs) >= 64 ksymbols/sec ± 32 kHz (fixed)
De-scrambling	Comtech, disabled
Spectral Inversion	Normal or inverted
LNB Reference (10 MHz)	Via center conductor of RX input, 10.0 MHz ± 0.06 ppm Selectable on/off, -3.0 dBm ± 3 dB
LNB Voltage (Older units require HW ECO)	Via center conductor of RX input, selectable on/off, 13 VDC, 18 VDC, 24 VDC
LNB Current	500 mA, maximum
LNB Current Alarm	Programmable MIN and MAX current alarms
Monitor Functions	Es/No estimate, Receive Signal Strength Indicator (RSSI), frequency offset

Packet Processor

Supported Protocols

RFC 768 – UDP	RFC 1812 – IPv4 Routers
RFC 791 – IP	RFC 2045 – MIME
RFC 792 – ICMP	RFC 2474 – Diffserv
RFC 793 – TCP	RFC 2475 – Diffserv
RFC 826 – ARP	RFC 2578 – SMI
RFC 856 – Telnet	RFC 2597 – AF PHB
RFC 862 – Ping	RFC 2598 – Expedite Forwarding
RFC 894 – IP	RFC 2616 – HTTP
RFC 959 – FTP	RFC 3412 – SNMP
RFC 1112 – IP Multicast	RFC 3416 – SNMPv2
RFC 1213 – SNMP MIB II	RFC 3418 – SNMP MIB
Statistics	Detailed packet and throughput stats

Connectors

L-Band Receive	1 x N-type (female)
10/100/1000Base-T Ethernet interface (IEEE 802.3ab)	2 x RJ-45
Console / Remote Control	9-pin D-sub (male)

Available Options

Option	Type
-48 VDC, Primary Power Supply	Hardware
Aggregate Receive Data Rate	FAST

Connectors

Dimensions (1RU) (height x width x depth)	1.75” x 19.0” x 17.7” (4.4 x 48 x 44.8 cm) approximate
Power Supply	100-240 VAC, 47 Hz-63 Hz IEC 320 input -48 VDC (HW option)
Operating Temperature	0 to 50°C
Storage temperature	–20 to 70°C
Humidity	95% maximum, non-condensing

Regulatory

CE Mark	EN 301 489-1 (ERM) EN55022 (Emissions) EN55024 (Immunity) EN 61000-3-2 EN 61000-3-3 EN60950 (Safety)
FCC	FCC Part 15, Subpart B

CDD-880 Back Panel

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