



CS67500

50 Mbps Digital Troposcatter Modem | Model CS67500

Comtech Systems' **CS67500** is the most advanced digital troposcatter modem in the industry. The modem's advanced features include throughput up to **50 Mbps**, Adaptive Link Power Control (ALPC), Forward Error Correction (FEC) with embedded Turbo Product Coding (TPC), and Automatic Code Rate (ACR) to maintain link quality. The front panel keypad and alphanumeric display make it easy to configure and view the status of the modem and link performance. In addition, local and remote monitor and control is available via SNMP or serial RS232 monitor and control ports.

The performance of the **CS67500** exceeds that of any modem currently on the market. This state-of-the-art modem builds on the industry-leading design of the Comtech CS-Series of digital troposcatter modems, which set the standard for better performance, easier maintenance, fewer spare parts, and more robust and reliable operation than any previous generation troposcatter modems. The **CS67500** adds additional modulation schemes to provide an extended range of data rates, providing both record-setting throughput and maximizing link availability during periods of difficult propagation. The standard **CS67500** configuration includes two complete modems in one chassis, providing a redundant configuration with automatic monitoring and switchover. The modem design provides the ability to overcome excessive multi-path and signal dispersion using adaptive equalization, advanced TPC coding, and diversity techniques.

The small size and robustness of the modem make it the perfect fit for a wide range of applications including fixed facilities, ocean platforms, and transportable terminals. When the modem is combined with other Comtech Systems troposcatter products, long range, wide bandwidth, and low latency communications links can be deployed almost anywhere.

Key Features

- Voice, data, and video ready
- User programmable data rates up to 46 Mbps with FEC or 50 Mbps without FEC
- Data Interface: 100 Base T Ethernet, or RS-530
- Fully redundant design (operating modem and standby modem in one chassis) with automatic switchover and fault monitoring
- Mitigates against multi-path dispersion
- Microprocessor-controlled, on-line, built-in test capability for card level fault isolation
- Front panel display shows the received signal level, bit error rate, modem setup, and alarms
- SNMP or PC Graphical User Interface for remote monitoring and control
- Integral Adaptive Link Power Control
- User selectable enhanced Turbo Product Coding for improved performance
- Automatic Code Rate to maintain link quality

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Technical Specifications

Aggregate Interface	
Data channel (maximum user data rates)	46 Mbps with FEC, 50 Mbps without FEC
Programmable data channel interface	100 Base T Ethernet, RS-530
Service channels	2 each, up to 80 kbps total
Service channels interface	RS-530
Integrated BER tester	64 kbps (when enabled)

Monitor and Control	
Monitor and control port	RS-232
Network Management Interface	Ethernet (SNMP). Optional Graphical User Interface (GUI)
Front Panel	Operator control and status capability
Redundancy control	Automatic and manual modes

IF Interface	
IF interface	70 MHz, 50 ohm
Transmit power out (TX1 and TX2)	0 dBm \pm 1 dB (without power control)
Modulation	BPSK, QPSK, 8PSK
Receive IF bandwidth	7 MHz (data rates up to 8 Mbps) 25 MHz (data rates up to 50 Mbps)
Receive dynamic range	+10 dBm to -60 dBm

Forward Error Correction	
Turbo Product Code	User selectable code rates: 0.95, 7/8, 3/4, 5/8, 1/2

Adaptive Link Power Control (ALPC)	
Attenuation range	0 dB to 40 dB in 1 dB steps
Control modes	Automatic based on received signal level. Automatic data rate and FEC adjustment based on user defined Grade of Service

Troposcatter Performance	
Multipath adaptive channel equalization	Dispersion up to $2\sigma/T=3.0$
Maintains bit count integrity in severe fades	Maintains time tracking up to 10 seconds
Diversity combining	Dual and quad diversity, digitally adapted maximal-ratio combining (MRC)

General	
Major alarm indication	LED and alpha numeric front panel display, form 'C' contacts
Station clock	10 MHz external
Power	48 VDC, 200 W max

Size

Height	5.25 in. (13.3 cm) (3 RU)
Width	19 in. (48.2 cm) rack mount
Depth	17 in. (43.2 cm)
Weight	25 lb (11.4 kg)

Environmental

Operating temperature	-4 °F to 131 °F (-20 °C to 55 °C)
Storage temperature	-40 °F to 158 °F (-40 °C to 70 °C)
Humidity operating	Up to 95% non-condensing
Humidity storage	Up to 95% non-condensing
Altitude Operating	10,000 ft (3,000 m)
Altitude Survival	40,000 ft (12,000 m)



CS67500 in a transit case configuration