

MODEL S-575 DIGITAL

Troposcatter Modem

STANDARD MODEL SPECIFICATIONS

Description

Designed for use with Troposcatter Radio Terminals and either new or retrofit applications, the Model S-575 is an attractive upgrade for existing analog links.

The S-575 is a high performance, compact adaptive digital troposcatter modem. This high performance modem is designed for use in both tactical and strategic data transmission systems. The S-575 is designed to work with many types of troposcatter terminals and to perform over worst-case multipath and fading conditions with high bandwidth efficiency. The modem gains extra orders of diversity through the use of Decision Feedback Equalization. This is a field-proven patented invention that removes the effects of intersymbol interference.

Standard Features

- 8 Mb/s data rate
- Internal redundancy with automatic switchover in case of fault
- Built-in multiplexer, 4 independent parallel mission bit streams
- 99% RF bandwidth efficiency of 1.4 bit/Hz at maximum data rate
- Handles multipath dispersion, $2\text{-}\sigma/T$, up to 3.0
- Coherent QPSK or BPSK modulation
- Microprocessor-controlled on-line BITE for card level fault isolation
- Intelligent front panel provides configuration control and displays Received Signal Level (RSL), Bit Error Rate (BER) and fault status
- PC interface for remote control and monitoring of RSL, multipath profile, BER, fault, status, etc.
- Low probability of losing Bit Count Integrity, even in severe fades, makes it ideal for use with most encryption devices
- Resync inhibit signal prevents external equipment from attempting resync during a fade
- Alarm conditions in modem signaled via contact closures and TTL signal, as well as on front panel and through the remote interface
- Automatic frequency correction allows operation with a frequency error of 1000 Hz



The S-575 is a high performance, compact, adaptive digital troposcatter modem. The modem is a superior upgrade for existing analog links.

For additional information, contact our marketing department:

Comtech Systems, Inc.

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MODEL S-575 DIGITAL Troposcatter Modem

The modem has set the world standard for high data rate and long dispersive path troposcatter communications. The excellent field record achieved by this modem world-wide in commercial and military systems is unsurpassed in the industry.

Comtech Systems, Inc.,
is certified to the quality standard:
ISO 9001: 1994



Specifications (Standard Model)

Aggregate Data Rate	Up to 8804 kb/s
IF Bandwidth	7.0 MHz at highest data rate
IF Interface	70 MHz, 50 ohms
Mission Bit Stream Ports	4, G.703, balanced
Mission Bit Stream Rates	512, 1024, 2048 kb/s
Service Channels	Analog: Voice Digital: 32 kb/s RS-422
Reliability	Mission MTBF: 100,000 hours
Operational Environment	Temperature: +14 °F to +125 °F (-10 °C to +52 °C) Altitude: 0 - 10,000 ft (0 - 3 km) Humidity: 0 - 95% at 86 °F (30 °C)
Prime Power	±5 V and ±15 VDC Dual: 400 watts Quad: 500 watts
Size	(12.25" x 19" x 22.5"), Dual or Quad Diversity
Weight	Quad: 75 lbs (34 kg)

Performance

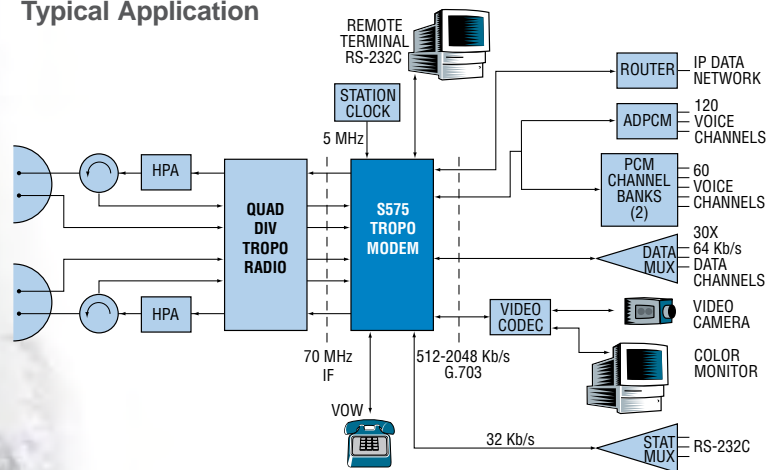
TYPICAL

Eb/No per Diversity Channel (Quad Diversity, uncoded, dB)

Delay Spread, 2-Sigma/T

Average BER	0	0.2	0.6	1.0	1.5	2.4	3.0
10-2	2	2	2	2	2	2	4
10-3	6	5	5	5	5	6	7
10-4	9	7	7	7	8	8	10
10-5	12	9	8	8	9	10	12

Typical Application



Specifications subject to change without notice.

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