

Sunrise Series

DDS/MR64 • DSU/CSU With Clear Channel 64



The **Raymar-Telenetics** versatile DSU/CSU supports async rates up to 57.6 kbps

Advanced DSU/CSU delivers reliable digital performance with the added benefit of high-speed async transmission

KEY FEATURES

- High speed asynchronous capability operating at 38,400 and 57,600 bps on 56K lines allows direct connection of high speed asynchronous DTEs to DDS lines.
- Switchable EIA-232 and CCITT V.35 interface allows a single model to provide both interfaces.
- Provides highly reliable digital performance on both conventional DDS networks or as a limited distance modem, so that one model can be used for either interstate or interoffice communications.
- Operates at all DDS line rates from 2,400 bps to 64,000 bps including 19,200 bps to accommodate a wide range of DTE devices.
- Automatic line equalization compensates for distortion and attenuation caused by line length without user adjustment.
- Convenient front panel LCD control allows viewing current configuration and status without causing an interruption of data.
- Saves operating configuration to nonvolatile memory, eliminating having to setup every time the unit is turned on.

Designed for use on the Digital Data Service (DDS) network, the **Raymar-Telenetics** DDS/MR64 combines the functions of a DSU and CSU into a single unit. It operates in either point-to-point or multipoint applications, transmitting synchronous data at rates from 2,400 bps to 64,000 bps clear channel, and asynchronous data from 2400 bps to 57,600 bps. The DDS/MR64 complies with Bell publications 62310 and 41450 and is directly compatible with Bell 500 series DSU and CSU equipment.

In addition to DDS network operation, the DDS/MR64 can operate as a limited distance modem, providing serial, full-duplex transmission at the rates listed over private 4-wire unloaded twisted-pair cable systems. The maximum distance is a function of data rate and wire size. See reference chart.

CONFIGURATION & TESTING

The DDS/MR64 can be configured and diagnostic testing performed through the front panel pushbuttons and 32-character LCD. The LCD and LEDs also display data rate, test information, and network status information non-intrusively. Once the DDS/MR64 has been configured via the front panel and the settings saved in non-volatile memory, the front panel can be disabled with a hardware strap inside the unit for security purposes.

The DDS/MR64 DTE interface can be switch-configured to be either EIA-232 or V.35.

The DDS/MR64 also provides external-clocked transmit data buffering to simplify tail-circuit applications.

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PRODUCT SPECIFICATIONS

DATA RATES (DDS NETWORK)

2400, 4800, 9600, 19200, 56000, or 64000 bps synchronous (up to clear channel 64); 2400, 4800, 9600, 19200, 38400, or 57600 bps asynchronous

DATA RATES (4-WIRE, PRIVATE NETWORKS)

2400, 4800, 9600, 19200, 56000, or 64000 bps synchronous
2400, 4800, 9600, 19200, 38400, or 57600 bps asynchronous

OPERATING MODE

DDS full-duplex, multipoint; DDS full-duplex point-to-point; 4-wire full-duplex; 4-wire half-duplex or simplex

DATA FORMAT

Serial binary, synchronous, asynchronous

DATA ENCODING

Bipolar, return-to-zero, per Bell System Publication 62310

TIMING

DDS; external; internal

TRANSMISSION FACILITY

Unloaded metallic circuits, DDSI/DDSII, 19 to 26 guage

OPERATING RANGE

On unloaded metallic circuits

DATA RATE (KBPS)	WIRE GAUGE	DISTANCE (K FEET)	(dB)
64	19	57	43
64	26	16	43
56	19	61	43
56	26	18	43
19.2	19	77	43
19.2	26	27	43
9.6	19	90	40
9.6	26	33	40
4.8	19	116	40
4.8	26	43	40
2.4	19	150	40
2.4	26	57	40

SYSTEM IMPEDANCE

Line receiver input impedance: 135 ohms ± 10%
Transmit pair output impedance: 135 ohms ± 10%

OUTPUT SIGNAL

- 0.7854 ± 0.05 volts across 135 ohms at 9.6 kbps
- 1.4 ± 0.1 volts across 135 ohms at all other rates

DIGITAL INTERFACE

EIA-232D; CCITT V.35

POWER REQUIREMENTS

110 VAC, 47 - 63 Hz

POWER CONSUMPTION

5 watts nominal

ENVIRONMENTAL

0° - 50° C; 95% humidity, noncondensing

TEST FEATURES

The DDS/MR64 has a number of diagnostic tests available for troubleshooting problems accessible from panel.

- Remote loopback with test pattern
- Local loopback with test pattern
- End to end test pattern
- Remote terminal loopback
- Local loopback
- Remote loopback

The DDS/MR64 also responds to telephone company generated DDS diagnostic tests. An internally generated 511 test pattern can be used in combination with other test features to perform self-test functions.

INDICATORS

Six LEDs provide status information:

- TM** Test Mode
- OS** Out of Service
- TD** Transmit Data
- RD** Receive Data
- CS** Clear to Send
- NS** No Signal

RTS/CTS DELAY

Data Rate (kbps)	Typical Delay (ms)
64	0.6
56	0.6
19.2	1.2
9.6	2.2
4.8	4.2
2.4	8.2



Manufactured in the USA by RAYMAR-TELENETICS

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WARRANTY

Raymar-Telenetics manufactured products are warranted against defects in hardware material and workmanship under normal use for one (1) year from date of original retail purchase. Defective product will be repaired or replaced, determination to be made by Raymar-Telenetics, at no charge. Repaired or replaced products are warranted for 90 days or for original warranty period, whichever is longer. Warranty extends to original end-user only.