

Enhanced DDS DSU with Multiplexing, Multi-Channel, Multi-Point and Dial-Back Restoration Options

- ✓ *Point-to-point or multipoint operation*
- ✓ *Auto rate detection and rate adaptation*
- ✓ *Cross pair detection and extended range support*
- ✓ *Optional support for multiplexing six data ports over a single DDS circuit*
- ✓ *Optional support for dial restoral over PSTN, ISDN, or 2/4-wire switched 56 kbps data networks*
- ✓ *Automatic TDM reconfiguration to a reduced data rate upon entry into dial restoral mode*
- ✓ *Non-interference testing of restoral network and automatic return to digital leased line after resuming normal service*

Zhone's COMSPHERE 3610 Series Data Service Units (DSUs) are highly reliable, state-of-the-art Dataphone Digital Service (DDS) terminating devices, ideal for today's network-managed digital environments. The COMSPHERE 3610 Series of DSUs support data communication between computers and other data processing devices through connections to DDS (or equivalent) digital transmission facilities.

Available in either standalone or 3000 Series Carrier Card versions, these DSUs offer the following STANDARD features:

- Multi-speed operation: Operates on the DDS (or equivalent) network, at data rates of 2.4, 4.8, 9.6, 19.2, 38.4, 56, and 64 kbps full-duplex. The DSU is also compatible with the ACCUNET Spectrum of Digital Services network (ASDS), and supports 64 kbps Clear Channel operation on a 72 kbps local loop.
- Automatic rate detection and adaptation: The DSU supports automatic detection of DDS rates and will apply rate adaptation to align with DTE rates.
- Crossed-pair detection: Generates a facility alarm when the DDS receive and transmit pairs are crossed.
- Async/Sync conversion: Provides point-to-point and point-to-multipoint async-to-sync data conversion for DTE ports, allowing the DSU to send asynchronous data over a synchronous network.
- User-selectable interfaces: Two user-selectable (either EIA/TIA-232 or V.35) data terminal equipment (DTE) interfaces for data rates up to 64 kbps.
- LADS operation: Can operate as a local area data set (LADS) at data rates of 2.4 to 64 kbps full-duplex.

OPTIONAL FEATURES:

The 3610 Series DSUs can be further enhanced with the addition of the following hardware options:

- **TDM/DSD:** Time Division Multiplexing with Digital Sharing Device (TDM/DSD) is an additional circuit card that provides TDM and digital sharing for up to six ports. It can serve as a digital bridge for multipoint dial backup and multipoint local area data set (LADS) operation.
- **TDM/MCMP:** Time Division Multiplexing with Multi-Channel Multi-Point (TDM/MCMP) is an additional circuit card that provides multipoint TDM/DSD capability and also allows up to six independent application programs to share one 56 kbps multipoint circuit. Channel speeds can range from 1.2 to 48 kbps.
- **DBM:** Dial Backup Modules (DBM) offers service continuity when the primary DDS network fails with the addition of V.32bis 14.4 modem, 2- or 4-wire switched 56 kbps, or ISDN Dial Back Modules (DBMs).

NETWORK MANAGEMENT FEATURES:

The 3610 Series DSUs provide a comprehensive network management solution that is flexible, affordable and combine to maximize network availability, reduce equipment costs, and provide fully integrated network management control via SNMP and advanced diagnostics that provide comprehensive network monitoring, testing and control over point-to-point and multipoint circuits. The management features include:

- **Front panel control:** Provides control from a front panel with a 2-line, 16-character liquid crystal display (LCD), light-emitting diode (LED) status indicators, and software-defined function keys.
- **Non-disruptive diagnostics:** Transmits all communications without interruption to user-transmitted data.
- **Flexible device control:** The 3600 Series DSUs are compatible with Dataphone II System Controller, Diagnostic Console, or Network Controller.
- **Optional SNA Diagnostic Interface** that provides enhanced NetView LPDA-2 interoperability and management from IBM's NetView host-based NMS.

Technical Specifications

Dimensions

- STANDALONE UNIT (HWD):
 - 2.1 in. x 7.6 in. x 12.1 in.
 - 5.4 cm x 19.4 cm x 30.8 cm
- CARRIER CARD (HWD):
 - 7.1 in. x 0.9 in. x 13.4 in.
 - 18.1 cm x 2.3 cm x 34.0 cm
- 3000 SERIES CARRIER (HWD):
 - 10.5 in. x 19.0 in. x 14.0 in.
 - 26.7 cm x 48.3 cm x 35.6 cm

Weight

- STANDALONE UNIT:
 - 4.1 lb. (1.86 Kg)
- CARRIER CARD:
 - 1.5 lb (0.68 Kg)
- 3000 SERIES CARRIER (16 DSUs + SDU +fan):
 - 70 lbs. (31.8 Kg)

Power

- STANDALONE UNIT:
 - 90-132 VAC, 60 Hz +/-3Hz, 0.15 amp
 - 13.4 watts max at 115 VAC
 - 279.0 BTU/hr max
- CARRIER CARD (supplied by carrier system):
 - 80 watts max
 - 35.1 BTU/hr max
- 3000 SERIES CARRIER (16-DSUs w/DBMs + SDU + fan module):
 - 90-132 VAC, 57-63 Hz, 1.65 amp
 - 165 watts at 115 VAC
 - 563 BTU/hr max

Interfaces

- DIGITAL NETWORK INTERFACE:
 - Standalone: 8-pin modular jack, USOC RJ48S
 - Carrier Card: 2x50-pin connectors, USOC RJ48T
- DTE INTERFACE:
 - 25-pin sub (female) EIA-232D/CCITT V.24 (ISO 2110)
 - 34-pin connector (female) CCITT V.35 (ISO 2593)

Standards Support

- ANSI T1.410
- AT&T TR 62310-1987
- CB-INC-101
- PUB L-780035-PB/NB
- PUB L-780036-PB/NB
- Data Backup Modules:
 - CCITT V.22bis, V.32bis, ITU-T V.34
 - Nortel NIS S204-2 (1996)
 - AT&T TR 41458, 61330

Protocol Support

- TIMING: DDS, Internal, External or Receiver
- DATA FORMAT: Serial, synchronous, half/full-duplex
- DATA ENCODING: Bipolar return to zero
- PRIMARY CHANNEL RATES:
 - 2.4, 4.8, 9.6, 19.2, 38.4, 56, 64kbps
- DTE ASYNC/SYNC RATES:
 - 1.2, 2.0, 2.4, 4.4, 4.8, 7.2, 9.2, 9.6, 12, 14.4, 16.8, 18, 18.8, 19.2, 32, 38.4, 48, 56, 64kbps
- OTHER DTE ASYNC RATES:
 - 150, 300, 600, 1800 bps

Bandwidth/Distance

- TRANSMIT LEVELS:
 - 19,200 bps: -10, 0 dBm or +6 dBm
 - 9,600 bps: 0 dBm
 - All other speeds: +6 dBm
- RECEIVER SENSITIVITY LEVELS:
 - 56 kbps: -42 dBm
- TRANSMIT and RECEIVE IMPEDANCES:
 - 135 ohms nominal

Regulatory Compliance

- FCC Part 15 - Class A digital device
- FCC Part 68 - AW292J-61661-DD-N
- Listed UL 1950
- CSA Emissions - Class A digital apparatus
- CSA Safety C22.2, No. 220-M1986 & 950-M89
- Bell Canada DCTE Specifications (July 1989, Issue 1)

Operating Requirements

- Operating temperature: 32° F (0° C) to 122° F (50° C)
- Storage temperature: -4° F (-20° C) to 158° F (70° C)
- Relative humidity: 5% to 95% non-condensing

Ordering Information

3610-A4-001	Multi-Rate DDS DSU (Standalone Unit)
3610-A4-026	Multi-Rate DDS DSU with integral ISDN Backup Module (Standalone Unit)
3610-A4-028	Multi-Rate DDS DSU with integral 28.8 Dial Backup Module (Standalone Unit)
3611-B4-001	Multi-Rate DDS DSU (Rack mount card for 16-slot Comsphere chassis 3000-B1-201)

Ordering Information

3000-B1-201	Cosphere 3000 Carrier with 115 VAC
3000-F1-001	Cosphere 3000 Carrier Shared Diagnostic Control Panel (with ribbon cable)
3000-F1-002	Cosphere 3000 Carrier Shared Diagnostic Unit (SDU)
3000-F1-003	Network Interface Module for 3000 Carrier & 3611 Card DSU - Permissive for ISDN BRI, 14.4 Kbps and 2-wire SW56 Kbps
3000-F1-004	Network Interface Module for 3000 Carrier & 3611 Card DSU - Programmable for 14.4 Kbps
3000-F1-007	Cosphere 3000 Carrier Fan Module (115 VAC)
3000-F1-008	Cosphere 3000 Carrier Filler Panel
3000-F1-014	50-pin mass termination cable (1 per NIM); Permissive RJ21 X 30-ft
3000-F1-021	Cosphere 3000 Carrier Rear Connector Plate

**Zhone Technologies, Inc.**

7195 Oakport Street

Oakland, CA 94621

1 510.777.7000

www.zhone.com

For more information about Zhone and its products, please visit the Zhone Web site at www.zhone.com or e-mail info@zhone.com

Zhone, the Zhone logo, and all Zhone product names are trademarks of Zhone Technologies, Inc. Other brand and product names are trademarks of their respective holders. Specifications, products, and/or product names are all subject to change without notice. Copyright 2011 Zhone Technologies, Inc. All rights reserved.