SNMP-Managed DDS
CSU/DSU Data Set Emulator

**Highlights**

- Operates in Standard DDS mode, DDS with secondary channel mode, and clear channel (64 Kbps) mode.
- Communicates with an SNMP controller via a Spectra-Comm Manager (SCM) card co-located in the shelf.
- Supports comprehensive, non intrusive network management under Simple Network Management Protocol (SNMP), for configuration, alarm reporting, and diagnostic testing capabilities.
- Supports terminal interface via the SCM by an ASCII terminal or by Telnet access.
- Built-in DTE interface that conforms to EIA/TIA-232-E, ITU-T V.35; Optional EIA-530 interface plug-in.
- Senses and adapts automatically to the connection of either EIA/TIA-232-E or V.35 equipment at its DTE interface.
- Compatible with remote NMS 520, NMS 510, SC521A or SC521A/S DSUs, or any existing 500a-type DSU for user data transmit and receive.
- Stores two versions of operating firmware, with user control of switchover between active and standby firmware versions.
- Supports firmware download via TFTP for upgrades.

**Overview**

The SC5520 DSE provides the channel interface functionality of a multi-rate data service unit (DSU) and can operate in standard DDS, DDS with a secondary channel (DDS/SC), or 64 Kbps clear channel mode. The DSE works in conjunction with the SC5001 LTU which performs the line grooming necessary for the switching office to separate the signal back into its component parts for transmission to multiple locations (Figure 1). The SC5520 can also function as a point-to-point DSE.

The SC5001 LTU provides the T1 line interface, and supports up to 24 DSEs co-located in a dual SpectraComm shelf. The DSEs and LTU exchange channel data via one of four data highways in the shelf backplane.

The SC5520 supports an optional EIA530 interface plug-in. When the EIA530 plug-in is not installed, the DSE provides EIA/TIA-232-E and V.35 interfaces by soft-strap selection or automatic sensing.

The SC5520 also accepts a DRA plug-in that adapts a synchronous or asynchronous DTE data transmission speed of 19.2, 9.6, 4.8, or 2.4 Kbps to an aggregate line speed of 56 or 64 Kbps. At 56 Kbps it can be used in both point-to-point and multipoint applications. At 64 Kbps it can be used in point-to-point applications only.

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*Figure 1: SC 5520 APPLICATION*
SC5520 Physical Specifications

Single-slot Blade
- Width: 178 mm (7.0 in)
- Height: 21 mm (0.81 in)
- Depth: 241 mm (9.5 in)
- Weight: 0.28 kg (10 oz)

Environmental Specifications

Non-Operating
- Temperature: -40 to 85 degrees C (-40 to 185 degrees F)
- Relative Humidity: 5% to 95%
- Altitude: 0 to 12,191 m (40,000 ft)

Operating
- Temperature: 0 to 50 degrees C (32 to 122 degrees F)
- (Derate by 1 deg C/1000 ft above sea level)
- Relative Humidity: 5% - 95% non-condensing
- Altitude: 0 to 3,047 m (0 to 10,000 ft)

Electrical Characteristics

- Power (AC or DC), voltage, frequency, and fusing determined by your SpectraComm shelf or enclosure
- Power Dissipation: 4 Watts maximum (card only)

Compliance

- Safety: UL Approved
- NEBS Level III Certified
- EMI:FCC Part 15 Approved

Operational Specifications

Modes of Operation
- Standard DDS or DDS with secondary channel
- (2.4 to 56 Kbps, Point-to-Point or Multi-Point)
- 64 Kbps clear channel (Point-to-point)

Signal Format
- Serial, synchronous, or asynchronous

Asynchronous Character Format
- 8-11 bits/character

Overspeed
- 1 or 2.3%

Data Rates
- Synchronous:
  - 2400, 4800, 9600, 19200, 56000, or 64000 bps
- Asynchronous:
  - 2400, 4800, 9600, or 19,200 bps
- Asynchronous via Rate Adaption option:
  - 600, 1200, 1800, 2400, 4800, 9600, or 19,200 bps

DTE Interface
- EIA/TIA-232-E, ITU-T V.35, or optional EIA-530

Transmit Timing
- Shelf (Receive)
- Internal (DSE) ±0.01%
- External (DTE)
- Can accept external clock up to ±0.02%

Diagnostic Tests
- Local Test
- Remote Loop
- Data Loop
- Self-Test

Alarm Reporting
- EEPROM Checksum Error
- Receive Data Loss
- Front Panel Test
- External Clock Loss
- Test Mode Shorted
- Data Set Ready Loss
- Data Terminal Power Loss
- Data Set Ready Shorted
- Data Terminal Ready Loss
- Data Carrier Detect Loss
- Transmit Data Loss
- Data Carrier Detect Shorted
- STC Loopback
- Clear To Send Shorted
- Receive Data Shorted
- Receive Clock Shorted
- Transmit Clock Shorted