Full-featured DSE with Dual Channel Data/Fax Modem Capability

Highlights

- Two high performance V.34 modems per card
- Supports both analog (up to 33.6 kbps) and Digital (64kbps) calls
- Effective throughput of 128 kbps
- Supports GDC Steadfast Password and Online Security, with dial back and roving dial back options
- Auto-detection of analog and digital calls
- Supports caller ID (with SpectraComm PRI card)
- Supports MNP 10 mode operation
- Supports AT commands for configuring network operating characteristics
- Supports SNMP-based management when installed with SpectraComm Manager (SCM) card
- High or low density rackmount packaging for easy installation in a variety of GDC shelves and enclosures

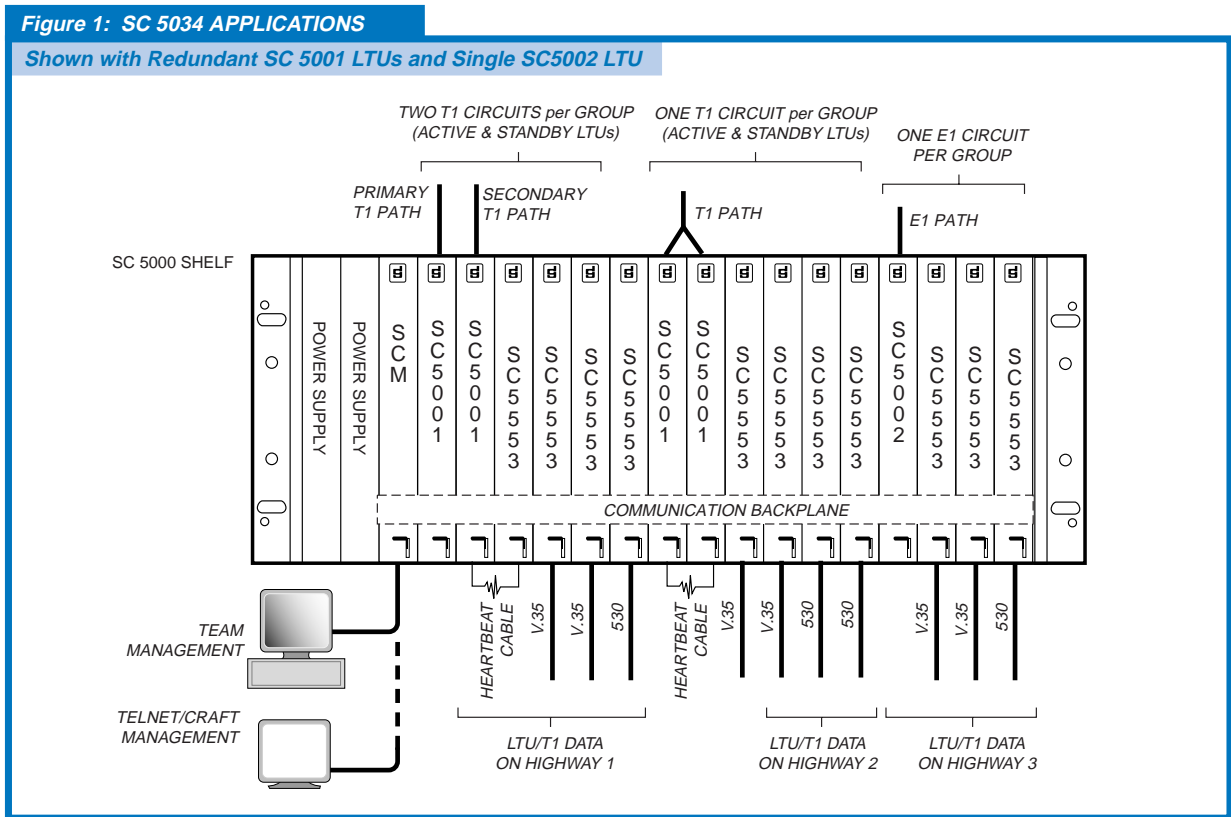## Scalable and Flexible Connectivity

The SpectraComm 5034 DSE is a 7-inch by 9.5-inch (178 mm by 241 mm) printed circuit card that conforms to GDC's SpectraComm format. The SC 5034 requires an LTU (SC5001 or SC 5002) in the same shelf.

Overview

The GDC SpectraComm 5034 Data Set Emulator (SC 5034 DSE) provides the functionality of two full-duplex, multi-speed V.34 modems. Each modem channel provides up to 33.6 Kbps operation and can be configured to a 2-wire switched line, a 2-wire private line, or a 4-wire private line.

- Each modem channel can support asynchronous or synchronous DTE data rates up to 128 Kbps.
- Operation can be either synchronous or character asynchronous at all speeds down to 1200 bps.
- Operation is asynchronous at 0 to 300 bps.
- Synchronous rates above 28.8 Kbps require use of the synchronous data compression feature incorporated in the modem channel.

As a data set emulator, the SC 5034 DSE provides all the DTE interface functions of two V.34 modems. Instead of connecting to telephone lines on its network side, the network interface is provided by a co-located Line Terminating Unit (SC5001 T1 LTU or SC5002 E1 LTU). The SC 5034 devices and the LTU are linked by the backplane of the high density shelf in which they are installed. *Figure 1* shows SC 5034 DSE and LTUs in typical configurations.

Figure 1: SC 5034 APPLICATIONS
Shown with Redundant SC 5001 LTUs and Single SC5002 LTU

Features & Benefits

- Compatible with GDC's SpectraComm low- and high-density shelf and enclosure systems.

- Direct digital interface to 64 Kbps DS0 channels.

- Two modem channels per card.

- Integral synchronous/asynchronous operation: Synchronous DTE rates to 28.8 Kbps; Asynchronous DTE rates to 128 Kbps.

- 2-wire, full-duplex, switched network operation; 2- or 4-wire private line operation

- Automatic VF line rate determination in V.34 and V.32 bis modes, with fallforward/fallback.

- V.42/MNP error control.

- V.42 bis/MNP-5 asynchronous data compression.

- Synchronous data compression (supports rates up to 128 Kbps).

- EIA/TIA-602 AT Command Set support.

- V.25 bis compatible command protocol support.

- Optional TEAM 5034 management application when the DSE is installed with the SpectraComm Manager card (SCM) card, a Simple Network Management Protocol (SNMP) agent

- Telnet access to remote modem Remote Configuration to change user configuration profile at the remote modem.

- Front panel status LEDs, and pushbuttons for testing

- Flash memory for downloading modem firmware.

- Permanent storage of modem configuration profiles in non-volatile memory.

- External, Internal, or Receiver Recovered transmit timing.

- Maximum line rate selection.

- Asynchronous character lengths of 8, 9, 10, and 11 bits.

- Password security.

- Security Callback to prevent unauthorized access to a remote modem.

- Intelligent Serial Terminal Dialer via the DTE interface, using the AT command set.

- Stores up to ten telephone numbers for easy dialing.

- Dialed pulse or DTMF tone dialing.

- Automatic answer.

- Analog Loopback with and without Self-Test features.

- Digital Loopback and Remote Digital Loopback.

- End-to-End Self-Test (511 or in FSK ALT pattern).

- Front panel lockout.

- Supports FAX Class 1 operation using V.27 or V.29 modulation.

- In systems with the optional SpectraComm PRI card and the SC 5001 T1 LTU, the SC 5034 can use Telco ISDN service offerings for remote LAN networking.

SC 5034 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: 6 Watts per slot maximum

Compliance & Compatibility

Safety: UL Approved

NEBS Level III Certified

EMI: FCC Part 15, Subpart J (Class A) Approved

Quality Assurance: ISO 9001:2000 Certified

Security and Authentication Features

Built-in SteadFast Handshake Security

Built-in Online Password Security with dial back and roving dial back options

Note:
Several combinations of security features can be configured simultanously in the DSE

Operational Specifications

Operation Modes

Switched network mode (two-wire full duplex)

Private line mode (two-wire or four-wire)

Data Rates

Synch/async (ITU-T V.34):
33.6 kbps, 31.2 kbps, 28.8 kbps, 26.4 kbps, 24.0 kbps, 21.6 kbps, 19.2 kbps, 16.8 kbps

Synch/async (ITU-T V.34 or V.32 *bis*):
14.4 kbps, 12.0 kbps, 7200 bps, 2400 bps

Synch/async (ITU-T V.34 or V.32):
9600 bps, 4800 bps

Synch/async (ITU-T V.22 or Bell 212A):
1200 bps

Async only (ITU-T V.21): 300 bps

Async only (Bell 103): 300 bps

Operation

Data Format:
Bit asynchronous, selectable 8, 9, 10, or 11 bits per character

Transmit Clock:
Internal, External, or Receive Wrap

Modulation:
2400 bps to 33.6 kbps: As specified by ITU-T V.34

14.4 bps: 128-level TCM/2400 Baud ±0.01%

12.0 kbps: 64-level TCM/2400 Baud ±0.01%

9600 bps: 16-level QAM/2400 Baud ±0.01%

9600 bps: 32-level TCM/2400 Baud ±0.01%

7200 bps: 16-level TCM/2400 Baud ±0.01%

4800 bps: 4-level QAM/2400 Baud ±0.01%

2400 bps: 16-level QAM/600 Baud ±0.01%

1200 bps: 4-level PSK/600 Baud ±0.01%

0-300 bps: FSK 0-300 Baud ±0.01%

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