General DataComm
The Best Connections in the Business

SpectraComm 5002

Efficient and Reliable Interface to E1/FE1 Services

Introduction

The SpectraComm 5002 LTU is a highly efficient means of transmitting and receiving digital data over an E1 line supplied by a telephone company or other service provider. The LTU serves as the interface between the E1 line and up to 15 SpectraComm 5034 data set emulator cards (DSEs) co-located with the LTU in a SpectraComm shelf. Each SC 5034 DSE provides a two-channel business equipment interface for data transmitted and received by the LTU.

Features

- Provides the interface to E1 or Fractional E1 services.
- Connects with up to 30 DSE cards in via the shelf backplane in a dual shelf configuration.
- Network and local management via a co-located SCM.
- Supports Time Slot 16 CAS signalling for operation in an MFC R2 network.
- Configurable transmit timing from Network (Loop) timing, Shelf timing, or Internal (Local) clock sources.
- Supports HDB3 signalling.
- Selectable input impedance of 75 or 120 Ohms.

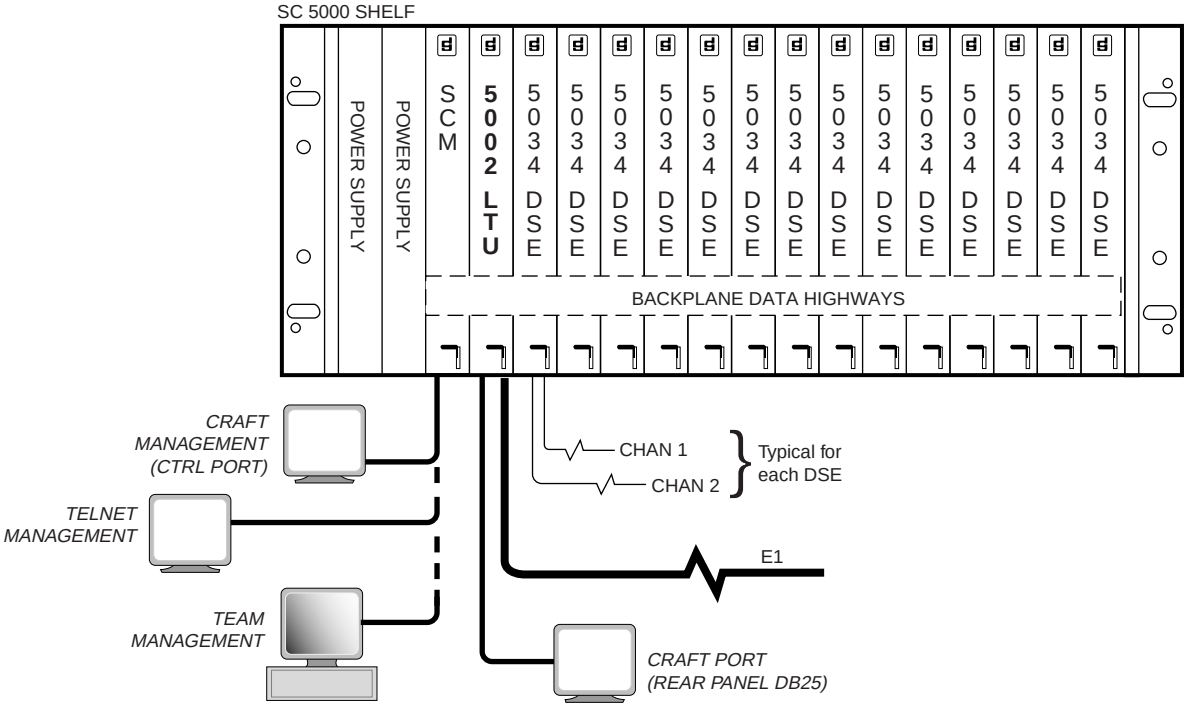
Intended Use

The SC 5002 LTU is ideal for medium-sized, low-channel density networks. The SC 5002 supports comprehensive, non-intrusive network management, operating in conjunction with an SNMP controller. Diagnostic testing performed through SNMP requires no intervention by personnel at remote sites. The SpectraComm 5002 is a 7-inch by 9.5-inch (178 mm by 241 mm) printed circuit card that conforms to GDC's SpectraComm format.

Theory of Operation

The figure below shows the SC 5002 LTU in a typical application with an SCM card and SC 5034 DSEs in a SpectraComm shelf. The SCM is the shelf controller and provides the management access, SNMP management, and the IP address for the LTU and up to 14 additional co-located devices. The SCM also provides the terminal interface for the LTU, the DSEs, and other compatible cards in the shelf.

The shelf's built-in backplane highway is a high-speed bus that supports four full duplex data highways to support the exchange of data and timing signals between the LTU and up to 15 co-located SC 5034 DSEs in a single shelf. The DSEs provide DTE interface functions and are compatible with remote V.34 analog modems.



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SC5001 Physical Specifications

Single-slot Blade

Depth: 241 (9.5 in)

Width: 178 mm (7.0 in)

Height: 21 mm (0.81 in)

Weight: 0.28 kg (10 oz)

Shipping Weight: 0.74 kg (1 lb. 10 oz)

Environmental Specifications

Non-Operating Temperature

Temperature in SC/UAS 16-slot shelf:
-40 to 85 degrees C (-40 to 185 degrees F)

Temperature in MultiPak 10-slot enclosure:
-40 to 70 degrees C (-40 to 158 degrees F)

Operating Temperature

0 to 50 degrees C (32 to 122 degrees F)
(Derate by 1 deg C/1000 ft above sea level)

Operating Altitude

0 to 3,047 m (0 to 10,000 ft)
Non-Operating Altitude: 0 to 12,192 m (40,000 ft)
Relative Humidity: 5% - 95% non-condensing

Electrical Characteristics:

Power (AC or DC), voltage, frequency, and fusing determined by your SpectraComm shelf or enclosure.

Power Dissipation: 5 W maximum +5V, 1 W maximum +/-12V

Compliance & Compatibility

Safety: TUV Approved

EMI: FCC Part 15 Class A Approved

Quality Assurance: ISO 9001: 2000 Certified

Operational Specifications

Network Transmitter

Frequency: 2,048,000 +/- 50 bps

Timing Source:
Internal Clock, Network Timing, Shelf Timing

Network Receiver

Operating Range: 0.0 to 2.6 km over 0.6 mm twisted pair cable

Input Impedance: 75 or 120 Ohm

Jitter Tolerance:
Exceeds ETSI TBR 12/13 jitter transfer performance specification

Transmitter

Encoding: HDB3

Impedance: 75 or 120 Ohm

Interfaces

Communication Line: E1 digital carrier

Line Impedance: 75 or 120 Ohm

Network Port Physical Interface:
RJ48C modular jack

Diagnostics

The E1 Line Loopback causes the LTU to loop received data back in the network interface as transmit data.

The Unit Self Test establishes a Local Test loop-back and directs an internally generated test signal through the LTU.

Major Alarms

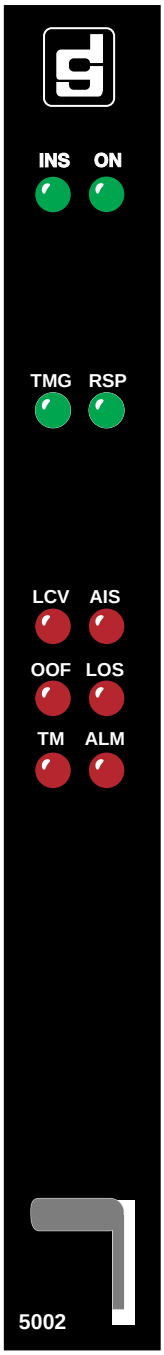
Loss of Signal
Loss of Frame
Alarm Indication Signal
Timing Loss
Unit Failure
NV RAM Corrupt

Minor Alarms

Near End Unavailable Seconds
Near End Errored Seconds
Near End Severely Errored Seconds
Near End Background Block Errors
Near End Line Code Violations Minor
Far End Unavailable Seconds
Far End Errored Seconds
Far End Severely Errored Seconds
Far End Background Block Errors

Informational Alarms

Power-Up
Fallback Timing Active



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