SpectraComm 202 Modem

Bell 202T Compatible Modem for Private Line Applications

HIGHLIGHTS

• Custom VSLI technology for superior performance and reliability
• Bell 202-compatible 1800 bps asynchronous data rate
• High or low density rackmount packaging for easy installation in a variety of GDC shelves and enclosures
• Simple configuration and option selection without complicated programming
• Configuration values stored in non-volatile memory.
• With the SCM, supports Telnet and SNMP-based management
• Ideal for Point-to-Point or Multi-point applications

Scalable & Flexible Connectivity

The SpectraComm 202 modem is a 7-inch by 9.5-inch (178 mm by 241 mm) printed circuit card that conforms to GDC’s SpectraComm format. As part of the SpectraComm family of products, a SC 202 modem installs in any GDC high- or low-density shelf, or the single-slot SpectraComm AC or DC standalone enclosures.

INTRODUCTION

The SpectraComm 202 modem is a Bell 202T compatible modem that provides asynchronous communications over two-wire, half-duplex and four-wire, full-duplex private lines, at 0 to 1400 bps over unconditioned lines (on basic 3002 channel), and 0 to 1800 bps over lines with C2 conditioning (on basic 3002 channel).

The SpectraComm 202 modem supports end-to-end interoperability with other SC 202 modems, as well as older GDC DT and DC 202 products.

The device can operate in a stand-alone mode, controlled by on-board switches and jumpers. Remote management can be conducted via GDC’s SNMP-based TEAM software, which requires a SpectraComm Manager card (SCM) co-located in the shelf with the SC 202.

Figure 1 shows SpectraComm 202 modems in typical point-to-point and multipoint applications.

FIGURE 1: SC 202 Applications
FEATURES & BENEFITS

- Bell 202T compatibility for 2- or 4-wire private line applications
- Compromise equalizer that guards the modem from problems associated with unconditioned voice grade facilities.
- Soft transmit carrier turnoff which virtually eliminates erroneous data bits affecting polled applications.
- Anti-streaming timer which keeps the modem from being disrupted by faulty streaming terminals in polled applications.
- Simple installation in any high- or low-density SpectraComm shelf or SpectraComm standalone enclosure.
- Power supplied by the SpectraComm shelf or enclosure, with all connections made at the rear panel.
- Optional network management via the SCM (SpectraComm Manager) card.
- Configurable hardware switches and jumpers.

- Options such as Request-to-Send (RS), Clear-to-Send (CS) delays and carrier mode, can be set from switches located on the modem card.
- Built-in default values allow fast configuration for most applications.
- Diagnostic tests accurately detects system faults and helps you to quickly restore service:
  - Self-Test (ST), Local Loopback (LL), Remote Loopback (RL), and Digital Loopback (DL).
  - All diagnostic tests can be controlled from the front panel switches;
  - Front Panel LED indicators monitor operation and diagnostics.
  - The local loopback and remote loopback can also be controlled from the terminal.
  - A selectable 10-minute abort timer allows the modem to recover from an inadvertent test.
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)
- Altitude: 0 to 12,191 m (0 ft to 40,000 ft)

*Operating*
- Temperature: 0 to 50 degrees C (32 to 122 degrees F)
- Relative Humidity: 5% - 95% non-condensing
- Altitude: 0 to 3,047 m (0 ft to 10,000 ft)

ELECTRICAL SPECIFICATIONS

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 Class A Approved


OPERATIONAL SPECIFICATIONS

*Operating Mode*
- 4-wire: Full-duplex, point-to-point or multipoint
- 2-wire: Half-duplex, point-to-point

*Data Rates*
- 0-1400 bps (unconditioned line);
- 0-1800 bps (C2 conditioning recommended for optimum performance)

*Line Type: 4- or 2-wire private line*

*Impedance: 600 ohms (private line only)*

*Connectivity:*
- 8-pin J8 jack or 50-pin Telco or wire-wrap (depends on shelf)

*Operating Format: Asynchronous, serial, binary*

*Request-to-Send to Clear-to-Send delay:*
- 0, 8, 30, or 180 ms

*Modem compatibility: Bell 202T*

*Terminal interface: Compatible with EIA-232-D*

Transmitter Characteristics

- **Modulation:** Frequency shift keying (FSK)
- **Carrier Frequency Mark:** 1200 Hz +/- 1%
- **Space:** 2200 Hz +/- 1%
- **Soft Carrier Turnoff Timing:** 0, 8, or 30 ms
- **Frequency:** 900 Hz +/- 1%
- **Adjustable Output Level:** 0 dBm to -15 dBm in 1 dB steps (+/- 0.5 dB)

Receive Characteristics

- **Demodulation:** FSK tone demodulation
- **Carrier detect:**
  - Acquisition at or before (ON) -26 dBm
  - Release at or before (OFF) -31 dBm
- **Hysteresis 2 dB minimum**
- **Timing Within 8 ms**
- **Soft carrier detect:** Within 8 ms
- **Equalization:**
  - Compromise amplitude and delay
- **Operating range:** 0 to -26 dBm