

# 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

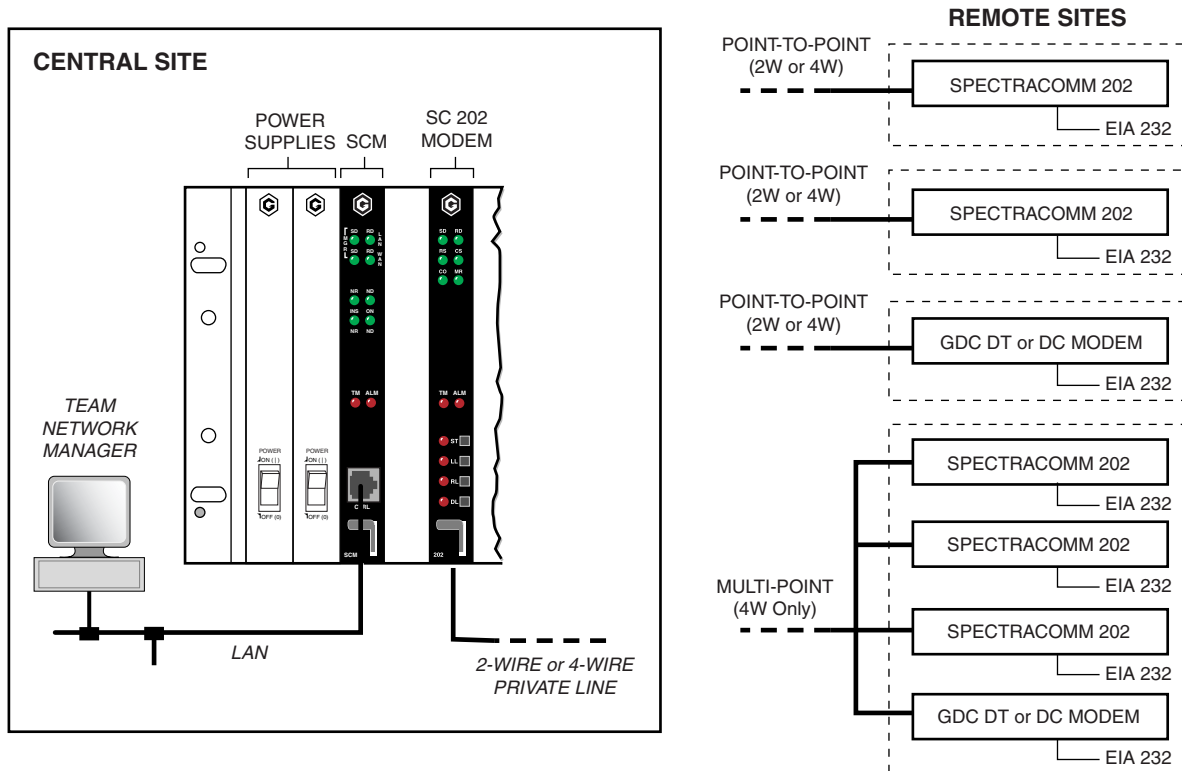
The SpectraComm 202 modem is a Bell 202T compatible modem that provides asynchronous communications over two-wire, half-duplex and four-wire, full-duplex private lines, at 0 to 1400 bps over unconditioned lines (on basic 3002 channel), and 0 to 1800 bps over lines with C2 conditioning (on basic 3002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



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## 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.

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## 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)  
 (Derate by 1 deg C/1000 ft above sea level)  
 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 & COMPATABILITY

Safety: UL Approved  
 NEBS Level III Certified  
 EMI: FCC Part 15 Class A Approved  
 Quality Assurance: ISO 9001:2000 Certified

## 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 JM8 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

