GENERAL DATACOMM

SpectraComm Shelves

NEBS Certified, Telco-Tough Shelves for High or Low Density Applications

SPECTRACOMM 5000 SHELF

SpectraComm 5000 shelves are the high density rackmount solution for service provider and enterprise environments, deploying up to 16 SpectraComm or UAS product blades in each 4RU (7" high) NEBS and EMI-compliant shelf.

Blades plug into network interface, DTE and management bus connectors at the shelf backplane to support DSX-1, V.35, EIA-530, V.24, EIA/TIA-232, BNC, and HSSI interfaces for a total connectivity solution, with integral network management built in. This "SpectraCommonality" ensures that service interfaces, business equipment connections, and transmission product types and speeds meet your networking requirements.

SC 5000 shelves are AC- or DC-powered, with dedicated slots for one or two plug-in power supply modules. One power supply supports a fully populated shelf of up to 16 blades. For critical, "always on" applications, a second supply provides load sharing and redundant power.

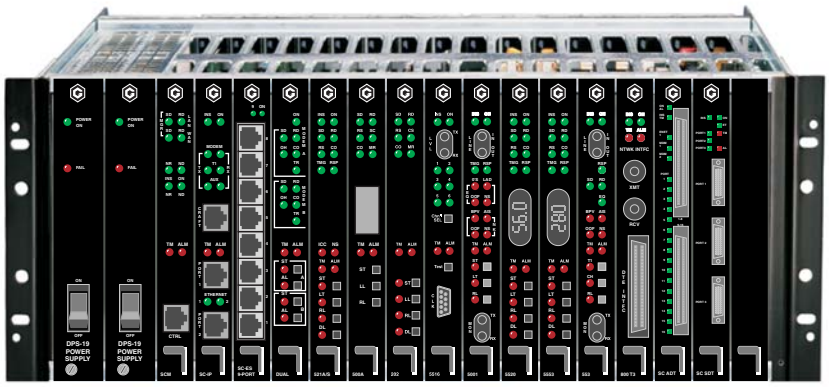
SPECTRACOMM 2000 SHELF

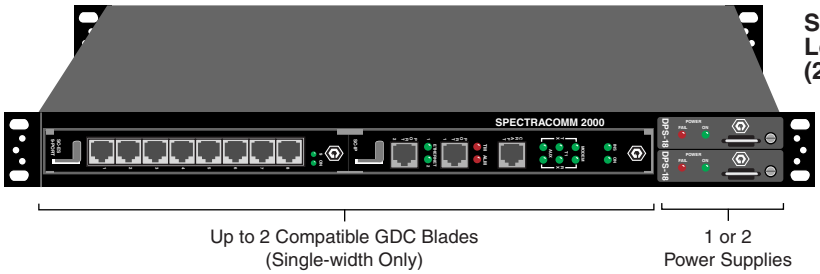
The SpectraComm 2000 is a NEBS and EMI-compliant shelf that offers maximum port density in a compact 1RU (1.75" high) footprint - ideal for central offices, remote offices, and cell sites.

One or two single-width SpectraComm or UAS blades can plug into the SC 2000 shelf, with integrated TIA/EIA-232F, V.35, or EIA-530 interfaces, network line, and craft connectivity provided for each capable device. When deployed with a SpectraComm IP router and a SpectraComm 9-port Ethernet switch, the SC 2000 shelf is certified as environmentally hardened for use in huts, CEVs, and other extreme environments.

The shelf's dual "hot-swappable" power supplies provide load sharing and redundant power, and can be replaced without interrupting service or powering down the shelf. These independent dual power supplies employ +24 VDC or -48 VDC power from cell sites and central or remote offices. An optional external AC "all range" Power Adapter supports 100 to 240 VAC power sources.

FIGURE 1: SpectraCommonality: Shelves and Product Blades





NOTE: SC 5000 and SC 2000 shelves shown with SpectraComm blades installed.
Both GDC's SC and UAS network access blades are fully supported.

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FEATURES & BENEFITS

SC 5000 High Density Shelves

The SC 5000 high density shelf offers compact, high density rack-mounting for GDC's SpectraComm and UAS network access blades. It is certified complaint to the Bellcore NEBS Level III standard in North America.

The modular backplane consists of a network interface for analog or digital service connectivity (Zone 1), a bus interface for power distribution and transport of diagnostic and control signals (Zone 2), and a DTE interface for V.24/EIA/TIA-232-E or V.35 connectivity to terminal devices (Zone 3). Twelve models of the SC 5000 shelf provide a complete offering of backplane configurations and power solutions.

- Formed sheet metal housing complies with EIA 310-D standards for racks, panels, and associated equipment.
- Can be installed in standard 19-, 23-, and 26-inch racks and cabinets.
- NEBS Certified for use in interior Telco environments (GR-63-CORE, Level III, GR-1089-CORE)
- Accommodates up to 16 front-loading plug-in blades, with two dedicated slots for power supply modules.
- Accepts any single blade or multi-slot device from GDC's SpectraComm and UAS families of network access blades.
- Blades can be installed or extracted without powering down the shelf (hot-swappable).
- Plug-in AC power supply modules available are 100/117 VAC (47-63 Hz) or 220/240 VAC (47-63 Hz).
- Plug-in DC power supply modules available are: -48 and -60 VDC (station battery designed to meet Conducted Emissions requirements in Bellcore 1089).
- Can be configured as a dual shelf to provide an additional sixteen slots, with shared management access, load sharing and power redundancy.
- Removable backplane connector panels provide modular or mass term connectors for network and terminal equipment.
- Integral network management platform supports the optional SpectraComm Manager (SCM), an SNMP proxy agent for configuring, diagnosing and monitoring installed blades. The SCM also provides Ethernet, serial, and dial backup interfaces for capable blades installed in single or dual shelf systems.
- Optional peripheral equipment includes Fuse and Alarm Panels, Fan Trays, Air Baffles, and blank panels
- Optional Alarm Card activates local and remote customer alarm systems for audible/visual alerts to power failures in shelves with two or more power modules.

SC 2000 Low Density Shelves

The SpectraComm 2000 is a low density, rack-mountable shelf designed for the space limitations of remote cabinets or Central Offices. Certified NEBS Level III compliant for hardened environments, the shelf is equipped with single or dual power supplies and provides the same network and DTE interface connectivity found on the SpectraComm 5000 high density shelf.

The SC 2000 and can hold any two single-slot blades from GDC's wide range of SpectraComm or UAS families of network access blades.

- Formed sheet metal housing complies with EIA 310-D standards for racks, panels, and associated equipment.
- Can be installed in standard 19-, 23-, and 26-inch racks and cabinets.
- Rack or wall mountable using provided brackets
- NEBS Certified for use in interior Telco environments (GR-63-CORE, Level III, GR-1089-CORE) and in hardened environments
- Accommodates one or two single-slot plug-in blades for wide band and narrow band applications.
- Blades can be installed or extracted without powering down the shelf (hot-swappable).
- Uses one or two low power consuming DC power supply modules (two modules provide redundant power).
- Supports optional AC "All Range" Power Adapter for employing 100 to 240 VAC power sources.
- Minimal downtime for field upgrades and repairs
- Rear panel connectors provide a signal and chassis ground connection point and alarm relay outputs.
- For each slot, the rear panel provides a DB25 connector for DTE (business) equipment, and modular connectors for network interfaces. Two modular craft ports support capable devices.
- Accepts any single-slot blade from GDC's SpectraComm and UAS family of network access products.

Peripheral Equipment

All SpectraComm shelves support a wide variety of optional accessories and peripherals, such as cables, adapters, air baffles, power distribution and cooling systems, fans, cable trays, retaining bars, redundant power solutions, and circuit breaker panels.

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SpectraComm Shelves

SC 5000 PHYSICAL SPECIFICATIONS

BLADE CAPACITY

16 slots accept up to 16 single or multi-width SpectraComm or UAS network access blades.

DIMENSIONS

Height: 7 inches (178 mm)
Width: 19 inches (483 mm)
Depth: 12 inches (305 mm)

WEIGHT

18 lb (8.2 kg) empty shelf
19.3 lb (8.8 kg) with one GPS-11 Power Supply
20.6 lb (9.3 kg) with two GPS-11 Power Supplies
Shipping weight: (add 1 lb 5 oz.)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: -40 to 85 degrees C (-40 to 185 degrees F)
Altitude: 0 to 12,191 m (0 ft to 40,000 ft)

Non-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)

COMPLIANCE & COMPATABILITY

Safety: UL Approved
NEBS Level III Certified
EMI: FCC Part 15 Class A Approved
Telco: FCC Part 68 Approved
Quality Assurance: ISO 9001:2000 Certified
Fire Resistant Materials: UL94V0

PHYSICAL INTERFACES

NETWORK INTERFACE (Zone 1)

Modular shelves (Models 1, 2, 3, and 10):
Two 8-slot dual RJ45 connector panels (32 modular jacks, two per slot)

Mass Termination shelves (Models 4, 5, 6, 11)
16-slot 50-pin/wirewrap connector panel (6 Amphenol connectors)

Mass Termination shelves (Models 7, 8, 9, 12)
16-slot 50-pin/Universal connector panel (4 Amphenol connectors)

INTERNAL BUS (Zone 2)

50-pin power bus (signal, ground, management and power distribution to and from plug-in blades)

BUSINESS EQUIPMENT (DTE) (Zone 3)

Sixteen DB25 female EIA/TIA-232-E/V.24 connectors; optional V.35 connectors (one per slot)

SC 5000 POWER SPECIFICATIONS

Power (AC or DC), voltage, frequency, and fusing determined by the SC 5000 shelf model and the installed power supply modules.

POWER CONSUMPTION

7.6 Watts (one GPS-11/GPS-11E Module)
10.0 Watts (two GPS-11/GPS-11E Modules)

HEAT DISSIPATION

25.94 BTU/Hr (one GPS-11/GPS-11E module)
34.13 BTU/Hr (two GPS-11/GPS-11E modules)

POWER SUPPLY MODULES

Module Capacity (GPS-11, GPS-11E, DPS-19):
Two slots accept one or two of each model power supply module; two modules provide redundant DC power, up to four modules for dual shelf.

Dimensions (GPS-11, GPS-11E, DPS-19:
Height: 178mm (7 in.)
Width: 32 mm (1.25 in.)
Depth: 247 mm (9.75 in.)
Weight: 0.68 kg (1.5 lbs)

GPS-11 AC MODULE (North America)

Input Power:
90 to 129 VAC (100 to 120 nom.), 50/60 Hz

Output Power:
+5V 16A max, +12V 1.67A, -12V 1.67A

Total Power: 96W max.
Load Number: 16.0 max.

Input Connection: 3-prong IEC Type

GPS-11E AC MODULE (International)

Input power:
175 to 264 VAC, (220 to 240 nom.) 50/60 Hz

Output Power:
+5V 16A, +12V 1.67A, -12V 1.67A

Total Power: 96W max.
Load Number: 16.0 max.

Input Connection: 3-prong IEC Type

DPS-19 DC POWER MODULES

Input Power: 42 to -70 VDC, (-48 VDC nom.),
-42 to -56 VDC, 3A DC max. input current

Output Power: +5V 16A, +12V 3.33A, -12V 3.33A

Total Power: 96W max.
Load Number is 16.0 max

Input Connection:
Screws (14 AWG wire) or spring-loaded terminal block (12 AWG wire, max.)

REDUNDANT POWER SOLUTIONS

Models 10, 11, and 12 include redundant power.
A second power supply module can be added to any model of the SC 5000 shelf to achieve power redundancy.

Optional DC Entry Module supports redundant power entry feeds to the DPS-19 power supplies.

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SC 2000 PHYSICAL SPECIFICATIONS

BLADE CAPACITY

2 slots accept up to 2 single-width SpectraComm or UAS network access blades.

DIMENSIONS

Height: 1.72 in. (43.7 mm)
Width: 19 in. (482 mm)
Depth 10.60 in. (269.2 mm)
Weight: 10 lbs. (4.5 kg.) with two blades and two power modules
Shipping weight: (add 1 lb 5 oz.)ENVIRONMENTAL

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: -40 to 85 degrees C (-40 to 185 degrees F)
Altitude: 0 to 12,191 m (0 ft to 40,000 ft)

Non-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)

COMPLIANCE & COMPATABILITY

Safety: UL Approved
NEBS Level III Certified
EMI: FCC Part 15 Class A Approved
Telco: FCC Part 68 Approved
Quality Assurance: ISO 9001:2000 Certified
Fire Resistant Materials: UL94V0

PHYSICAL INTERFACES

NETWORK INTERFACE

Two RJ45 modular connectors (two per slot)

INTERNAL BUS

Used for management communications when SCM blade is installed.

BUSINESS EQUIPMENT (DTE)

Two DB25 female EIA/TIA-232-E/V.24 connectors (one per slot)

CRAFT (TERM) PORT

Two RJ45 8-pin modular connectors (one per slot for capable blades)

SC 2000 POWER SPECIFICATIONS

DPS-18 DC PPOWER SUPPLY MODULES

POWER MODULE CAPACITY

Accepts one or two DPS-18 Power Modules per shelf; two modules provide redundant DC power.

POWER SUPPLY DIMENSIONS

Height: 178mm (7 in.)
Width: 32 mm (1.25 in.)
Depth: 228 mm (9 in.)
Weight: 0.58 kg (1.3 lbs)

Input Power: +24, -48 VDC, or -60 nominal battery inputs

Output Power: +5VDC 2A, +12VDC 0.22A, -12VDC 0.22A

Fusing: Each power supply module has a 1.5-amp fuse.

Power Consumption: 18 Watts

Input Connection: Screws (14 AWG wire) or spring-loaded terminal block (12 to 16 AWG wire)

AC POWER ADAPTER

Adapter Capacity:
Accepts one or two AC Adapters per shelf.

One AC Adapter provides non-redundant DC power to the shelf; two AC Adapters provide redundant or fully redundant DC power.

Input Power: 100 to 240 VAC, 50/60 Hz at 1A

Output Power: 24VDC, 1.7A

Input Connection: 3-prong IEC Type

STATION BATTERY

Uses -48 VDC power from Telco source. Not for use with AC Adapters.
Input Connection: Screws (16 to 20 AWG wire)

REDUNDANT POWER SOLUTION

A second power supply module can be added to the SC 2000 shelf at any time to achieve power redundancy.

Optional DC Entry Module supports redundant power entry feeds to the DPS-18 power supplies.

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