

The Stinger[®] FS

DSL Access Concentrator Chassis

The Stinger FS chassis is the largest model in the carrier-class Stinger DSL access concentrator product family. Within its force-air-cooled interior, this chassis houses a variety of easily removable, tightly integrated modules. A single Stinger FS supports up to 672 ports. Additional Stinger chassis can be subtended or daisy-chained to support thousands of subscribers in a single central office rack, providing the highest DSL densities in the industry.

ATM-based switching and QoS support

An ATM switch fabric is an integral part of the Stinger architecture. The switching fabric enables higher throughput and more effective use of available bandwidth among subscribers than would be possible with a multiplexed or bus architecture.

The Stinger FS access concentrator supports Quality of Service (QoS) based upon the ATM Forum Traffic Management Version 4.0 standard. Support for multiple QoS levels makes it possible for carriers to offer end users a diverse range of Service Level Agreements (SLAs) and to charge a premium for the guaranteed levels of data rate and performance needed for demanding applications such as telephony, video-on-demand, and broadcast entertainment.

Modular design for flexibility and scalability

The Stinger FS system derives its high performance, unparalleled port density, extreme scalability, and versatility from four module types:

- **Switching and Control Module (CM)** — The CM provides the high-speed switching fabric at the heart of the Stinger architecture, as well as support for QoS and system control functions such as initialization, virtual connection establishment, configuration, and management.
- **Line Interface Module (LIM)** — An assortment of LIMs are available for the Stinger system, each supporting different digital subscriber line (DSL) line codes plus T1/E1. In addition to providing aggregation of virtual channels for transfer to the CM's switching fabric, each LIM facilitates the implementation of QoS and control functions.

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- **Trunk Module (TM)** — TMs provide the interface from the Stinger to the provider's core network. OC-3c/STM-1, DS3, and E3 are available for the Stinger system, with a choice of one or two ports per module. On two-port modules, trunk ports can be assigned for independent use or redundant operation.
- **Line Protection Module (LPM)** — LPMs provide physical subscriber line connectivity to the Stinger system. Models are available in redundant or non-redundant versions. The LPM-RP redundant versions offer 1:n protection on a per-port basis for each LIM.

Integrated testing

The Stinger FS chassis also supports a choice of optional modules that perform line testing functions:

- **Path Selector Module (PSM)** — The PSM provides the full functionality of an LPM in addition to loop test access. When the PSM is used in conjunction with a redundant LPM, it provides access from an external copper loop tester to any subscriber line attached to a Stinger chassis.
- **Copper Loop Test (CLT) Module** — In addition to supporting access for an external test set, the Stinger system also offers its own integrated test module. The CLT module consists of a PSM with an integrated test head on a daughterboard. The CLT performs a wide variety of copper loop testing and qualification functions, simplifying DSL deployment for carriers.

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Highly available, future-proof architecture

The busless midplane design of the Stinger FS chassis makes it easy to upgrade individual modules to support emerging applications and next-generation QoS-based multiservices. With its

fully distributed power system, 1:1, and 1:n line protection capabilities, and redundant line filters, the Stinger FS is designed to eliminate single points of failure. Optional dual control modules and trunk ports can operate as fully redundant and hot-swappable backups.

Specifications

Electrical Specifications

Power requirements: -48 VDC @ 2,000 Watts maximum

Inrush: All modules have inrush limiting circuits.

Power connectors: Two #10 studs per input

Power Consumption

Base system (chassis, cooling assembly, dual-48 VDC line filters, alarm module, and one control module): 134.4 W nominal

Physical Specifications

Overall chassis size: 24.5 in (62.23 cm) high (14U) x 17.3 in (43.94 cm) wide x 15.3 in (38.86 cm) deep

Fits in 19-in or 23-in rack with appropriate rack ears.

Unit Weight: 160 lbs (73 kg) maximum (fully configured)

Card Slots

14 for line interface modules (LIMs)

2 for control modules (CMs)

14 for line protection modules (LPMs), path selector modules (PSMs), and/or Copper Loop Test (CLT) modules

2 for trunk modules (TMs)

Line Interface

50-pin RJ-21X

Trunk Interfaces

OC-3c/STM-1 optical (single mode or multi-mode)

DS3/E3 electrical with pass through

Operating Environment

Ambient operating temperature: 32°–131°F (0°–55°C)

Relative humidity: 10%–90% (noncondensing)

Operating altitude: up to 13,123 ft (4,000 m)

Certification

Bellcore GR-63-CORE (NEBS Level 1-3)

Bellcore GR-1089-CORE
EN/IEC 60950

Electromagnetic Compliance

FCC Part 15 Class A
EN 55022 Class A
AS/NZS 3548 Class A
VCCI Class A
CISPR 22 Class A
EN 300386-2

Model Numbers

STGRFS Unit: Stinger FS Base Unit
STGR-RM19: 19" Rack Mount Kit
STGR-RM23: 23" Rack Mount Kit
STGR-CABMGT: Cable Management Kit

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