

Axxius 800

Release 3.0

Access Integration Platform/ Cell Site Access Gateway



Key Benefits:

- Enables a highly efficient and cost-effective access network
- Ideal for next-generation transport solutions for GSM BSS and UMTS overlay network over existing infrastructures
- Advanced bandwidth and traffic management capabilities
- Traffic aggregation and optimization for backhaul cellular networks
- Saves space while improving flexibility of service
- Consolidates multi-box solutions into highly compact, 2 RU enclosure
- Offers industry-leading density and versatility – up to 36 T1 capacity
- Provides remote management with connectivity to all cell site equipment
- Maximum availability with extended operating temperature range, redundant power, redundant controllers and T1 protection options

Consolidated, single-platform solution for delivering next generation wireless voice and data services

The Axxius® 800 solves today's problems of multiple boxes, scalability, space, power, and environmental constraints associated with delivering voice and data services in wireless and wireline service networks. It converges the functions of multiple different products into one scalable, integrated and managed platform that grows and delivers services at dramatically lower costs. The Axxius 800 defines a new level of functionality, cost-effectiveness and performance for access needs at cell sites, MTSOs, customer premises, or MTUs.

Converged and Consolidated Functionality

Equipped with the DSI Controller, the Axxius 800 operates as both a wireline service delivery platform and as a small I/O cross-connect or access multiplexer. With the DS3 Controller, the Axxius 800 replaces back-to-back M13 multiplexers and provides 3/I/O cross-connect capability to groom DSI and DS0 services. It also offers service providers the ability to provide fractional T1 and DS0 level services in a single platform while continuing to fully utilize the available DS3 bandwidth. In addition, it can operate as a DS3 add/drop multiplexer, delivering T1/FT1 tributaries to remote cell sites or customer locations.

Comprehensive Performance and Enhanced Connectivity

The Axxius 800 Base Platform includes 1+1 Power Supply slots, 1+1 Controller Card slots, 1+1 Broadband Interface slots, a Control Panel Interface Card, eight universal Service Card slots, and one Low-Speed Interface Protection Card slot – offering redundancy, high interface density, and versatility. The DSI and DS3 Controllers manage all the Axxius 800 Service Cards, providing the physical, electrical, and logical connections to deliver a complete, integrated, single-unit solution. The platform can support up to eight hot-swappable Service Cards, providing a scalable mix of interfaces.

Release 3.0 includes support for the new QuadFLEX™ DSI/EI Service Card featuring the powerful Carrier Access FLEXengine™ processor. By simply adding the QuadFLEX

DSI/EI Service Card to the platform wireless customers can double their Radio Access Network capacity, leveraging significant gains on existing infrastructure with minimal investment.

Hardened Design and Full Redundancy

The Axxius 800's enclosure, commons, and selected Service Cards are front loading, temperature-hardened, and designed to withstand the extreme conditions found in service provider equipment locations. It is a carrier-quality platform with full redundancy to protect critical networks.

The rear panel of the Axxius chassis is connectorized and designed for the tight confines of cell sites, outside cabinets, collocations, or central offices. Dual-feed rear power connectors support Power Supply redundancy, and inputs for clocking and alarm connections are easily accessible. In addition, front RJ-48C and rear wire-wrap terminals provide easy and reliable connection points to DSX patch panels from any of the eight Service Cards.

Easy Accessibility

The Axxius 800 control panel provides front access to all the physical interfaces of the DSI or DS3 Controllers. It provides four RJ-48C DSI connections when using the DSI Controller and two sets of DS3 SMB interfaces when using the DS3 Controller. The control panel also provides the RS-232 and 10/100Base-TX Ethernet management connections for system configuration and control. Status indicators are provided for critical, major, minor, and ACO alarm relay status, and an Alarm Cut Off (ACO) Switch is also provided to silence external audible alarms.

The Axxius 800's versatility and scalability in a two-rack unit design offers the highest density and the most flexibility to meet today's and tomorrow's complex network challenges.

Axxius 800 Port Capacity with DSI Controller Card

DSI	ISDN BRI	OCU-DP	V.35	10/100	FXO	RS-232	DSI ADPCM
36	64	32	16	32	64	32	8

Axxius 800 Port Capacity with DS3 Controller Card

DS3	DSI	ISDN BRI	OCU-DP	V.35	10/100	FXO	RS-232	DSI ADPCM
2	32	64	32	16	32	64	32	8

Technical Specifications for the Axxius 800

Requirements :

- Axxius 800 DSI Controller software Release 3.0 or higher to support the QuadFLEX DSI/EI Service Card (limited configuration)
- Axxius 800 DS3 Controller software Release 2.0 or higher to support all features listed, except QuadFLEX DSI/EI Service Card

Platform Features :

- 2 slots for system Controllers for 1+1 redundancy
- All cards are hot-swappable
- 2 slots for Power Supplies for 1+1 redundancy
- Integrated 3/1/0 digital cross-connect
- TDM transport, add/drop, drop-and-insert
- Front and rear interface access (see individual Service Cards for details)
- 10 user-defined alarm inputs

Capacities :

- 2 Power Supplies
- 2 DS3 or DSI Controller Cards
- 2 Broadband Interface Cards (available in a future release)
- 1 Control Panel Interface Card
- 8 universal Service Cards
- 1 Low-Speed Interface Protection Card
- 36 T1 ports (8 Quad DSI Service Cards + Quad DSI Controller)
- 1536 DS0 non-blocking 3/1/0 cross-connect capability

Redundancy :

- 1+1 Controllers (automatic switchover) for provisioning redundancy
- 1:7 T1 interface protection ratio with Low-Speed Interface Protection Card
- 1+1 Power Supplies

Control Panel Interfaces :

- 4 RJ-48C jacks for Quad DSI Controller
- 4 SMB connectors (2 TX, 2 RX) for Dual DS3 Controller
- 1 10/100Base-TX Ethernet RJ-45 jack
- 1 RS-232 DB9 female jack
- 1 ACO switch
- Status indicators for critical, major, minor, and ACO

Rear Chassis Interfaces :

- 16 wire-wrap pins per slot (4 T1s)
- 2 two-pin modular plug for dual DC power feeds
- 2 three-wire wrap pins for BITS clock input (primary and secondary)
- 2 six-pin modular receptacle for alarm relay outputs
- 3 audible alarm outputs – critical, major, minor
- 3 visible alarm outputs – critical, major, minor
- 2 ten-pin modular receptacle for user defined alarm inputs
- 2 stud (3/16 inch) for grounding

Service Cards Supported :

- Hardened Quad-Port Terminal Server Router (TSR) Service Card
- Hardened Quad-Port Terminal Server Router (TSR) with TBOS Service Card *
- Hardened Order Wire Single-Channel POTS Service Card *
- Hardened Order Wire Single-Channel POTS Service Card with V.34 Modem (modem not hardened) *
- Hardened Dual V.35/.54 Service Card *
- Hardened Quad DSI/EI Service Card

- Hardened Quad DSI ADPCM Service Card *
- Single and Quad-Port OCU-DP Service Cards *
- 8-Channel FXO Voice Service Card *
- Dual, Quad, and Octal ISDN BRI Service Cards *
- Hardened Low-Speed Interface Protection Card *
- QuadFLEX DSI/EI Service Card **

* Must be used with Axxius 800 Controller software Release 2.0 or 2.01 only.

** Supported with Axxius 800 Controller software Release 3.0 or later

Management :

- Craft Interface – front access from RS-232 (DB9) or 10/100Base-TX Ethernet ports
- SNMP
- Dedicated management DS0 for remote management access
- Available option: remote management using the graphical configuration interfaces available in the NetworkValet® Enhanced Management System

Power :

- DC Power: -48VDC or +24VDC, 120 W rated input
- OCU-DP and FXO Service Cards require integrated -48VDC NI Power Supply (Part No. 740-0084)
- Dual-feed power inputs located on rear panel

Regulatory Approvals :

- USA
 - UL60950
 - FCC Part 15, Class A
 - FCC Part 68
 - Designed to meet NEBS Level-3 for type 2 and 4 equipment (not certified)
- Canada
 - CSA C22.2 No. 60950-00
 - ICES-003, Class A
 - CS-03

Physical :

- Dimensions:
 - 3.5 in (2 RU)(H) x 17.25 in (W) x 12.54 in (D)
 - 8.9 cm (2 RU)(H) 43.8 cm (W) 31.75 cm (D)
- Weight: 30 lb (13.61 kg) fully loaded
- Rack mount: 19- or 23-inch

Environment :

- Operating temperature range: -40 °F to 149 °F (-40 °C to 65 °F) for all components except FXO, OCU-DP and ISDN BRI Service Cards, which have an operating temperature range of 32 °F to 104 °F (0 °C to 40 °C), and the Single-Channel POTS Service Card with V.34 Modem, which has an operating temperature of 32 °F to 149 °F (0 °C to 65 °C)
- Storage temperature range: -40 °F to 158 °F (-40 °C to 70 °C)
- Cooling method is by free air convection (rack mounting requires .5 RU minimum above and below each unit)
- Maximum operating altitude: 10,000 ft (3,048 m)
- Minimum operating altitude: 197 ft (60 m) below sea level
- Maximum non-operating altitude: 40,000 ft (12,192 m)
- Relative humidity (non-condensing) range: 0% to 95%