

Access Navigator/GR-303 Host with P-Phone



Release 1.8

Part Number: 930-1026

New in Release 1.8:

- Support for Nortel Enhanced Business Service (EBS)/P-Phone Centrex services

Enable cost-effective, revenue-generating Centrex services while optimizing T1 access facilities and maximizing Class 5 switch port capacity

The Access Navigator®/GR-303 Host with P-Phone offers carriers a way of delivering cost-effective and high-density integrated Meridian Digital Centrex service at dramatically lower cost-per-port than traditional DLC architectures. Working in conjunction with the Adit 600 Multi-service Delivery Terminal, the Access Navigator offers access to the GR-303 interface of a Nortel DMS switching system for the Adit 600's P-Phone (EBS) ports – providing a scalable Centrex Service delivery solution that supports a combination of P-Phone, analog Centrex, and data services. The Access Navigator implements the GR-303 interface; provides a highly efficient, concentrated interface for the P-Phone traffic into the switch; and supports switch-hosted P-Phone status and control operations.

The Access Navigator can be located at either a central office or the customer premises. A dedicated DSO channel in the remote Adit 600 communicates management and control data, including P-Phone signaling information, with the host Access Navigator. The Access Navigator combines Telcordia™-compliant GR-303 oversubscription with a 1/0 Digital Cross-connect System (DCS) for grooming and concentrating voice and data traffic. GR-303 allows the service provider to oversubscribe T1 backhaul voice circuits by as much as 15:1 without losing GR-303 trunk redundancy. Additionally, using the 1/0 cross-connect capabilities, the service provider can efficiently groom multiple fractional T1s into fully utilized T1s, resulting in as much as 8:1 savings in T1 backhaul links. These features allow the service provider to maximize utilization of T1 backhaul facilities, free unused bandwidth in fractional T1 links to service new/additional customers, and oversubscribe voice circuits to reduce the demand on Class 5 switch port capacity.

The Access Navigator is designed to help service providers optimize their existing architectures and open additional revenue-generating opportunities. With its small footprint and low power requirements, the Access Navigator can be used in applications where traditional large, expensive DCS platforms would be impractical. This opens up a wide range of applications from the network core, to the network edge, and into the customer premises, including:

- GR-303 interface to Nortel DMS switch for Meridian Digital Centrex service delivery (central office or customer premises)
- Reduction in recurring T1 backhaul expenses (remote to central office)
- T1 1/0 grooming for cell site daisy-chaining (wireless)
- Maximized router port utilization (network)
- DCS augmentation or replacement (central office)
- DLC T1/fractional T1 offload (remote)
- Cost and rack space constrained 1/0 cross-connect applications (collocations, POPs, CEVs)
- GR-303 oversubscription of voice channels (central office)
- Class 5 switch port optimization (central office)

Key Features:

- Compatible with Nortel Electronic Business Set (EBS) supporting the EBS base and optional features when used with the Adit 600 configured with the Octal P-Phone Service Card
- Reduces Opex – P-Phone service delivery combined with GR-303 provides concentration levels from 2:1 and 15:1
- Occupies just 1.5 RU of equipment space; Adit 600/Access Navigator solution uses 60% less rack space than competing Centrex solutions
- Offers 50% disruptive cost reduction over traditional DLC Centrex solutions
- Provides up to 32 DS1s (768 DS0s) per system
- Supports low 65 W power consumption
- Complies with Telcordia GR-303 standards for voice concentration
- Offers carrier-quality BITS clocking, redundant CPU logic, and power inputs
- Supports GR-303 direct inward dialing (DID) on Lucent switches
- Compatible with Lucent, Nortel, and Siemens Class 5 switches (supports CLASSSM features)
- Allows enhanced alarm capabilities, remote management options, performance statistics, and T1 BERT testing



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Technical Specifications for the Carrier Access Access Navigator/GR-303 Host with P-Phone

GR-303 with P-Phone Components:

- 8 Quad T1 framer cards (4 to 32 T1s per system)
- 2 redundant controller cards
- Telcordia-compliant GR-303 software preloaded into flash memory
- Chassis with redundant power inputs

DS1 Network/Tributary Interface:

- Quad DS1s per line card, hot-swappable
- Line rate: 1.544 Mbps \pm 32 ppm
- Line code: B8ZS and AMI
- Framing: D4 (SF) and ESF
- DS1 receive sensitivity: -28 dBsx to +3 dBsx
- Line build-outs: DSX-1 (0-550 ft) CSU (0 dB, -7.5 dB, -15 dB, -22.5 dB)
- ANSI T1.403 Sec 6 & 7 (jitter, pulse mask transmission, receive sensitivity, framing formats) and T1.107a
- Built-in CSU with loopback and BERT for DS1 testing
- AT&T 62411 (Stratum 4 Enhanced T1 CPE)

Clocking:

- Primary and secondary DS1 sources
- External BITS clock
- Internal Stratum 4 clock
- Automatic system clock switching and holdover

Management:

- RS-232/V.24 async craft port
- 10Base-T Ethernet port
- SNMP (Industry Standard RFC 1213 and RFC 1406 MIBS and CA Enterprise MIB)
- CLI from both local async port and remote Telnet sessions
- Software download via TFTP or Xmodem

Interoperability:

- Telcordia GR-303
- Nortel DMS GR-303 Interface designed in accordance with NIS V202-1, Issue 01 "Integrated Digital Loop Carrier Interface Specification for Electronic Business Set Services"

Alarms:

- Critical, major and minor alarm levels
- DS1 alarms for LOS, LOF, Receive AIS, and Receive RAI
- Output signals: relay contact closures and LED indications
- Alarm inputs from dry contact closures

Power:

- Dual -48 VDC power inputs: -42 to -60 VDC @ 1.5 A
- Power dissipation: 65 W fully equipped
- Solid-state (fuseless) overvoltage and overcurrent protection

Regulatory Approvals:

- USA
 - UL 1950, 3rd Edition
 - FCC Part 15, Class A
 - FCC Part 68
 - NEBS Level-3 for type 2 and 4 equipment
 - GR-63-CORE
 - GR-1089-CORE
- Canada
 - CSA C22.2 No. 60950-00
 - ICES-003, Class A
 - CS-03

Physical:

- Dimensions:
 - 2.63 in (H) x 17 in (W) x 13.5 in (D)
 - 6.68 cm (H) x 43.18 cm (W) x 34.29 cm (D)
- Weight: 10 lb (4.54 kg)
- Mounts in both 19-in (48.26 cm) and 23-in (58.42 cm) racks

Environment:

- Operating temperature: 23 °F to 113 °F (-5 °C to 45 °C)
- Solid-state over-temperature protection
- Maximum altitude: 10,000 ft (3,048 m)
- Relative humidity (non-condensing) range: 0% to 95%

