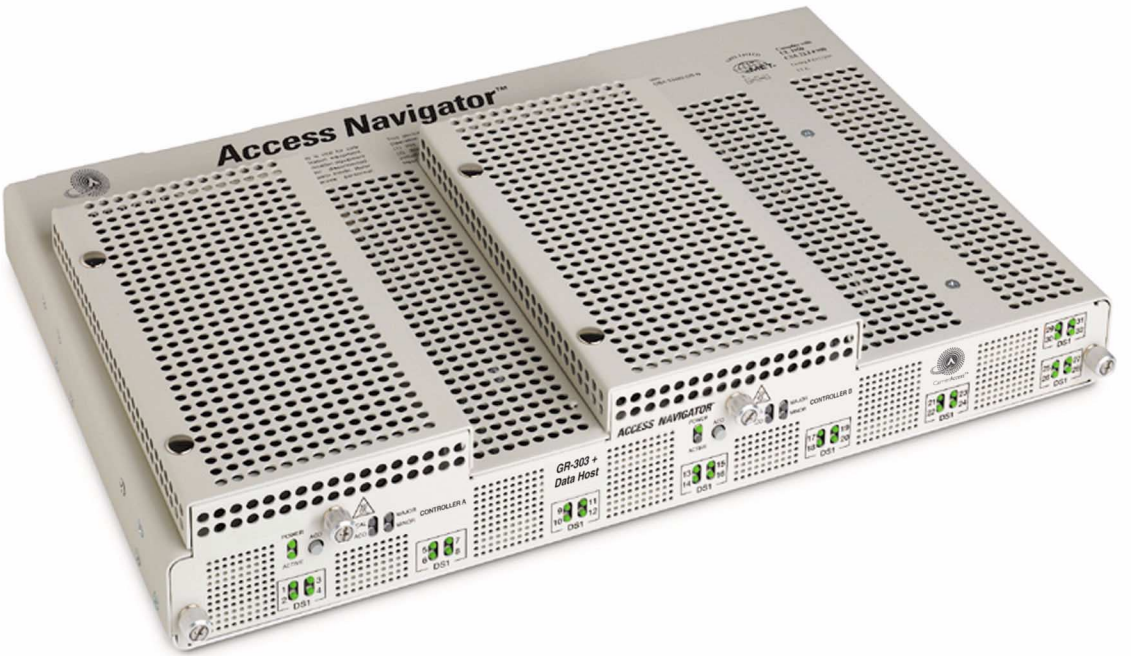
Access Navigator

QUICK START GUIDE



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QUICK START GUIDE

In this Guide

Overview

This Access Navigator® Quick Start Guide is intended for experienced installers and users who do not need the detailed installation and setup instructions provided in the User Manual. For detailed information and instructions, refer to the following chapters in the User Manual, included on the CD-ROM disk in the shipping box.

- Chapters 2, 3, 4 – Product Descriptions and Specifications
- Chapter 5 – Physical Installation
- Chapter 6 – Electrical Installation
- Chapter 8 – Provision Access Navigator
- Chapter 9 – Provision DCS Service
- Chapter 10 – Provision GR-303 Service
- Chapter 11, 12, 13 – Provision Remote Access Bank II and Adit 600
- Chapter 14 – Alarm Clearing
- Chapter 15 – Diagnostics and Troubleshooting
- Chapter 16 – Maintenance Procedures
- Chapter 17 – Update Controller Card Software
- Chapter 18 – CLI Language Reference

Physical Installation

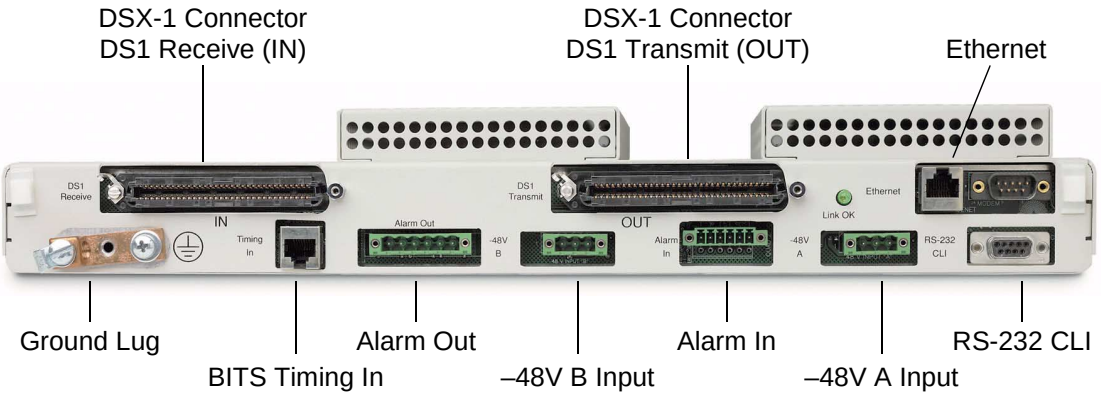
Ensure adequate clearance and spacing for thermal cooling. For detailed information, refer to Chapter 5 in the Access Navigator User Manual.

- **Horizontal 19-Inch and 23-Inch Rack Mount**. Provide at least 4.37 inches (2.5 rack units) of free air space above and below chassis for air circulation.
- **Vertical Rack Mount Using Crossbars.** Provide at least 0.75 inch of free air space on left and right side of chassis for air circulation.
- **Vertical Wall Mount.** Wall mounting is approved only for customer premises. The Access Navigator requires free air space on top, bottom, and ends of chassis for air circulation. Refer to detailed information in Chapter 5.

Electrical Connections and Cabling

For detailed information, refer to Chapter 6 in the Access Navigator User Manual.

1. **Power Connection.** ALWAYS Connect BOTH –48VDC Connectors.
2. **Connect Building Ground** to the chassis ground lug.
3. **Connect DSX-1 Cables.** Attach ferrite RF suppressors to both cables.
4. **Connect Ethernet Cable** (if used).
5. **Connect RS-232 Management Cable.** Attach ferrite RF suppressor to cable.
6. **Apply Power** to Access Navigator.



Start Management Session

1. **Connect PC to RS-232 Management Cable.**
2. **Set Terminal Emulator** to ANSI, ASCII, VT100, no flow control, local echo off, 9600/8/None/1.
3. **Press CR/Enter key on PC** to produce Command Line prompt.
4. **Log In.** If security is enabled, you will be asked for your user name and password.

Using the Command Line Interface (CLI)

Online Help

Online help for CLI commands is available any time you are logged into the Access Navigator. You can display basic commands and obtain context sensitive help with additional detail.

To display a list of basic CLI commands, just type a question mark (**?).** You can also type the word **help** and press the Enter or Return key on the terminal.

Help for a specific CLI command is available by typing **help** before the command word or words in the partial command pressing the Enter or Return key. It is usually easier to type a question mark (**?)** after the partial command. The partial command will be repeated so that you can easily add the next value or key word.

Context sensitive help does not work for command words taken out of context.

Text Conventions

Input commands and keywords in this guide appear in a **bold** typewriter font, as in the following example.

```
set ds1 1-4 up
```

If a command requires you to enter additional information, an *italic* typewriter font is used to show what item or items are required. Each item will be enclosed in < > symbols, as in the following example requesting a number *n* and a *setting* value. Do not type the < > symbols.

set ds1 <*n*> <*setting*>

If you must enter one item from a list, the items will be separated by vertical lines, as in the following example request you to select either **up** or **down**. Do not type the < | > symbols.

set ds1 <*n*> <**up**|**down**>

Online help does not use italic or bold type.

Entering DS1 and DS0 Numbers and Ranges

Commands containing **`ds1`** *<n>* require you to enter a DS1 number (1 to 32) or a range of DS1 numbers. For example, DS1 #6 is entered as **`ds1 6`**. To enter a range of DS1s, type the starting and ending numbers, separated by a hyphen. For example, DS1s #1 through #8 can be specified by typing **`ds1 1-8`**.

Commands containing **`ds0`** *<n:ch>* require you to enter a DS1 number (1 to 32) and DS0 number (1 to 24) separated by a colon. For example, the channel list for DS1 #4 and DS0 channel #8 would be entered as **`ds0 4:8`**. The channel list may also contain a range of DS0 channels. For example, DS1 #6 and DS0 channels #1 through #12 would be entered as **`ds0 6:1-12`**. A colon follows the DS1 number, and the beginning and ending DS0 channels are separated by a hyphen.

Command Shortcuts (Tabbing)

"Tabbing" is a shortcut for typing commands. CLI allows the user to enter partial command fragments, then press the Tab key.

For example, if you type **`stat equip`** or just **`st eq`** and press the Tab key, the CLI will respond with **`status equipment`**. If this is correct, press the Enter or Return key to execute the command. For corrections, use the Backspace, Delete, and Escape keys.

You can "Tab" after typing each fragment or after typing a series of fragments. The CLI will re-echo the command each time you press the Tab key. When you are satisfied that the command is correct, press the Enter or Return key.

Tabbing will not substitute a word that does not represent a valid command or attempt to correct numbers (such as `9:1-8`) or strings enclosed in quotes (such as `"AcmeCorp"`).

Keyboard Shortcuts

- **Ctrl F** Forward – displays next command line.
- **Ctrl R** Reverse – displays previous command line.
- **Esc** Escape – cancel CLI command without entering.

Current Status and Settings

CLI Commands	Descriptions
status equipment	Show equipment configuration.
show ds1 <*n*|**all**> **show ds0** <*n:ch*> **show isdn crv** <*range*> **show isdn database** **status ds1** <*n*> **status ds0** <*n:ch*>	Show service status.
set ds1 <*n*> **down** **set ds0** <*n:ch*> **down** **set ds0** <*n:ch*> **type** <**voice**|**data**>	Set unused circuits out of service (down). If the DS1 is not terminated, set the DS0 type of all channels to data. If the DS1 is terminated, set the DS0 type of any unused channels to match the DS0 type (voice or data) configured on the device at the other end of the DS1.

Provision Access Navigator

Use the following commands to set up the Access Navigator for network operation and remote management.

CLI Commands	Descriptions
set id <*"id"*>	System Identifier or CLLI code
set date <*mm/dd/yyyy*> **set time** <*hh:mm:ss*>	Date with four-digit year. Time with 24-hour clock. DCS units must be set manually but GR-303 units can be set by end office switch via EOC.
set ethernet ip address none **set ethernet ip address** <*address*> <*mask*> **set ip gateway** <*address*>	Disable Ethernet interface if not used. Enable Ethernet interface. IP gateway address
add user <*name*> **set user** <*name*> **level** <*access*> **set user** <*name*> **password** **delete user** <*name*>	Add user name. Access level, 1 to 3. Password. Remove user.

Provision GR-303 Switch DS1s

Any DS1 port may be defined as a Switch, Drop, or Groom. Switch DS1s connect to the end office switch for GR-303 operation. To ensure that calls are processed properly, the Terminal ID, EOC, and TMC settings must match those in the end office switch. It is prudent to assign the Primary and Secondary Switch DS1s to different Quad T1 Framer cards.

CLI Commands	Descriptions
set switch type <5ess|dms|generic>	Ensures switch compatibility.
set clock1 <bits|ds1 *n*|**internal>** **set clock2 <bits|ds1** *n*|**internal>**	Primary and Secondary system clock sources. BITS is recommended where available or where transport to the end office switch is via a SONET network.
set ds1 <*n*> **type switch**	Switch DS1 type for GR-303 interface group.
set ds1 <*n*> **framing esf**	Switch DS1 framing for switch.
set ds1 <*n*> **linecode b8zs**	Switch DS1 line code.
set ds1 <*n*> **id** <*"id"*>	Switch DS1 identifier.
set ds1 <*n*> **termid** <*id*>	Switch DS1 terminal identifier.
set ds1 <*n*> **clock normal**	DS1 transmit clock source.
set ds1 <*n*> **lbo** <*setting*>	DS1 line buildout. Use settings 1 to 5 for DSX-1 equalization.
set ds1 <*n*> **loopdetect <on|off>**	Usually off for drop DS1s.
set ds1 <*n*> **fdl none**	Switch DS1 FDL is always none.

CLI Commands	Descriptions
set eoc primary <*n:ch*|**none**> **set eoc secondary** <*n:ch*|**none**>	EOC channels are normally assigned to primary and secondary DS1s and use DS0 12.
set tmc primary <*n:ch*|**none**> **set tmc secondary** <*n:ch*|**none**>	TMC channels are normally assigned to primary and secondary DS1s and use DS0 24.
set ds0 <*n:ch*> **up**	Set DS0s in service.
set ds1 <*n*> **up**	Set DS1s in service.

Provision Drop DS1s

Drop DS1s provide service to Customer Premises Equipment such as Access Banks, Adit 600 terminals, CSUs, and PBXs.

CLI Commands	Descriptions
set ds1 <*n*> **type drop**	Drop DS1 type for service to Customer Premises.
set ds1 <*n*> **framing** <**d4**|**esf**|**slc96**>	Drop DS1 framing.
set ds1 <*n*> **linecode** <**ami**|**b8zs**>	DS1 line code.
set ds1 <*n*> **id** <*"id"*>	DS1 identifier.
set ds1 <*n*> **clock** <**normal**|**loop**>	DS1 transmit clock source.
set ds1 <*n*> **lbo** <*setting*>	DS1 line buildout, 1 to 9. 1 to 5 for DSX-1 equalization, 6 to 9 for attenuation.
set ds1 <*n*> **fdl** <**none**|**slc96**|**t1403**>	DS1 FDL type
set ds1 <*n*> **remote device mgmt** <**none**|**cafdl**|**caip** <*ipaddress*>|**ds1** n>	Management link for remote Access Bank II and Adit 600.
set ds1 <*n*> **remote device mgmt caip** <*ipaddress*> **pphone**	Enables call communications channel for remote Adit 600 providing P-Phone service.
set ds1 <*n*> **loopdetect** <**on**|**off**>	Usually off for drop DS1s.
set ds0 <*n:ch*> **type** <**voice**|**data**|**gr303**>	DS0 type.
set ds0 <*n:ch*> **pphone**	P-Phone channels.

CLI Commands	Descriptions
set ds0 <*n:ch*> **isdn** <**b1**|**b2**|**d**> **crv** <*range*> **set ds0** <*n:ch*> **isdn none** **show isdn crv** <*range*> **send switch provision request** **show isdn database**	ISDN BRI 4:1 TDM channels. Unassign ISDN channels. Show ISDN CRVs. If RDT is enabled on Switch. Show ISDN provisioning.
set ds0 <*n:ch*> **crv** <*range*> **set ds0** <*n:ch*> **crv** <*range*> **slc96**	Assign CRVs in sequential order. Assign CRVs in odd-even (slc96) order.
connect <*n:ch*> <*n:ch*> **disconnect** <*n:ch*> **show connect** <*n*>	Connect ISDN D channel to the switch. Remove cross-connect. Show current cross-connects.
set ds0 <*n:ch*> **up**	Set DS0s in service.
set ds1 <*n*> **up**	Set DS1s in service.

Provision Groom DS1s

The following commands are used to provision digital cross-connects from a DS0 on one DS1 to a DS0 on any DS1.

CLI Commands	Descriptions
set ds1 <*n*> **type groom**	Groom DS1 type.
set ds1 <*n*> **framing** <**d4**|**esf**>	DS1 framing.
set ds1 <*n*> **linecode** <**ami**|**b8zs**>	DS1 line code.
set ds1 <*n*> **id** <*"id"*>	DS1 identifier.
set ds1 <*n*> **clock** <**normal**|**loop**>	DS1 transmit clock source.
set ds1 <*n*> **lbo** <*setting*>	DS1 line buildout, 1 to 9. 1 to 5 for DSX-1 equalization, 6 to 9 for attenuation.
set ds1 <*n*> **loopdetect** <**on**|**off**>	Usually off for drop DS1s.
show connect <*n*>	Show DS0 crossconnections.
disconnect <*n:ch*>	Remove old DS0 connections.
set ds0 <*n:ch*> **type** <**voice**|**data**>	DS0 type (use data type for ISDN PRI passthrough).
set ds0 <*n:ch*> **signal** <**ls**|**gs**|**em**>	DS0 signaling (voice type only).
connect <*n:ch*> <*n:ch*>	Add DS0 crossconnections.
set ds0 <*n:ch*> **up**	Set DS0s in service.
set ds1 <*n*> **up**	Set DS1s in service.

Provision Remote Access Bank II

Use the online help to display available settings.

CLI Commands	Descriptions
set remote <*n*> **config off**	Temporarily disable configuration downloading to remote Access Bank II.
set ds1 <*n*> **type drop** **set ds1** <*n*> **framing esf** **set ds1** <*n*> **linecode b8zs** **set ds1** <*n*> **remote mgmt cafdl** **set ds1** <*n*> **lbo** <*setting*> **set ds1** <*n*> **loopdetect off** **set ds1** <*n*> **id** <*"name"*> **set remote** <*n*> **id** <*"name"*>	Provision DS1 service to remote, including remote management interface.
set ds0 <*n:ch*> **type** <*setting*> **set ds0** <*n:ch*> **signaling** <*setting*> **set ds0** <*n:ch*> **crv** <*setting*> **set ds0** <*n:ch*> **up**	Provision DS0 service to remote.
connect <*n:ch*> <*n:ch*> **disconnect** <*n:ch*>	Provision DCS crossconnects to remote.
read remote <*n*> **connections** **read remote** <*n*> **rs232** **read remote** <*n*> **t1** **read remote** <*n*> **t1drop** **read remote** <*n*> **v35**	Read remote DS0 connections and interface settings. Note: SDSL interface port has no settings to read.
add interface <*"name"*> <*n:ch*>	Create fractional interface and assign DS0s to be used.
set remote <*n*> **rs232** <*setting*> **set remote** <*n*> **t1drop** <*setting*> **set remote** <*n*> **v35** <*setting*>	Configure remote interface port to meet customer requirements.

CLI Commands	Descriptions
connect remote <*"name"*> <*port*> **disconnect remote** <*"name"*>	Connect fractional interface to remote interface port.
set remote <*n*> **config on**	Download configuration.
set ds0 <*n:ch*> **up**	Set DS0s in service.
set ds1 <*n*> **up**	Set DS1s in service.

Application Configuration Requirements

Application	Permissible Selections				
	DS1 Type	**DS1 Framing**	**DS1 Line Code**	**DS1 FDL**	**Remote Mgmt**
Voice to GR-303 switch	Switch	ESF	B8ZS	None	None
Voice or data to DCS switch	Groom	D4 or ESF	AMI or B8ZS	None	None
Voice or data to subscriber drop	Drop	D4	AMI or B8ZS	None	None
Voice or data to subscriber drop	Drop	ESF	AMI or B8ZS	None or T1403	None
Adit 600 TDM (FDL mgmt) (controller management DS1)	Drop	ESF	B8ZS	None	CA FDL
Adit 600 TDM (FDL mgmt) (all other DS1s point to controller management DS1)	Drop	ESF	B8ZS	None	DS1 <n>
Adit 600 TDM (IP mgmt) (controller management DS1)	Drop	D4 or ESF	B8ZS	None	CA IP
Adit 600 TDM (IP mgmt) (all other DS1s point to controller management DS1)	Drop	D4 or ESF	B8ZS	None	DS1 <n>
Access Bank II (not remotely provisioned)	Drop	D4 or ESF	AMI or B8ZS	None	None
Access Bank II (remotely provisioned)	Drop	ESF	B8ZS	None	CA FDL
Access Bank I/TR-08 or SLC-96/TR-08 (Shelf A)	Drop	SLC96	AMI or B8ZS	SLC96	None
SLC-96/TR-08 (Shelf B, C, D)	Drop	SLC96	AMI or B8ZS	None	None

Useful Maintenance Commands

Category	CLI Commands
Context-sensitive help available at any time.	**help** **?**
Alarm Cut-Off.	**aco**
Display configuration settings.	**show autoexit** **show clock** **show connect** **show crv** <*range*> **show date** **show ds0** <*n:ch*> **show ds1** <*n*|**all**> **show eoc** **show ethernet** **show id** **show interface** <"*name*"|**all**> **show ip** **show isdn crv** <*range*> **show remote** <*n*|**all**> **show remote** <*n*> **connections** **show snmp** **show switch** **show time** **show tmc** **show users** **whoami**
Read remote Access Bank II DS0 connections and interface settings. Note: SDSL interface port has no settings to read.	**read remote** <*n*> **connections** **read remote** <*n*> **rs232** **read remote** <*n*> **t1** **read remote** <*n*> **t1drop** **read remote** <*n*> **v35** **read remote** <*n*> **alarms**

Category	CLI Commands
Display current information about an interface.	**status clock** **status crv** <*range*> **status ds0** <*n:ch*> **status ds1** <*n*>|**all**> **status ds1** <*n*> **performance** **status ds1** <*n*> **performance history** **status eoc** **status equipment**
Check IP connectivity.	**ping** <*ipaddr*>
Display all alarms. Display selected alarms.	**alarms** **alarms** <**major**|**minor**|**alert**>
Display all log events except BERT, TMC, and Configuration change events. Display selected logs.	**log** **log** <**major**|**minor**|**alert**|**info**> **log ds1** <*n*> **log ds1** <*n*> <**major**|**minor**|**alert**|**info**> **log equipment** **log equipment** <**major**|**minor**|**alert**|**info**> **log info** **log bert** **log config** **log config ds0** <*n*:*ch*> **log config ds1** <*n*> **log config crv** <*value*> **log config source** <**cli**|**eoc**|**snmp**|**icc**> **log tmc** **log tmc permanent** **log tmc crv** <*value*>

Category	CLI Commands
Clear logs.	**clear bert log** **clear blocked call count** **clear config log** **clear ds1** <*n*> **performance** **clear log** **clear peak call count** **clear permanent call count** **clear remote** <*n*> **log** **clear tmc log**
Controller switch. Reset both Controllers. Reset only standby Controller. Reset a DS1 framer. Reset remote Access Bank II.	**switch controller** **reset all** **reset standby** **reset ds1** <*n*> **reset remote** <*n*>
Restore factory defaults.	**restore defaults**
Test alarm functions and produce alarm messages.	**set alarms <critical|major|minor>** **<on|off>**
Test DS1 circuits with loopbacks.	**send ds1** <*n*> **csu <loopup|loopdown>** **send ds1** <*n*> **line <loopup|loopdown>** **send ds1** <*n*> **network <loopup|loopdown>** **send ds1** <*n*> **niu <loopup|loopdown>** **send ds1** <*n*> **payload <loopup|loopdown>**
Send test pattern. Turn off test pattern.	**send ds1** <*n*> **line** **<p2e11|p2e15|p2e23|qrss>** **send ds1** <*n*> **payload <allones|allzeros** **|f1in8|p2e11|p2e15|p2e23|qrss>** **send ds1** <*n*> **off**
Perform automatic BER test and display test result. Note: Test pattern will turn off when test is complete.	**send ds1** <*n*> **line** **<p2e11|p2e15|p2e23|qrss> test** **send ds1** <*n*> **payload <allones|allzeros** **|f1in8|p2e11|p2e15|p2e23|qrss> test**

Alarm and Status Indicators

For alarm clearing producers and detailed indicator descriptions, see Chapters 14 and 15 in the Access Navigator User Manual.

Normal LED states are shown in **Boldface** type.

LED	State	Description
Power (Two LEDs, one for each Controller card)	Off Red Yellow **Green**	-48V power failure. Internal power supply failure. Card is booting up. Normal operation.
Active (Controller)	Off **Green** Yellow	Controller card is standby. Controller card is active. Insufficient memory. SIMM (memory module) is required.
Critical Alarm	**Off** Red	No critical alarms present. Critical alarm exists.
Major Alarm	**Off** Red	No major alarms present. Major alarm exists.
Minor Alarm	**Off** Yellow	No minor alarms present. Minor alarm exists.
ACO (alarm cut-off)	**Off** Yellow	Alarm(s) active. Alarm(s) suppressed.
DS1 Status (Each Quad T1 Framer card has four LEDs)	Off Red Red Flashing Slow Red Flashing Fast Yellow Yellow Flashing **Green** Green Flashing	Off-line. Loss of signal (LOS). Out of frame or AIS. Self-test failure. Lince code violation (LCV). Yellow alarm. Normal operation. Loopback test in progress.
Ethernet (on rear panel)	Off **Green**	No link or connection. Normal operation.