ATLAS 800 SERIES
System Manual

1200780L1	ATLAS 830 System, AC
1200781L1	ATLAS 830 System, DC
1200321L1	ATLAS 890 System
1200322L1	ATLAS 890 System Controller Module
1200185L3	Quad T1/PRI Option Module
1200264L1	Quad E1/PRA Option Module
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4200261Lx	Quad USSI Option Module
1200186L2	Octal Basic Rate ISDN (U-Interface) Option Module
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4200773Lx	Dual Video Option Module
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1200782L1	Modem-24 Resource Module
1200182L1	Async-232 Option Module

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November 2004

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To the Holder of the Manual

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About this Manual

This manual provides a complete description of the ATLAS 800 Series System and system software. The purpose of this manual is to provide the technician, system administrator, and manager with general and specific information related to the planning, installation, operation, and maintenance of the ATLAS 800 Series. This manual is arranged so that needed information can be quickly and easily found.

Viewing Menu information

The ATLAS 800 Series System menus are hierarchical in nature, and information about the menus is presented in the same succession. Main menus are numbered with submenus following. Also, hyperlinked menu trees are provided for the first two menu levels.

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Revision History

Document Revision	Date	Description of Changes
A	Aug 2002	Initial release.
B	Jan 2004	Added Modem-24 Module. Combined ATLAS 830 and ATLAS 890 into one manual.
C	Aug 2004	Corrections to menu selections.
D		
E		
F		
G		

Conventions

Notes provide additional useful information.

Cautions signify information that could prevent service interruption.

Warnings provide information that could prevent damage to the equipment or endangerment to human life.

Safety Instructions

When using your telephone equipment, please follow these basic safety precautions to reduce the risk of fire, electrical shock, or personal injury:

1. Do not use this product near water, such as a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
2. Avoid using a telephone (other than a cordless-type) during an electrical storm. There is a remote risk of shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord, power supply, and/or batteries indicated in the manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for special disposal instructions.

Save These Important Safety Instructions

FCC-Required Information

Product: ATLAS 830 (1200780L1/1200781L1) and ATLAS 890 (1200321L1)

FCC regulations require the following information be provided in this manual:

1. This equipment complies with Part 68 of FCC rules and requirements adopted by ACTA. Each of the registered modules has a label showing the FCC registration number and ringer equivalence number (REN). If requested, provide this information to the telephone company.
2. If this equipment causes harm to the telephone network, the telephone company may temporarily discontinue service. If possible, advance notification is given; otherwise, notification is given as soon as possible. The telephone company will advise the customer of the right to file a complaint with the FCC.
3. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of this equipment. Advance notification and the opportunity to maintain uninterrupted service are given.
4. If experiencing difficulty with this equipment, please contact ADTRAN for repair and warranty information. The telephone company may require this equipment to be disconnected from the network until the problem is corrected or it is certain the equipment is not malfunctioning.
5. This unit contains no user-serviceable parts.
6. An FCC compliant telephone cord with a modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using an FCC compatible modular jack, which is compliant with Part 68 and requirements adopted by ACTA.
7. The following information may be required when applying to the local telephone company for service:

<table>
<tr><th>Part Number</th><th>Registration Number</th><th>Service Type</th><th>REN/SOC</th><th>FIC</th><th>USOC</th></tr>
<tr><td>1200780L1 / 1200781L1</td><td>US: HDCDENAN1200780L1</td><td rowspan="3">1.544 Mbps - SF
1.544 Mbps - SF and B8ZS
1.544 Mbps - ESF
1.544 Mbps - ESF and B8ZS</td><td rowspan="3">6.0 N</td><td rowspan="3">04DU9-BN
04DU9-DN
04DU9-1KN
04DU9-1SN</td><td rowspan="3">RJ-48C</td></tr>
<tr><td>1200185L3</td><td>HDCUSA-31934-DE-N</td></tr>
<tr><td>1200771L1</td><td>US: HDCDENAN1200346L1</td></tr>
<tr><td>1200186L2</td><td>HDCUSA-32227-DE-N</td><td>Basic Rate ISDN</td><td>6.0 N</td><td>02IS5</td><td>RJ-49C</td></tr>
<tr><td>1200343L1</td><td>US: HDCXDNAN1200343L1</td><td>ISDN BRI S/T</td><td>6.0F</td><td>N/A</td><td>N/A</td></tr>
</table>

8. The REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, the sum of the RENs of all devices should not exceed five. To be certain of the number of devices you may connect to your line as determined by the REN, call your telephone company to determine the maximum REN for your calling area.
9. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. Contact your state public utility commission or corporation commission for information.

FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio frequencies. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE *Shielded cables must be used with this unit to ensure compliance with Class A FCC limits.*

WARNING *Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

Affadavits

Affidavit Requirements Connection to Digital Services

- An affidavit is required to be given to the telephone company whenever digital terminal equipment without encoded analog content and billing protection is used to transmit digital signals containing encoded analog content which are intended for eventual conversion into voiceband analog signal and transmitted on the network.
- The affidavit shall affirm that either no encoded analog content or billing information is being transmitted or that the output of the device meets Part 68 encoded analog content or billing protection specifications.
- End user/customer will be responsible to file an affidavit with the local exchange carrier when connecting unprotected CPE to a 1.544 Mbps or subrate digital service.
- Until such time as subrate digital terminal equipment is registered for voice applications, the affidavit requirements for subrate services are waived.

Affidavit for Connection of Customer Premises Equipment to 1.544 Mbps and/or Subrate Digital Services

For the work to be performed in the certified territory of ___________________ (telco name)

State of ________________

County of ________________

I, _______________________ (name), ____________________________________ (business address),

____________________ (telephone number) being duly sworn, state:

( ) I have responsibility for the operation and maintenance of the terminal equipment to be connected to 1.544 Mbps and/or ________ subrate digital services. The terminal equipment to be connected complies with Part 68 of the FCC rules except for the encoded analog content and billing protection specifications. With respect to encoded analog content and billing protection:

( ) I attest that all operations associated with the establishment, maintenance, and adjustment of the digital CPE with respect to analog content and encoded billing protection information continuously complies with Part 68 of the FCC Rules and Regulations.

( ) The digital CPE does not transmit digital signals containing encoded analog content or billing information which is intended to be decoded within the telecommunications network.

( ) The encoded analog content and billing protection is factory set and is not under the control of the customer.

I attest that the operator(s)/maintainer(s) of the digital CPE responsible for the establishment, maintenance, and adjustment of the encoded analog content and billing information has (have) been trained to perform these functions by successfully having completed one of the following (check appropriate blocks):

( ) A. A training course provided by the manufacturer/grantee of the equipment used to encode analog signals; or

( ) B. A training course provided by the customer or authorized representative, using training materials and instructions provided by the manufacturer/grantee of the equipment used to encode analog signals; or

( ) C. An independent training course (e.g., trade school or technical institution) recognized by the manufacturer/grantee of the equipment used to encode analog signals; or

( ) D. In lieu of the preceding training requirements, the operator(s)/maintainer(s) is (are) under the control of a supervisor trained in accordance with _________ (circle one) above.

I agree to provide ______________________ (telco's name) with proper documentation to demonstrate compliance with the information as provided in the preceding paragraph, if so requested.

_________________________________Signature

_________________________________Title

_________________________________ Date

Transcribed and sworn to before me

This ________ day of _______________, _______

____
Notary Public

My commission expires:

____

Industry Canada Compliance Information

Notice: The Industry Canada label applied to the product (identified by the Industry Canada logo or the "IC:" in front of the certification/registration number) signifies that the Industry Canada technical specifications were met.

Notice: The Ringer Equivalence Number (REN) for this terminal equipment is supplied in the documentation or on the product labeling/markings. The REN assigned to each terminal device indicates the maximum number of terminals that can be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices should not exceed five (5).

Canadian Emissions Requirements

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioelectriques applicables aux appareils numériques de Class A prescrites dans la norme sur le materiel brouilleur: "Appareils Numériques," NMB-003 edictee par le ministre des Communications.

Product Warranty

ADTRAN will repair and return this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found at www.adtran.com.

Product Registration

Registering your product helps ensure complete customer satisfaction. Please take time to register your products on line at www.adtran.com. Click *Service and Support* on the top of the page, and then click *Product Registration* under *Support.*

Customer Service, Product Support Information, and Training

ADTRAN will repair and return this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found at www.adtran.com/warranty.

A return material authorization (RMA) is required prior to returning equipment to ADTRAN. For service, RMA requests, training, or more information, use the contact information given below.

Repair and Return

If you determine that a repair is needed, please contact our Customer and Product Service (CaPS) department to have an RMA number issued. CAPS should also be contacted to obtain information regarding equipment currently in house or possible fees associated with repair.

CaPS Department (256) 963-8722

Identify the RMA number clearly on the package (below address), and return to the following address:

ADTRAN Customer and Product Service
901 Explorer Blvd. (East Tower)
Huntsville, Alabama 35806

RMA # ____________

Pre-Sales Inquiries and Applications Support

Your reseller should serve as the first point of contact for support. If additional pre-sales support is needed, the ADTRAN Support web site provides a variety of support services such as a searchable knowledge base, latest product documentation, application briefs, case studies, and a link to submit a question to an Applications Engineer. All of this, and more, is available at:

http://support.adtran.com

When needed, further pre-sales assistance is available by calling our Applications Engineering Department.

Applications Engineering (800) 615-1176

Post-Sales Support

Your reseller should serve as the first point of contact for support. If additional support is needed, the ADTRAN Support web site provides a variety of support services such as a searchable knowledge base, updated firmware releases, latest product documentation, service request ticket generation and trouble-shooting tools. All of this, and more, is available at:

http://support.adtran.com

When needed, further post-sales assistance is available by calling our Technical Support Center. Please have your unit serial number available when you call.

Technical Support (888) 4ADTRAN

Installation and Maintenance Support

The ADTRAN Custom Extended Services (ACES) program offers multiple types and levels of installation and maintenance services which allow you to choose the kind of assistance you need. This support is available at:

http://www.adtran.com/aces

For questions, call the ACES Help Desk.

ACES Help Desk (888) 874-ACES (2237)

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The Enterprise Network (EN) Technical Training Department offers training on our most popular products. These courses include overviews on product features and functions while covering applications of ADTRAN's product lines. ADTRAN provides a variety of training options, including customized training and courses taught at our facilities or at your site. For more information about training, please contact your Territory Manager or the Enterprise Training Coordinator.

Training Phone	(800) 615-1176, ext. 7500
Training Fax	(256) 963-6700
Training Email	training@adtran.com

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SECTION 1 SYSTEM DESCRIPTION

Provides managers with an overview of the ATLAS 800 Series System.

This section contains general information and describes physical and operational concepts, card functions, network relationships, provisioning, testing, alarm status, and system monitoring. This section should be used in conjunction with Section 2, *Engineering Guidelines,* on page 23 of the system manual.

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1. SYSTEM OVERVIEW

The ATLAS 800 Series' modular and highly scalable platform provides robust solutions for the wide-area communication needs of medium-to-large corporations and network access providers. The ATLAS 800 Series is an Integrated Access System with extensive support of dedicated bandwidth management and access switching. It contains a high-performance CPU and powerful communications drivers which support applications such as frame relay and call switching.

With the ATLAS 800 Series, you can consolidate voice, data, and video applications into a single platform while optimizing wide-area bandwidth and reducing equipment costs. The ATLAS 800 Series architecture's expansion slots allows for a variety of modules, making it one of the most versatile access systems on the market.

ATLAS 830

The ATLAS 830 architecture includes a packet switching and a circuit switching bussing scheme. The result is a system that supports bandwidth requirements of up to 30 T1 or Primary Rate ISDN (PRI) circuits. Designed for standalone or rackmount use, the ATLAS 830 provides eight expansion slots that accommodate hot-swappable option modules. A redundant power supply may be installed in slots 7 and 8, if desired. A 10/100BaseT Ethernet connection for IP routing and network management and two onboard T1/PRI interfaces are standard with the ATLAS 830.

ATLAS 890

The ATLAS 890 architecture includes a packet switching and a circuit switching bussing scheme. The result is a system that supports bandwidth requirements of up to 30 T1 or Primary Rate ISDN (PRI) circuits. Designed for standalone or rackmount use, the ATLAS 890 base unit provides two hot-swappable, redundant system controller slots and up to 16 expansion slots that accommodate hot-swappable option modules and up to four hot-swappable, redundant power supplies for a variety of applications. A 10/100BaseT Ethernet connection for IP routing and network management is standard with the ATLAS 890 System Controller Module.

2. FEATURES AND BENEFITS

The following sections briefly describe features and benefits of the ATLAS 800 Series systems.

Configuration and Management

- VT100 Emulation
- SNMP, per MIB II (RFC1213), DS1 MIB (RFC1406), and ADTRAN private MIBs
- Telnet
- Dial-up, remote management via external analog modem
- Six levels of password protection and privileges

Software Upgradeable

- Flash memory
- TFTP download
- XMODEM via control port

Signaling Support

- ISDN D Channel
- Robbed Bit, E&M, Ground Start, Loop Start
- Convert between Robbed Bit Signaling and ISDN D Channel
- Direct Inward Dialing

ISDN Switch Types

- 5ESS™, DMS-100™, National ISDN, 4ESS™, Euro ISDN (ATLAS 830 only)

Dedicated Connection Maps

- Up to five connection maps
- Time of day/day of week configurable
- Preserves signaling through cross-connect
- No effect on unconfigured channels

Switched Connection Maps

- Inbound and outbound call filtering and blocking

Testing

- Local and remote: payload/line, V.54 (depending on installed modules)
- Patterns: 511, QRSS, all ones, all zeros (depending on installed modules)

Performance Monitoring

- Reports: Information for the ATLAS is stored for the last 24 hours, last 15 minutes, and last 5 minutes.
- ATLAS 830 can store frame relay performance at user-specified intervals (5, 10, 15, 20, 30 mins).
- Performance statistics per TR54016, T1.403, RFC1406
- Alarm reporting per TR54016, T1.403

Frame Relay

- Routes Internet Protocol (IP) traffic between the Ethernet port and a public frame relay network, a private frame relay network, or a point-to-point (PPP) network.
- Concentrates IP traffic from a public or private frame relay network to one or more serial ports (V.35). The protocol passed over the serial port is frame relay (RFC 1490 encapsulation).
- Passes Systems Network Architecture (SNA), Bisync, and other legacy protocols between a public or private frame relay network and an external DTE running frame relay to the ATLAS.
- Performs voice compression/decompression (G.723.1) and interfaces to either a Private Branch Exchange (PBX) or the Public Switched Telephone Network (PSTN). This feature requires an additional option module, the VCOM Module—P/N 1200221Lx.
- Supports LMI, Annex D, or Annex A signaling on frame relay connections.

PPP Switching

- Supports up to 100 simultaneous PPP connections.
- Performs PAP, CHAP, or EAP authentication methods on a per connection basis.
- Includes keepalive functionality for PPP connections.
- Provides capability for numbered or unnumbered PPP interfaces.

3. OPTION MODULES OVERVIEW

Each option module is hot-swappable with configuration restored upon replacement. The following option modules are available in an ATLAS chassis:

Module Name	Part Number	ATLAS 830	ATLAS 890
ATLAS 890 System Controller	1200322L1	n/a	*
Quad T1/PRI Option Module	1200185L3	*	*
Quad E1/PRA Option Module	1200264L1	*	*
Quad Nx 56/64 Option Module	1200184L1	*	*
Quad USSI Option Module	4200261Lx	*	*
Octal Basic Rate ISDN (U-Interface) Option Module	1200186L2	*	*
Octal Basic Rate ISDN (S/T Interface) Option Module	1200343L1	*	*
T3 Option Module	1200223L1	*	*
T3 Option Module with Drop and Insert Interface	1200225L1	*	*
Dual Video Option Module	4200773Lx	*	*
NxT1 HSSI/V.35 Option Module	1200771L1	*	*
Octal FXS Option Module	1200338L1	*	*
8,16,24,32 Channel Voice Compression Resource Modules	1200221Lx	*	*
Nx 56/64 IMUX/BONDing Resource Module	1200262L1	*	*
HDLC Resource Module	1200222L1	*	*
Modem-16 Resource Module	1200181L1	*	*
Modem-24 Resource Module	1200782L1	*	*
Async-232 Option Module	1200182L1	*	*

NOTE *Replacing an option module with a different module type results in configuration loss.*

Each option module provides a variety of performance and alarm status information. Several features of each module are user-configurable, although default values reflect the most common configurations. All option modules contain an extensive self-test as well as tests designed for the technologies they incorporate.

ATLAS 890 System Controller Module (P/N 1200322L1)

In addition to controlling the shelf and its contents, the system controller modules serve as the user interface. The user provisions and monitors all modules in the system, either locally or remotely, via the system controller interface. The system controllers provision the option cards in the shelf via the faceplate RJ-45 **ADMIN** connector of the active system controller and a VT100 terminal. Additionally, a 10/100BaseT Ethernet interface provides Telnet access.

Quad T1/PRI Option Module (P/N 1200185L3)

The Quad T1/PRI Option Module provides four channelized T1 or PRI interfaces. Each interface can operate independently in DS-1, DSX-1, or PRI mode and any port can deliver timing for the system.

Quad E1/PRA Option Module (P/N 1200264L1)

The Quad E1/PRA Option Module provides four channelized E1 or PRA interfaces using the supplied 120-ohm, DB-15 converter cable. The Quad E1/PRA Option Module may also be purchased to include BNC converter cables (P/N 4200264L1). This interface operates in CCS or CAS signaling mode and can deliver timing for the system.

Quad Nx 56/64 Option Module (P/N 1200184L1)

The Quad Nx 56/64 Module provides four synchronous V.35 DTE ports (using the supplied DB-78 to V.35 converter cables) that can operate from 56K to 2.048 Mbps in steps of 56 or 64 kbps. Any port can deliver timing for the system.

Quad USSI Option Module (P/N 4200261Lx)

The Quad USSI Option Module provides four synchronous DTE ports that can operate from 56K to 2.048 Mbps in steps of 56 or 64 kbps. Using adapter cables, the DTE ports available include EIA-530, RS-449, RS-232, and CCITT X.21. Any port can deliver timing for the system.

Octal Basic Rate ISDN (U-Interface) Option Module (1200186L2)

The Octal Basic Rate ISDN Module provides eight Basic Rate ISDN (BRI) U interfaces, each capable of operating in either NT or LT mode. Any port can deliver timing for the system.

Octal Basic Rate ISDN (S/T Interface) Option Module (1200343L1)

The Octal Basic Rate ISDN (S/T Interface) Module provides eight Basic Rate ISDN (BRI) S/T interfaces, each capable of operating in NT (User Term) mode only. This module does not deliver timing for the system.

T3 Option Module (P/N 1200223L1)

The T3 Option Module provides a single, channelized T3 interface that allows bandwidth management of up to 28 T1s. It functions as a T3 DSU/CSU, M13 multiplexer, and 3/1/0 timeslot interchange DACS. The T3 clock or any of the odd T1s contained in the T3 circuit may deliver timing for the system.

T3 Option Module with Drop and Insert Interface (P/N 1200225L1)

The T3 Option Module with Drop and Insert Interface provides a single, channelized T3 interface for primary service and an additional drop and insert interface for passing T3 channels (in T1 pairs) to a secondary channelized T3 device. The module functions as a T3 DSU/CSU, M13 multiplexer, and 3/1/0 timeslot interchange DACS. The T3 clock or any of the odd T1s contained in the T3 circuit may deliver timing for the system.

Dual Video Option Module (P/N 4200773Lx)

The Dual Video Option Module provides two independent video ports, each including an RS-366 dialing interface (DB-25) and a synchronous DTE port (interface connector determined by custom cable). When used in conjunction with the Nx56/64 BONDing Option Module (P/N 1200262L1), the Dual Video Module provides high-bandwidth videoconferencing. The Dual Video Module does not provide timing for the ATLAS 800 Series system.

NxT1 HSSI/V.35 Option Module (1200771L1)

The NxT1 HSSI/V.35 Option Module aggregates bandwidth from one to eight T1s into a single logical channel on the HSSI interface (or V.35 interface using the optional adapter cable). The NxT1/V.35 Option Module supports point-to-point T1 applications only. Any of the four built-in T1 ports of the NxT1 HSSI/V.35 Option Module can provide timing for the ATLAS 800 Series system.

Octal FXS Option Module (P/N 1200338L1)

The Octal FXS Option Module provides eight analog voice-grade interfaces. Each interface provides talk battery, off-hook supervision, E&M signaling conversion, and ringing in loop-start or ground-start operation. Call progress tones, where necessary, are provided to the modules by the ATLAS 800 Series.

8,16,24,32 Channel Voice Compression Resource Modules (P/N 1200221Lx)

The Voice Compression Resource Module (VCOM Module) combines with other ATLAS 800 Series components to implement voice over frame relay (VoFR) capability. The Voice Compression Resources modules support 8, 16, 24, or 32 simultaneous compressed calls using G.723.1 or Netcoder compression algorithms.

Nx 56/64 BONDing Resource Module (P/N 1200262L1)

The Nx 56/64 BONDing Resource Module supports multiple, independent BONDing sessions with each session capable of using from 2 to 32 channels of 56K or 64K data. The Nx 56/64 BONDing Resource Module combines with other ATLAS 800 Series components to provide a flexible disaster recovery system.

HDLC Resource Module (P/N 1200222L1)

Certain ATLAS 800 Series applications require a larger number of High-level Data Link Control (HDLC) controllers than the 35 supplied on the system controller module. The HDLC Resource Module contains 128 HDLC controllers and is used when the application requirements call for more HDLC controllers than are provided with the other ATLAS 800 Series hardware components. The HDLC Resource Module provides no physical interfaces.

Modem-16 Resource Module (P/N 1200181L1)

The Modem-16 Resource Module is a high-capacity card for the ATLAS 800 Series, capable of processing 16 modem or ISDN Calls. Modem or ISDN calls are presented to the ATLAS 800 Series via one or more Primary Rate ISDN (PRI), Basic Rate ISDN (BRI), or T1 circuits. The Modem-16 Resource Module combines with the Async-232 Module to enable dial-up access for up to 32 users. The Modem-16 Resource Module provides no physical interfaces.

Modem-24 Resource Module (P/N 1200782L1)

The Modem-24 Module contains 24 V.90-compliant modems that interface digitally to the network to allow remote dial-in access to the ATLAS 800 Series chassis. The Modem-24 module terminates 24 56-Kbps dial-up data streams. This module allows remote access users to connect to the corporate facility using analog dial-up lines.

Async-232 Option Module (P/N 1200182L1)

The Async-232 Module combines with the ATLAS 800 Series components to provide solutions for a variety of wide area networking (WAN) applications. Providing 16 asynchronous EIA-232 data terminal equipment (DTE) ports, the Async-232 Module serves as the interface to terminal servers and other DTE equipment. Each port of the Async-232 Module can be configured to operate at any standard asynchronous rate, up to 115.2 kbps. The Async-232 Module is only supported in dial-up applications (using the Modem-24 Resource Module) and is not a valid interface for TDM data.

SECTION 2 ENGINEERING GUIDELINES

Assists network designers in incorporating the ATLAS 800 Series System into existing networks. Includes pinouts.

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1. ATLAS 830 DESCRIPTION

Equipment Dimensions

The ATLAS 830 is 17.5” W, 12.5” D, and 5.5” H and is equipped for table top use or for mounting in a 19-inch rack (mounting brackets are included in the shipment). All option modules fit inside the unit.

Power Requirements (AC System)

Regardless of the option modules configuration installed in the unit, the ATLAS 830 AC system has a maximum power consumption of 200 W and a maximum current draw of 3.5 A. With no option modules installed, the AC-powered ATLAS 830 has a power consumption of 50 W and a current draw of 0.64 A, maximum at 115 Vrms.

Power Requirements (DC System)

Regardless of the option modules configuration installed in the unit, the ATLAS 830 DC system has a maximum power consumption of 200 W and a maximum current draw of 4.2 A at -48 VDC. With no option modules installed, the DC-powered ATLAS 830 has a power consumption of 45 W at -48 VDC.

2. ATLAS 830 FRONT PANEL

The ATLAS 830 front panel contains the Alarm Cut-off (**ACO**) switch, the **CRAFT** port, and status LEDs for the system (**POWER**, **SYSTEM**, **ETHERNET**, and **REMOTE**), network (**NETWORK**), and option module (**MODULE**). Figure 1 locates these features and Table 1 on page 26 further describes their functions.

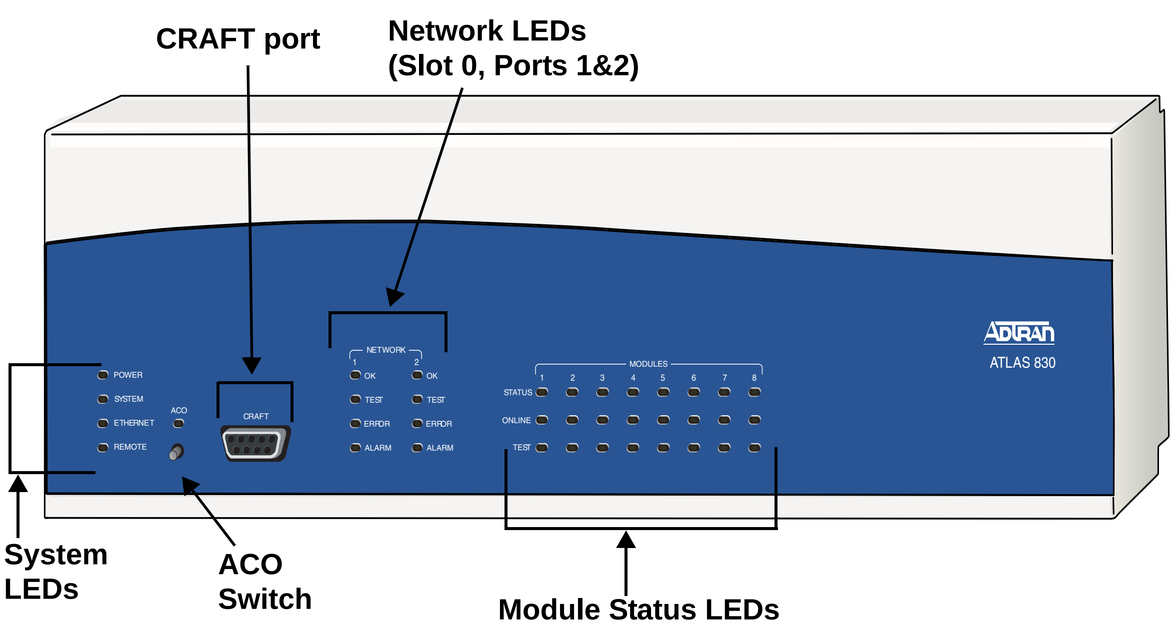

Figure 1. ATLAS 830 Front Panel Layout

ACO Switch

The **ACO** switch clears the Alarm Relay (located on the rear panel) after an alarm condition has occurred. If an alarm condition is corrected and then reoccurs, the Alarm Relay activates again.

CRAFT Port

Use the **CRAFT** port (see Pinout 1) to configure the system via an EIA-232 connection.

Pinout 1. ATLAS 830 CRAFT Port (DB-9, female)

Pin	Name	Description
1	DCD	Data Carrier Detect (output)—not connected
2	RD	Receive Data (output)
3	TD	Transmit Data (input)
4	DTR	Data Terminal Ready (input)—not connected
5	SG	Signal Ground
6	DSR	Data Set Ready (output)—not connected
7	RTS	Request to Send (input)—not connected
8	CTS	Clear to Send (output)— not connected
9	RI	Ring Indicate (output)—not connected

Front Panel LEDs

With the ATLAS 830 powered-up, the front panel LEDs provide visual information about the status of the ATLAS 830 and any option modules that may be installed. Table 1 describes the purpose of the front panel LEDs, and Table 2 on page 28 provides information about the meaning of the LED colors.

Table 1. ATLAS 830 Front Panel LEDs' Purpose

LED	Purpose
System	Displays the status of the power supply, controller, and other system parameters for the ATLAS 830 (see Table 2 on page 28).
Power	Indicates the status of the power supply.
System	Indicates the status of the unit controller and other system parameters.
Ethernet	Indicates the status of the Ethernet port.
Remote	Indicates whether a user (Telnet or VT100) is logged into the unit.

Table 1. ATLAS 830 Front Panel LEDs' Purpose *(Continued)*

LED	Purpose
Network	Displays the status of the two built-in T1/PRI interfaces on the rear panel of the unit. (These are referred to in the menus as Slot 0, Ports 1 and 2.)
OK	Indicates that the network interface has passed self-test and is operating correctly.
Test	Indicates that there is an active test on the T1/PRI interface.
Error	Blinks to indicate the occurrence of error events such as clock slip seconds (CSS), bipolar violations (BPV), errored seconds (ES), etc.
Alarm	Indicates an active alarm condition on the T1/PRI interface.
ACO	Indicates the status of the ACO switch.
Modules	Displays by row the operational condition of each module installed in the option slots. All LEDs will be off if no option module is installed or configured.
Status	Indicates the operational condition of modules installed in the option slots.
Online	Indicates whether the module is available for use or is currently in use. If the module is manually taken offline, this LED is turned off.
Test	Indicates that one or more ports within a module are in test.
ACO	Clears the Alarm Relay connection located on the rear panel of the ATLAS 830.
CRAFT	Allows the ATLAS 830 to connect to a computer using a VT100 terminal or terminal emulator.

Table 2. ATLAS 830 LED Descriptions

For these LEDs...	This color light...	Indicates that...
System		
Power	Red (solid)	Power supply error condition or temperature alarm.
	Green	The unit is on and connected to a power source.
	Off	The unit is off.
System	Green (solid)	No diagnosed system faults were found.
	Green (fast blink)	System Controller is offline.
	Yellow (fast blink)	Flash download is in progress.
	Yellow (solid)	Self-test in progress.
	Red (solid)	Internal error condition.
	Red (fast blink)	Flash download or flash error condition.
	Off	Power is not currently supplied to the system or the power switch is in the off position.
Ethernet	Green	Link has been established.
	Off	Link has not been established.
Remote	Yellow	A user is logged into the unit via Telnet or VT100.
	Off	No users are logged into the unit.
ACO	Yellow	ACO switch is depressed.
	Off	ACO switch is not depressed.
Network		
OK	Green (solid)	The network T1/PRI interface is operating normally with error-free operation.
	Off	The interface has experienced an alarm.
TEST	Yellow (solid)	The T1/PRI interface is in a test mode.
ERROR	Red (blinking)	Blinks with the occurrence of an error event including BPV, CRC, and ES.
ALARM	Red (solid)	The T1/PRI interface is experiencing an alarm such as loss of frame (LOF), loss of signal (LOS), etc.

Table 2. ATLAS 830 LED Descriptions *(Continued)*

For these LEDs...	This color light...	Indicates that...
Modules		
Status	Green (solid)	Module is present.
	Green (fast blink)	Module has been manually taken offline by the user.
	Red (solid)	Module is in an alarm state.
	Red (fast blink)	Module has no response, has been removed, or is not supported.
	Red (slow blink)	Module is not ready.
	None	No module occupies the slot.
Online	Green (solid)	Module has an active connection.
	Green (fast blink)	Module has invalid flash memory or is downloading firmware.
Test	Yellow (solid)	Module is in a test mode.

3. ATLAS 830 REAR PANEL

The ATLAS 830 rear panel (see Figure 2) contains an **ADMIN** port for connecting to a VT100 terminal (or terminal emulator) or modem, a 10/100BaseT interface for **ETHERNET** access, **ALARM** contacts, two built-in T1/PRI network interfaces (**NTWK1** and **NTWK2**) and eight slots for housing option modules which provide a variety of additional resources and data ports. All slots are functionally identical. An optional redundant power supply may be installed in slots 7 and 8. In addition, the **ON/OFF** switch and **POWER SUPPLY** are located on the rear panel.

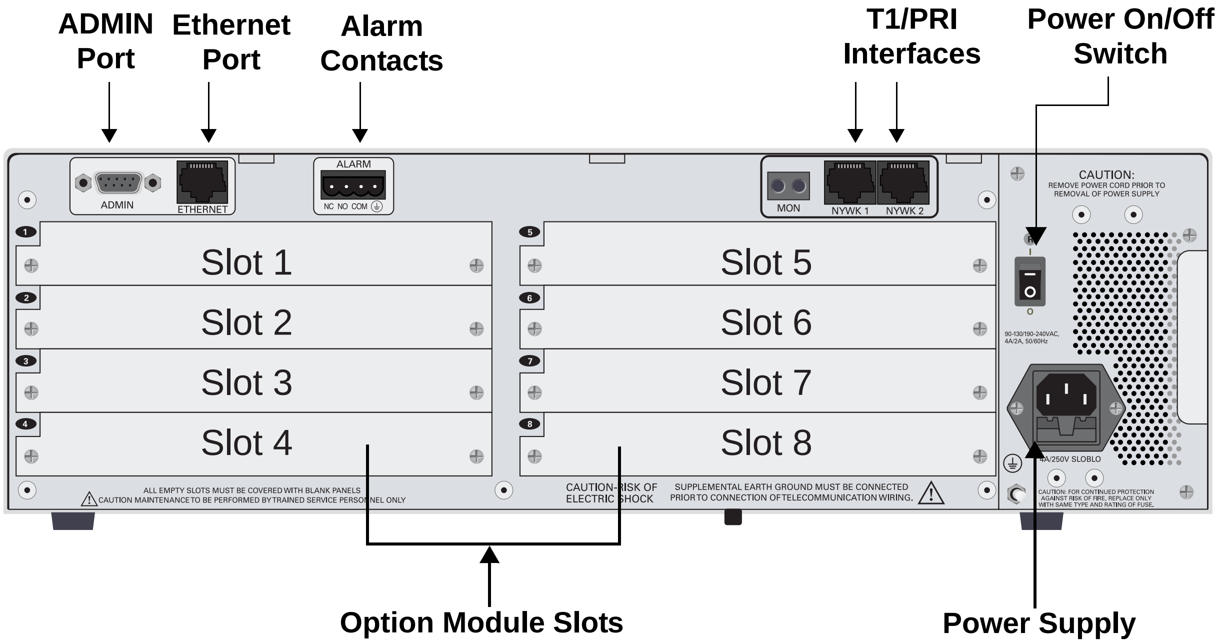

Figure 2. ATLAS 830 Rear Panel

Admin Port

The **ADMIN** port (EIA-232, see Pinout 2 on page 30) connects to a computer or modem and provides the following functions:

- Accepts EIA-232 input from a PC or a modem for controlling the ATLAS 830.
- Operates at 2400, 9600, 19200, or 38400 bps.
- Acts as input for either VT100 or PC control.
- Acts as an interface for flash memory software downloads using XMODEM.

Pinout 2. ATLAS 830 Admin Port (DB-9, female)

Pin	Name	Description	Pin	Name	Description
1	DCD	Data Carrier Detect (output)	6	DSR	Data Set Ready (output — not connected
2	RD	Receive Data (output)	7	RTS	Request to Send (input)
3	TD	Transmit Data (input)	8	CTS	Clear to Send (output)
4	DTR	Data Terminal Ready (input)	9	RI	Ring Indicate (output) — not connected
5	SG	Signal Ground			

10/100BaseT Connection

The 10/100BaseT port (RJ-45) provides a 10/100BaseT Ethernet LAN connection, which is used for IP Routing, TFTP, SNMP, and Telnet connections (see Pinout 3).

Pinout 3. ATLAS 830 Ethernet (RJ-45)

Pin	Name	Description
1	TX1	Transmit Positive
2	TX2	Transmit Negative
3	RX1	Receive Positive
4, 5	Unused	—
6	RX2	Receive Negative
7, 8	Unused	—

Alarm Relay Connection

This connection alerts the user when a pre-selected alarm condition exists (see Pinout 4). The four-pin, removable terminal block connects with external wiring. Refer to DLP-11, *Connecting the Alarm Contacts*, on page 348 for detailed instructions. Clear the alarm condition by pressing the ACO switch located on the front panel of the ATLAS 830.

Pinout 4. ATLAS 830 Alarm Relay Connector

Pin	Name	Description
1	NC	Normally closed, but opens when a pre-selected alarm condition is present.
2	NO	Normally open, but closes when a pre-selected alarm condition is present.
3	COM	Common connection between external circuitry and NC or NO terminal.
4	GND	The chassis ground.

MON

The **MON IN** and **OUT** Bantam test jacks provide a bridged access jack for nonintrusive monitoring of the incoming T1. When connected to this jack, configure the test equipment for bridged termination.

T1/PRI Connections

Each of the T1/PRI ports, **NTWK1** and **NTWK2**, uses a single eight-position modular jack to connect to the T1 or PRI circuit. Pinout 5 shows the pinout for this connector.

Pinout 5. ATLAS 830 T1/PRI

Pin	Name	Description
1	RxData-Ring (R)	Receive data from the network
2	RxData-Tip (T)	Receive data from the network
3	Unused	—
4	TxData-Ring (R1)	Send data towards the network
5	TxData-Tip (T1)	Send data towards the network
6,7,8	Unused	—

4. ATLAS 830 AT-A-GLANCE SPECIFICATIONS

Table 3 lists the specifications for the ATLAS 830 system.

Table 3. ATLAS 830 Specifications

Application	Feature	Specification
Operating Specifications		
	Temperature	Operation: 0°C to 45°C Storage: -40°C to 70°C
	Relative Humidity	To 95% noncondensing
TDM Applications		
	TDM bandwidth	46 Mbps Full duplex
	Dedicated map connections	766 dedicated DS0 map connections in each of the 5 maps

Table 3. ATLAS 830 Specifications *(Continued)*

Application	Feature	Specification
Switching Applications		
	ISDN signaling types	National ISDN Lucent 5E AT&T 4ESS (PRI Only) Northern DMS-100 (Nortel Custom) Euro ISDN
	T1 signaling types	Loop-Start Ground-Start E&M Wink E&M Immediate Feature Group D
	DSP Features	DTMF/MF tones support Progress tone generation 32 available DSP channels 27 simultaneous dial tones
	BRI Connections (recommended)	64 connections
	PRI Connections (recommended)	345 B channels and 15 D channels
	RBS T1 Connections (recommended)	120 DS0 connections

Table 3. ATLAS 830 Specifications *(Continued)*

Application	Feature	Specification
Frame Relay		
	Packet throughput	7900 pkts/sec (based on 64 byte size packets)
	Management signaling interfaces	UNI (user and network) NNI
	Management signaling types	ANSI T1.617-D (Annex D) ITU-T Q.933-A (Annex A) LMI (Group of four) Auto
	Encapsulation	RFC 1490
	PVC support	24 PVCs per packet endpoint (DS0 limited, 24 PVCs for T1). 992 is the limit of PVCs allowed in the unit.
	Congestion control	FECN / BECN Discard eligible (DE)
	Quality of service (QOS)	Prioritization on a per-PVC basis
	Testing (ADTRAN proprietary)	PVC loopback Round trip delay measurement
	SNMP support	RFC 1315
PPP		
	Connection support	35 PPP connections to the internal router (not exceeding 3200 packets per second) 100 PPP connections to the internal router (requires HDLC Module and cannot exceed 3200 packets per second)
	Authentication support	PAP CHAP EAP
	Keepalive support	On/Off
	Interface support	Numbered interfaces Unnumbered interfaces

Table 3. ATLAS 830 Specifications *(Continued)*

Application	Feature	Specification
IP Routing		
	Route discovery	RIP V1 RIP V2 ICMP ARP IARP UDP Relay
	SNMP support	RFCs 1315, 1213, 1406 Adtran Enterprise MIB
Voice Compression		
	Algorithm	Voice Compression Module G.723.1 or Netcoder (proprietary)
	Number of channels supported	Up to 64 compression channels
	PCM coding	µ-Law
	Fax support	9600 bps
	DTMF generation and detection	TIA 464A

5. ATLAS 890 DESCRIPTION

Equipment Dimensions

The ATLAS 890 base unit is 17.08” W, 11.67” D, and 10.5” H and can be mounted in a 19-inch or 23-inch rack (mounting brackets are included in the shipment). All other equipment (option modules) fit inside the base unit.

Power Requirements (AC System)

Regardless of the option modules configuration installed in the base unit, the ATLAS 890 AC system has a maximum power consumption of 400 W and a maximum current draw of 7 A.

Power Requirements (DC System)

Regardless of the option modules configuration installed in the base unit, the ATLAS 890 DC system has a maximum power consumption of 325W and a maximum current draw of 8 A at -48 VDC.

6. ATLAS 890 FRONT PANEL

The front panel contains the Alarm Cut-off (**ACO**) switch, the **CRAFT** port, and the controller and option modules, and system (fans and alarm) status **LEDs**. The LEDs provide visual information about the ATLAS 890 base unit and any option module that may be installed. Figure 3 identifies these features.

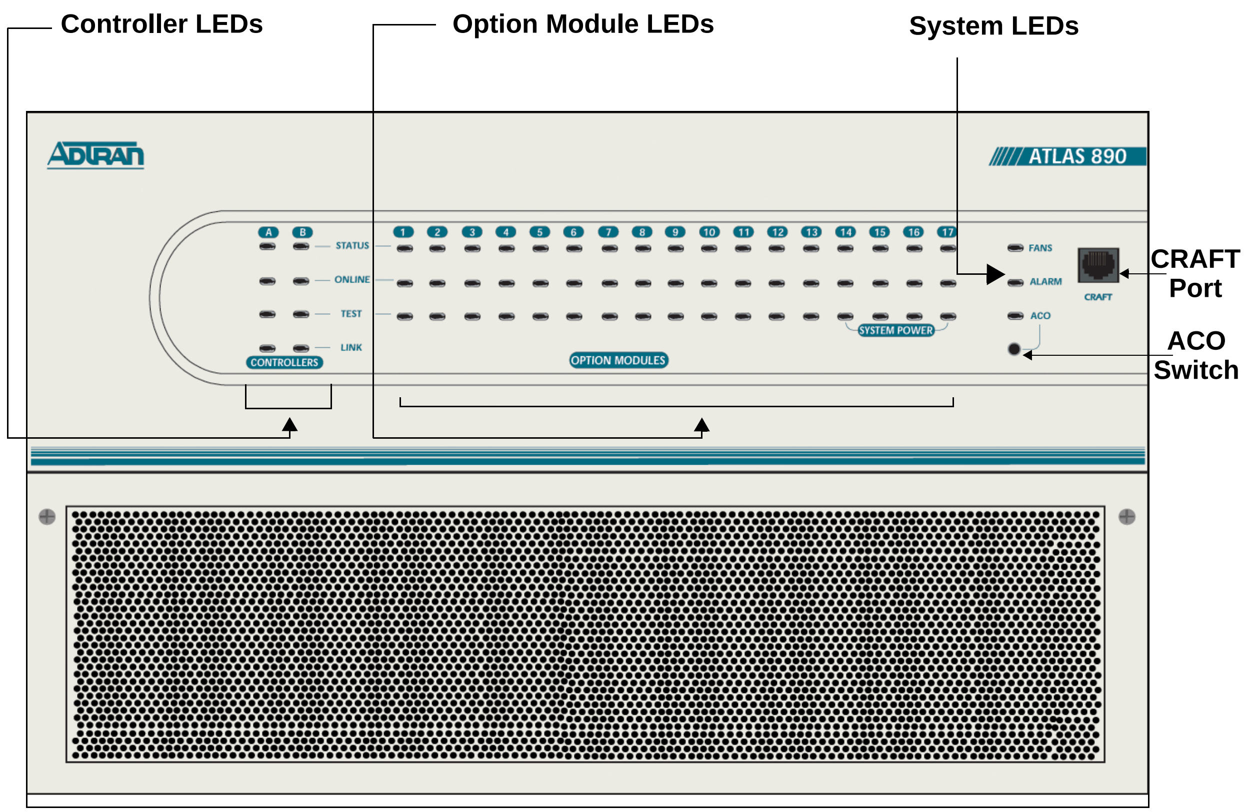

Figure 3. ATLAS 890 Front Panel Layout

ACO Switch

The **ACO** switch deactivates (clears) the Alarm Relay, located on the rear panel, after an alarm condition has occurred. If an alarm condition is corrected and then reoccurs, the Alarm Relay activates again.

CRAFT Port

Use the **CRAFT** port (see Pinout 6) to connect to a computer to configure the system via an EIA-232 connection or to connect to a modem.

Pinout 6. ATLAS 890 CRAFT Port (RJ-48C)

Pin	Name	Description
1,2	Unused	—
3	RXDATA	Data received by the ATLAS 890
4	Unused	—
5	TXDATA	Data transmitted by the ATLAS 890
6,7	Unused	—
8	Unused	—

Front Panel LEDs

With the ATLAS 890 powered-up, the front panel LEDs provide visual information about the status of the unit and any option modules that may be installed. Table 4 describes the purpose of the front panel LEDs, and Table 5 on page 38 provides information about the meaning of the LED colors.

Table 4. ATLAS 890 Front Panel LEDs' Purpose

LED	Purpose
System	Displays the status of the fans, alarm, and ACO buttons for the ATLAS 890. (See Table 5 on page 38.)
Fans	Indicates the fans are operational.
Alarm	Indicates a triggered alarm condition for the alarm relays.
ACO	Indicates the alarm cut-off switch is pressed.
Controller Module	Displays the status of the network interface. All LEDs are off if no network module is installed. (See Table 2 on page 28.)
Status	Indicates the operational condition of the controller installed in the controller slot.
Online	Indicates whether the module is available for use or is currently in use.
Test	Indicates that the module is in test.
Link	Indicates there is an active 10/100 Ethernet connection on the installed controller module.

Table 4. ATLAS 890 Front Panel LEDs' Purpose *(Continued)*

LED	Purpose
Option Module	Displays by row the operational condition of each module installed in the option slots. All LEDs will be off if no option module is installed. (See Table 5 on page 38.)
Status	Indicates the operational condition of modules installed in the option slots.
Online	Indicates whether the module is available for use or is currently in use. If the module is manually taken offline, this LED is turned off.
Test	Indicates that one or more ports within a module are in test.

Table 5. ATLAS 890 LED Description

For These Leds...	This Color Light...	Indicates That...
Fans	Red (solid)	Fan speed is too low or fan is disconnected.
	Amber (solid)	Fan speed is too high.
	Green (solid)	All fans are functioning properly.
Alarm	Red (solid)	A fan, external input, or power supply error has occurred. LED will remain red until the ACO button is pressed.
ACO	Amber	ACO button is being pressed.
Stand-by controller		
Status	Green (slow blink)	Stand-by controller is present.
Online	Green (solid)	Stand-by controller operational for redundancy.
	Red (fast blink)	Controller cannot automatically become the active controller while the current active controller is installed.
Test	N/A	N/A
Link	Green (solid)	Ethernet link detected.

Table 5. ATLAS 890 LED Description *(Continued)*

For These Leds...	This Color Light...	Indicates That...
Active controller		
Status	Green (slow blink)	Card is not ready.
	Green (fast blink)	Card is not supported.
	Green (solid)	Active controller present.
Online	Amber (solid)	Controller is in test mode.
	Amber (fast blink)	Card is upgrading firmware.
	Red (fast blink)	Flash parameters are not compatible.
	Green (fast blink)	Card is unresponsive or not supported.
	Red (fast blink)	Card is not ready.
Test	Amber (solid)	Controller is in test mode.
Link	Green (solid)	Ethernet link detected.
Module Status	Green (solid)	Module is present.
	Green (fast blink)	Module has been manually taken offline by the user.
	Red (solid)	Module failed self-test.
	Red (fast blink)	Module has no response, has been removed, or is not supported.
	Red (slow blink)	Module is not ready.
	None	No module occupies the slot.
Module Online	Green (solid)	Module has an active connection.
	Green (fast blink)	Module has invalid flash memory or is downloading firmware.
Module Test	Yellow (solid)	Module is in a test mode.

7. ATLAS 890 REAR PANEL

The ATLAS 890 rear panel contains 16 slots for housing option modules which provide a variety of additional resources and data ports (see Figure 4). All slots are functionally identical. The ATLAS 890 also contains two slots for housing controller modules and a single slot dedicated for power supply use only. The most common configuration is a fully redundant system with two system controllers and two power supplies. A fully redundant AC-powered ATLAS 890 provides 13 option slots. A fully redundant DC-powered ATLAS 890 provides 15 option slots.

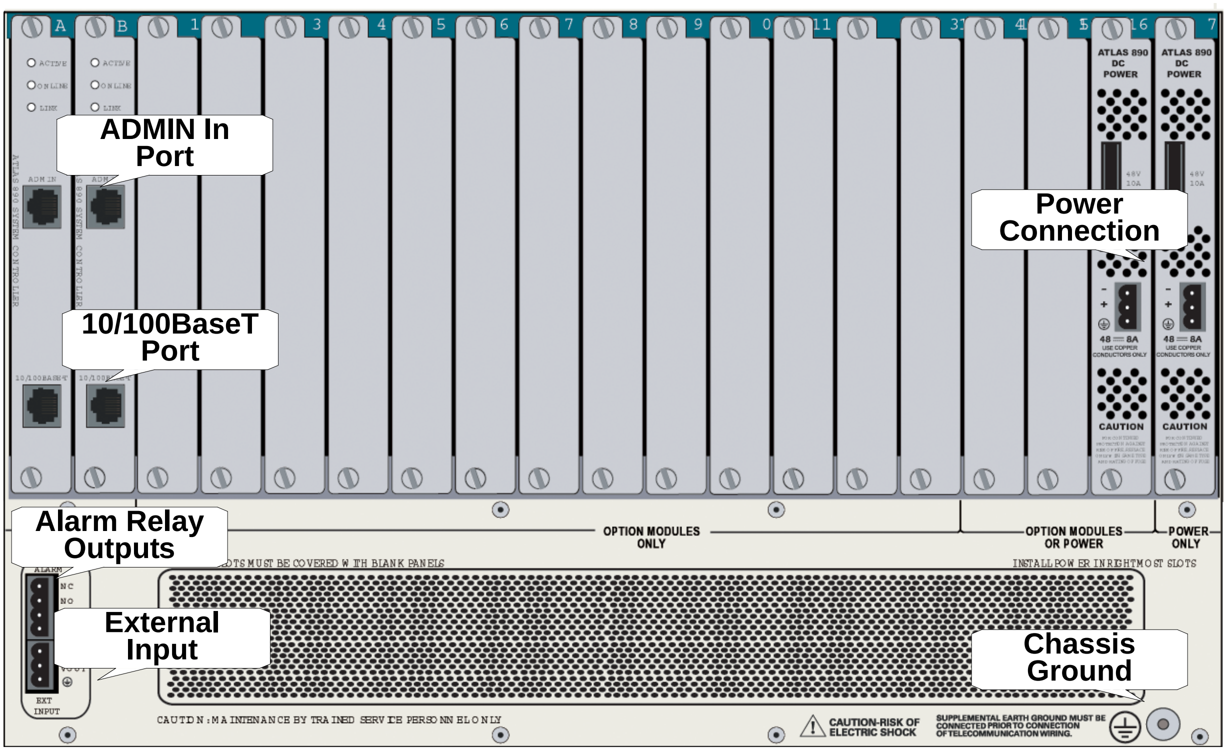

Figure 4. ATLAS 890 Rear Panel

Admin In Port

The **ADMIN IN** port (EIA-232) connects to a computer or modem (see Pinout 7 on page 41). The control port input provides the following functions:

- Accepts EIA-232 input from a PC or a modem for controlling the ATLAS 890.
- Operates at 2400, 9600, 19200, or 38400 bps.
- Acts as input for either VT100 or PC control.
- Acts as an interface for flash memory software downloads using XMODEM.

Pinout 7. ATLAS 890 Admin In (RJ-48C)

Pin	Name	Description
1	GND	Ground—connected to unit chassis
2	RTS	Request to send—low control
3	RxData	Data received by the ATLAS 890
4	DTR	Data terminal ready
5	TxDATA	Data transmitted by the ATLAS 890
6	CD	Carrier detect
7	Unused	—
8	CTS	Clear to send—flow control

10/100BaseT Connection

The 10/100BaseT port (RJ-48C) provides a 10/100BaseT Ethernet LAN connection, which is used for IP Routing, TFTP, SNMP, and Telnet connections (see Pinout 8).

Pinout 8. ATLAS 890 Ethernet (RJ-48C)

Pin	Name	Description
1	Tx1	Transmit Positive
2	Tx2	Transmit Negative
3	Rx1	Receive Positive
4, 5	Unused	—
6	Rx2	Receive Negative
7, 8	Unused	—

Alarm Relay Connection

This connection alerts the user when a pre-selected alarm condition exists. The four-pin, removable terminal block connects with external wiring (see Pinout 9). Refer to DLP-12, *Connecting to the ATLAS 890 External Input*, for detailed instructions. Clear the alarm condition by pressing the ACO switch located on the front panel of the ATLAS 890.

Pinout 9. ATLAS 890 Alarm Relay Connector

Pin	Name	Description
1	NC	Normally closed, but opens when a preselected alarm condition is present.
2	NO	Normally open, but closes when a preselected alarm condition is present.
3	COM	Common connection between external circuitry and NC or NO terminal.
4	GND	Chassis Ground

External Input Connection

This connection alerts the user when a pre-selected external alarm condition exists and could be used, for example, to monitor a UPS with dry contacts or another ATLAS 890. The three-pin, removable terminal block connects with external wiring (see Pinout 10). Refer to DLP-12, *Connecting to the ATLAS 890 External Input*, for detailed instructions. Clear the alarm condition by pressing the ACO switch located on the ATLAS 890 front panel.

Pinout 10. ATLAS 890 External Relay Monitor Connector

Pin	Name	Description
1	Input	Monitors for the presence or absence of -48 VDC
2	Vout	-48 VDC @ 1 mA
3	GND	Chassis Ground

8. ATLAS 890 AT-A-GLANCE SPECIFICATIONS

Table 6 lists the specifications for the ATLAS 890 system.

Table 6. ATLAS 890 Specifications

Application	Feature	Specification
TDM Applications		
	TDM bandwidth	49 Mbps Full duplex
	Dedicated map connections	766 dedicated DS0 map connections in each of the 5 maps
Switching Applications		
	ISDN signaling types	National ISDN Lucent 5E AT&T 4ESS (PRI Only) Northern DMS-100 (Nortel Custom) ETSI/DSS1
	T1 signaling types	Loop-Start Ground-Start E&M Wink E&M Immediate Feature Group D
	DSP Features	DTMF/MF tones support Progress tone generation 32 available DSP channels
	BRI Connections	128 connections
	PRI Connections	766 DS0 connections
	RBS T1 Connections	766 DS0 connections 27 simultaneous dial tones

Table 6. ATLAS 890 Specifications *(Continued)*

Application	Feature	Specification
Frame Relay		
	Packet throughput	11,700 pkts/sec (64-1500 size packets)
	Management signaling interfaces	UNI (user and network) NNI
	Management signaling types	ANSI T1.617-D (Annex D) ITU-T Q.933-A (Annex A) LMI (Group of four) Auto
	Encapsulation	RFC 1490
	PVC support	990 PVCs per packet endpoint
	Congestion control	FECN / BECN Discard eligible (DE)
	Quality of service (QOS)	Prioritization on a per-PVC basis
	Testing (ADTRAN proprietary)	PVC loopback Round trip delay measurement
	SNMP support	RFC 1315
PPP		
	Connection support	35 PPP connections to the internal router (not exceeding 11,700 packets per second) 100 PPP connections to the internal router (requires HDLC Module and cannot exceed 11,700 packets per second)
	Authentication support	PAP CHAP EAP
	Keepalive support	On/Off
	Interface support	Numbered interfaces Unnumbered interfaces

Table 6. ATLAS 890 Specifications *(Continued)*

Application	Feature	Specification
IP Routing		
	Route discovery	RIP V1 RIP V2 ICMP ARP IARP UDP Relay
	SNMP support	RFCs 1315, 1213, 1406 Adtran Enterprise MIB
Voice Compression		
	Algorithm	Voice Compression Module G.723.1 or Netcoder (proprietary)
	Number of channels supported	Up to 64 compression channels
	PCM coding	µ-Law
	Fax support	9600 bps
	DTMF generation and detection	TIA 464A

9. OPTION MODULE PINOUTS

Pinouts for all of the available options modules are included here.

Quad T1/PRI Option Module

Each port of the Quad T1/PRI Option Module (P/N 1200185L3) uses a single, eight-position modular jack to connect to the T1 or PRI circuit (see Pinout 11).

Pinout 11. Quad T1/PRI Module (USOC RJ-48C)

Pin	Name	Description
1	RxData-Ring (R)	Receive data from the network
2	RxData-Tip (T)	Receive data from the network
3	Unused	—
4	TxData-Ring (R1)	Send data towards the network
5	TxData-Tip (T1)	Send data towards the network
6,7,8	Unused	—

Quad E1/PRA Option Module

Using the provided adapter cables, the DB-62 port of the Quad E1/PRA Option Module (P/N 1200264L1) supplies a DB-15 connection (see Pinout 12). See Pinout 13 for the DB-62 interface pinout.

Pinout 12. Quad E1/PRA Module (DB-15)

Pin	Name	Description
1	RT	Receive Tip
2	GND	Ground
3	TT	Transmit Tip
4	GND	Ground
5	GND	Ground
7	GND	Ground
9	RR	Receive Ring
11	TR	Transmit Ring

Pinout 13. Quad E1/PRA Module (DB-62)

Pin	Name	Description	Pin	Name	Description
1[1]	P4 TT	Port 4 Transmit Tip	42	GND	Ground
2	P4 TR	Port 4 Transmit Ring	43	P4 RT	Port 4 Receive Tip
3	GND	Ground	44	P4 RR	Port 4 Receive Ring
6	GND	Ground	45	GND	Ground
7	P3 TT	Port 3 Transmit Tip	48	GND	Ground
8	P3 TR	Port 3 Transmit Ring	49	P3 RT	Port 3 Receive Tip
9	GND	Ground	50	P3 RR	Port 3 Receive Ring
12	GND	Ground	51	GND	Ground
13	P2 TT	Port 2 Transmit Tip	54	GND	Ground
14	P2 TR	Port 2 Transmit Ring	55	P2 RT	Port 2 Receive Tip
15	GND	Ground	56	P2 RR	Port 2 Receive Ring
18	GND	Ground	57	GND	Ground
19	P1 TT	Port 1 Transmit Tip	60	GND	Ground
20	P1 TR	Port 1 Transmit Ring	61	P1 RT	Port 1 Receive Tip
21	GND	Ground	62	P1 RR	Port 1 Receive Ring

1 Pins that are not identified are not used. P(1-4) indicates the Port

Quad Nx 56/64 Option Module

Using the provided adapter cables, each DB-78 port of the Quad Nx 56/64 Option Module (P/N 1200184L1) supplies a V.35 Winchester-style connection (see Pinout 14). Pinout 15 shows the DB-78 interface pinout.

Pinout 14. Quad Nx 56/64 Module (V.35 Winchester)

Pin	CCITT	Description	Pin	CCITT	Description
A	101	Protective ground (PG)	V	115	RX clock (RC-A) to DTE
B	102	Signal ground (SG)	X	115	RX clock (RC-B) to DTE
C	105	Request to send (RTS) from DTE	P	103	Transmitted data (TD-A) from DTE
D	106	Clear to send (CTS) to DTE	S	103	Transmitted data (TD-B) from DTE
E	107	Data set ready (DSR) to DTE	Y	114	TX clock (TC-A) to DTE
F	109	Received line signal detector (DCD) to DTE	AA	114	TX clock (TC-B) to DTE
H	—	Data terminal ready (DTR) from DTE	U	113	External TX clock (ETC-A) from DTE
J	—	Ring indicator (RI)	W	113	External TX clock (ETC-B) from DTE
R	104	Received data (RD-A) to DTE	NN	—	Test mode (TM) to DTE
T	104	Received data (RD-B) to DTE			

Pinout 15. Quad Nx 56/64 Module (DB-78)

Pin	Signal	Pin	Signal
1 [1]	RXD-A 2/4	42	GND
2	RXD-B 2/4	43-48	Not used
3	RXC-A 2/4	49	MOD2
4	RXC-B 2/4	50	MOD0
5	TXD-A 2/4	51	EXT-TXC-A 1/3
6	TXD-B 2/4	52	DTR-B 1/3
7	TXC-A 2/4	53	DTR-A 1/3
8	TXC-B 2/4	54	DCD-B 1/3
9	EXT-TXC-A 2/4	55	DCD-A 1/3

Pinout 15. Quad Nx 56/64 Module (DB-78) *(Continued)*

Pin	Signal	Pin	Signal
10	EXT-TXC-A 2/4	56	DSR-B/RI 1/3
11-17	Not used	57	DSR-A 1/3
18	GND	58	CTS-B 1/3
19	GND	59	CTS-A 1/3
20	CHASIS GND	60	CHASIS GND
21	CTS-A 2/4	61	GND
22	CST-B 2/4	62-68	Not used
23	DSR-A 2/4	69	MOD1
24	DSSR-B/RI 2/4	70	EXT-TXC-B 1/3
25	DCD-A 2/4	71	TXC-B 1/3
26	DCD-B 2/4	72	TXC-A 1/3
27	DTR-A 2/4	73	TXD-B 1/3
28	DTR-B 2/4	74	TXD-A 1/3
29-37	Not used	75	RXC-B 1/3
38	RTS-A 1/3	76	RXC-A 1/3
39	RTS-B 1/3	77	RXD-B 1/3
40	RTS-A 2/4	78	RXD-A 1/3
41	RTS-B 2/4		

[1] 1/3 or 2/4 indicates the port on the Nx 56/64 Module

Quad USSI Option Module

Pinouts 16 through 20 on the following pages describe the available interfaces for the Quad USSI Option Module (P/N 4200261Lx).

Pinout 16. Quad USSI Module (DB-78)

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1[1]	RXD-A 2/4	25	DCD-A 2/4	57	DSR-A 1/3
2	RXD-B 2/4	26	DCD-B 2/4	58	CTS-B 1/3
3	RXC-A 2/4	27	DTR-A 2/4	59	CTS-A 1/3
4	RXC-B 2/4	28	DTR-B 2/4	60	CHASIS GND
5	TXD-A 2/4	29-37	Not used	61	GND
6	TXD-B 2/4	38	RTS-A 1/3	62-68	Not used
7	TXC-A 2/4	39	RTS-B 1/3	69	MOD1
8	TXC-B 2/4	40	RTS-A 2/4	70	EXT-TXC-B 1/3
9	EXT-TXC-A 2/4	41	RTS-B 2/4	71	TXC-B 1/3
10	EXT-TXC-A 2/4	43-48	Not used	72	TXC-A 1/3
11-17	Not used	49	MOD2	73	TXD-B 1/3
18	GND	50	MOD0	74	TXD-A 1/3
19	GND	51	EXT-TXC-A 1/3	75	RXC-B 1/3
20	CHASIS GND	52	DTR-B 1/3	76	RXC-A 1/3
21	CTS-A 2/4	53	DTR-A 1/3	77	RXD-B 1/3
22	CST-B 2/4	54	DCD-B 1/3	78	RXD-A 1/3
23	DSR-A 2/4	55	DCD-A 1/3		
24	DSSR-B/RI 2/4	56	DSR-B/RI 1/3		

1 1/3 or 2/4 indicates the port on the USSI Module

Pinout 17. Quad USSI Module (EIA-530)

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	10	Carrier Detect (B)	19	Request to Send (B)
2	Transmit Data (A)	11	Ext. Transmit Clock (B)	20	DTE Ready (A)
3	Received Data (A)	12	Transmit Clock (B)	21	Remote Loopback
4	Request to Send (A)	13	Clear to Send (B)	22	DCE Ready (B)
5	Clear to Send (A)	14	Transmit Data (B)	23	DTE Ready (B)
6	DCE Ready (A)	15	Transmit Clock (A)	24	Ext. Transmit Clock (A)
7	Signal Ground	16	Received Data (B)	25	Test Mode
8	Carrier Detect (A)	17	Receive Clock (A)		
9	Received Clock (B)	18	Local Loopback		

Pinout 18. Quad USSI Module (RS-449/V.36)

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	14	Remote Loopback	27	Clear to Send (B)
2	Signaling Rate Indicator	15	Ring Indicator	28	Terminal in Service
3	Not Used	16	Select Frequency	29	DCE Ready (B)
4	Transmit Data (A)	17	Ext. Transmit Clock (A)	30	DTE Ready (B)
5	Transmit Clock (A)	18	Test Mode	31	Carrier Detect (B)
6	Received Data (A)	19	Signal Ground	32	Select Standby
7	Request to Send (A)	20	Receive Common	33	Signal Quality
8	Receive Clock (A)	21	Not Used	34	New Signal
9	Clear to Send (A)	22	Transmit Data (B)	35	Ext. Transmit Clock (B)
10	Local Loopback	23	Transmit Clock (B)	36	Standby/Indicator
11	DCE Ready (A)	24	Receive Data (B)	37	Send Common
12	DTE Ready (A)	25	Request to Send (B)		
13	Carrier Detect (A)	26	Receive Clock (B)		

Pinout 19. Quad USSI Module (RS-232)

Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	14	Sec. Transmit Data
2	Transmit Data	15	DCE Transmit Clock
3	Received Data	16	Sec. Received Data
4	Request to Send	17	Receive Signal Element Timing
5	Clear to Send	18	Not used
6	Data Set Ready	19	Sec. Request to Send
7	Signal Ground	20	Data Terminal Ready
8	Received Line Signal Detector	21	Signal Quality Detector
9	+ Voltage	22	Ring Indicator
10	- Voltage	23	Data Signal Rate Selector
11	Not used	24	DTE Transmit Clock
12	Sec. Received Line Signal Indicator	25	Not used
13	Sec. Clear to Send		

Pinout 20. Quad USSI Module (CCITT X.21 V.11)

Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	8	Signal Ground
2	Transmit Data (A)	9	Transmit Data (B)
3	Request to Send (A)	10	Request to Send (B)
4	Received Data (A)	11	Received Data (B)
5	Carrier Detect (A)	12	Carrier Detect (B)
6	Transmit/Receive Clock (A)	13	Transmit/Received Clock (B)
7	Ext. Transmit Clock (A)	14	Ext. Transmit Clock (B)
15	Not Used		

Octal BRI ISDN (U-Interface) Option Module

Each port of the Octal BRI ISDN (U-Interface) Option Module (P/N 1200186L2) uses a single RJ-45 jack to connect to a standard BRI U interface circuit (see Pinout 21).

Pinout 21. Octal BRI (U-Interface) Module (RJ-45)

Pin	Name	Description
1, 2, 3, 6, 7, 8	Unused	—
4	Ring	Ring to and from the Network Interface
5	Tip	Tip to and from the Network Interface

Octal BRI ISDN (S/T Interface) Option Module

Each port of the Octal BRI ISDN (S/T Interface) Option Module uses a single RJ-45 jack to connect to a standard BRI S/T interface circuit (see Pinout 22). The Octal BRI ISDN (S/T Interface) Option Module is only available for use in NT mode (User Term) applications.

Pinout 22. Octal BRI (S/T Interface) Module (RJ-45)

Pin	Name	Description
1, 2, 7, 8	Unused	—
3, 6	Receive	Receive for User Term (NT Mode)
4, 5	Transmit	Transmit for User Term (NT Mode)

Async-232 Option Module

Using the provided adapter cables, each Async-232 Option Module (P/N 1200182L1) interface provides a DB-25 (see Pinout 23).

Pinout 23. Async-232 Option Module (DB-25)

Pin	Name	Description
1	Shield	Shielded ground connection
2	TXD	Transmit data from DTE
3	RXD	Receive data to DTE
4	RTS	Request to send from DTE
5	CTS	Clear to send to DTE
6	DSR	Data set ready to DTE
7	GND	Ground
8	DCD	Data carrier detect to DTE
9—19, 21, 23—25	Unused	n/a
20	DTR	Data terminal ready from DTE
22	RI	Ring indicator to DTE

T3 Option Module

Using the provided RG 59, 75-Ohm cables (P/N 3125I054), each T3 Option Module (P/N 1200223L1) provides BNC connectors for transmit and receive connections (see Pinout 24).

Pinout 24. T3 Module (BNC pair, female)

Name	Description
RX IN	Receive data from the network, 75 ohms ± 5%, unbalanced
TX OUT	Transmit data to the network, 75 ohms ± 5%, unbalanced

T3 Drop and Insert Option Module

Using the provided RG-59, 75-Ohm cables (P/N 3125I054), each T3 Drop and Insert Option Module (P/N 1200225L1) provides BNC connectors for primary and secondary transmit and receive connections (see Pinout 25).

Pinout 25. T3 Drop and Insert Module (BNC pair, female)

Name	Description
Primary RX IN	Primary receive data from the network, 75 ohms ± 5%, unbalanced
Primary TX OUT	Primary transmit data to the network, 75 ohms ± 5%, unbalanced
Secondary RX IN	Secondary receive data from the network, 75 ohms ± 5%, unbalanced
Secondary TX OUT	Secondary transmit data to the network, 75 ohms ± 5%, unbalanced

Dual Video Option Module

The Dual Video Option Module (P/N 4200773Lx) provides a standard RS-366 dialing interface (DB-25) and a DTE interface (provided through adapter cables). Pinout 26 shows the RS-366 dialing interface and Pinouts 27 through 29 on the following pages show pinouts for the other available interfaces.

Pinout 26. Dual Video Module (RS-366, DB-25)

Pin	Name	Description	Pin	Name	Description
1	Shield	Shielded Ground Connection	14	NB1	Digit Signal Circuit 1
2	DPR	Digit Present	15	NB2	Digit Signal Circuit 2
3	ACR	Abandon Call and Retry	16	NB4	Digit Signal Circuit 4
4	CRQ	Call Request	17	NB8	Digit Signal Circuit 8
5	PND	Present Next Digit	18	RC	Receive Common
6	PWI	Power Indication	19	SC	Send Common
7	SG	Signal Ground	20-21	Unused	n/a
8-12	Unused	n/a	22	DLO	Data Link Occupied
13	DSC	Distant Station Connection	23-25	Unused	n/a

Pinout 27. Dual Video Module (V.35 Winchester)

Pin	CCITT	Name	Description
A	101	PG	Protective ground
B	102	SG	Signal ground
C	105	RTS	Request to send from DTE
D	106	CTS	Clear to send to DTE
E	107	DSR	Data set ready to DTE
F	109	DCD	Received line signal detector to DTE
H	—	DTR	Data terminal ready from DTE
J	—	RI	Ring indicator
R	104	RD-A	Received data to DTE
T	104	RD-B	Received data to DTE
V	115	RC-A	RX clock to DTE
X	115	RC-B	RX clock to DTE
P	103	TD-A	Transmitted data from DTE
S	103	TD-B	Transmitted data from DTE
Y	114	TC-A	TX clock to DTE
AA	114	TC-B	TX clock to DTE
U	113	ETC-A	External TX clock from DTE
W	113	ETC-B	External TX clock from DTE
NN	—	TM	Test mode to DTE - (Not Supported)

Pinout 28. Dual Video Module (EIA-530)

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	10	Carrier Detect (B)	19	Request to Send (B)
2	Transmit Data (A)	11	Ext. Transmit Clock (B)	20	DTE Ready (A)
3	Received Data (A)	12	Transmit Clock (B)	21	Not Used
4	Request to Send (A)	13	Clear to Send (B)	22	DCE Ready (B)
5	Clear to Send (A)	14	Transmit Data (B)	23	DTE Ready (B)
6	DCE Ready (A)	15	Transmit Clock (A)	24	Ext. Transmit Clock (A)
7	Signal Ground	16	Received Data (B)	25	Not Used
8	Carrier Detect (A)	17	Receive Clock (A)		
9	Received Clock (B)	18	Not Used		

Pinout 29. Dual Video Module (RS-449)

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	Shield (Ground)	14	Remote Loopback (Not Supported)	27	Clear to Send (B)
2	Not Used	15	Ring Indicator	28	Not Used
3	Not Used	16	Not Used	29	DCE Ready (B)
4	Transmit Data (A)	17	Ext. Transmit Clock (A)	30	DTE Ready (B)
5	Transmit Clock (A)	18	Test Mode (Not Supported)	31	Carrier Detect (B)
6	Received Data (A)	19	Signal Ground	32	Not Used
7	Request to Send (A)	20	Not Used	33	Not Used
8	Receive Clock (A)	21	Not Used	34	Not Used
9	Clear to Send (A)	22	Transmit Data (B)	35	Ext. Transmit Clock (B)
10	Local Loopback (Not Supported)	23	Transmit Clock (B)	36	Not Used
11	DCE Ready (A)	24	Receive Data (B)	37	Not Used
12	DTE Ready (A)	25	Request to Send (B)		
13	Carrier Detect (A)	26	Receive Clock (B)		

NxT1 HSSI/V.35 Option Module

The NxT1 HSSI/V/35 Option Module (P/N 1200771L1) uses a single 50 pin SCSI-II interface (or V.35 interface using an optional adapter cable) to combine eight T1s of data (a combination of eight using the four NxT1 HSSI/V.35 Module T1 ports and other T1 ports installed in the system). See Pinouts 30 and 31.

Pinout 30. NxT1 HSSI/V.35 Module (RJ-48C)

Pin	Name	Description
1	RxData - Ring (R)	Receive data from the network
2	RxData - Tip (T)	Receive data from the network
3	Unused	—
4	TxData - Ring (R1)	Send data towards the network
5	TxData-Tip (T1)	Send data towards the network
6,7,8	Unused	—

Pinout 31. NxT1 HSSI/V.35 Module (50-pin SCSI-II and V.35 Winchester)

Pin (+ Side)	Pin (- Side)	Direction	Description
1	26	—	HSSI SG - Signal Ground
2	27	O	HSSI RT - Receive Timing
3	28	O	HSSI CA - DCE Available
4	29	O	HSSI RD - Receive Data
5	30	O	HSSI LC - Loopback Circuit C
6	31	O	HSSI ST - Send Timing
7	32	—	HSSI SG - Signal Ground
8	33	I	HSSI TA - DTE Available
9	34	I	HSSI TT - Terminal Timing
10	35	I	HSSI LA - Loopback Circuit A
11	36	I	HSSI SD - Send Data
12	37	I	HSSI LB - Loopback Circuit B
13	38	—	HSSI SG - Signal Ground
—	39	—	Ancillary to DCE (Reserved)
14	—	I	V.35 RTS - Request to Send
15	40	I	V.35 TT Terminal Timing

Pinout 31. NxT1 HSSI/V.35 Module (50-pin SCSI-II and V.35 Winchester) *(Continued)*

Pin (+ Side)	Pin (- Side)	Direction	Description
16	41	I	V.35 SD Send Data
—	42	O	V.35 DCD - Data Carrier Detect
17-18	43	—	Ancillary to DCE (Reserved)
19	44	—	HSSI SG - Signal Ground
20	45	O	V.35 ST - Send Timing
21	46	O	V.35 RT - Receive Timing
22	47	O	V.35 RD - Receive Data
23	—	O	V.35 CTS - Clear to Send
—	48	I	V.35 Ground/Present
24	49	O	HSSI TM - Test Mode
25	50	—	HSSI SG - Signal Ground

Octal FXS Option Module

The Octal FXS Option Module provides eight analog voice-grade interfaces. Each interface can operate in loop-start or ground-start mode, providing talk battery, off-hook supervision, ringing, and E&M signaling conversion. Call progress tones, where necessary, are provided to the modules by the ATLAS.

Pinout 32. Octal FXS Module (8-pin modular)

Pin	Name	Description
1,2,3,6,7,8	Unused	—
4	Ring	Ring to and from the analog phone interface
5	Tip	Tip to and from the analog phone interface

SECTION 3 NETWORK TURNUP PROCEDURES

Provides step-by-step instructions for installing and powering up the ATLAS 800 Series System.

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1. INTRODUCTION

This section discusses the installation process for the ATLAS 800 Series System.

2. TOOLS REQUIRED

The tools required for installation of the ATLAS include the following:

- #2 Phillips-head screwdriver
- Flat-head screwdriver (for installing modules)

WARNING *To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION *Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

3. UNPACKING AND INSPECTING THE SYSTEM

Each ATLAS is shipped in its own cardboard shipping carton. Open the carton carefully and avoid deep penetration into the carton with sharp objects. After unpacking the unit, inspect it for possible shipping damage. If the equipment has been damaged in transit, immediately file a claim with the carrier, then contact ADTRAN Customer Service (see the contact information in the front of this manual).

Contents of ADTRAN Shipment

Table 1 lists the items included in your ADTRAN shipment. Customers must supply a DB-9 male console cable for VT100 terminal/terminal emulation connection and an Ethernet cable.

Table 1. Items Included in ATLAS Shipment

Item Description	ATLAS 830	ATLAS 890
Either the ATLAS 830 or the ATLAS 890 base unit	One Base Unit	
The ATLAS System CD	✔	✔
AC Power cord - ADTRAN P/N 3127031 (with AC systems)	✔	✔
19” Rackmount brackets and screws	✔	n/a

Table 1. Items Included in ATLAS Shipment *(Continued)*

Item Description	ATLAS 830	ATLAS 890
19-23” Convertable Rackmount brackets and screws	n/a	✔
RJ-45—DB-25 adapter (1 for modem connection)	n/a	✔
RJ-45 control port cable (1) - ADTRAN P/N 3127004	n/a	✔
RJ-45—DB-9 adapter (1)	n/a	✔

4. GROUNDING INSTRUCTIONS

The following grounding information is from the Underwriters’ Laboratory UL60950 Standard for Safety of Information Technology Equipment Including Electrical Business Equipment, Third Edition, December 1, 2000.

An equipment grounding conductor that is not smaller in size than the ungrounded branch-circuit supply conductors is to be installed as part of the circuit that supplies the product or system. Bare, covered, or insulated grounding conductors are acceptable. Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green, or green with one or more yellow stripes. The equipment grounding conductor is to be connected to ground at the service equipment.

The attachment-plug receptacles in the vicinity of the product or system are all to be of a grounding type, and the equipment grounding conductors serving these receptacles are to be connected to earth ground at the service equipment.

A supplementary equipment grounding conductor shall be installed between the product or system and ground that is in addition to the equipment grounding conductor in the power supply cord. The supplementary equipment grounding conductor shall not be smaller in size than the ungrounded branch-circuit supply conductors. The supplementary equipment grounding conductor shall be connected to the product at the terminal provided, and shall be connected to ground in a manner that will retain the ground connection when the product is unplugged from the receptacle. The connection to ground of the supplementary equipment grounding conductor shall be in compliance with the rules for terminating bonding jumpers at Part K or Article 250 of the National Electrical Code, ANSI/NFPA 70. Termination of the supplementary equipment grounding conductor is permitted to be made to building steel, to a metal electrical raceway system, or to any grounded item that is permanently and reliably connected to the electrical service equipment ground.

The supplemental grounding conductor shall be connected to the equipment using a number 8 ring terminal and should be fastened to the grounding lug provided on the rear panel of the equipment. The ring terminal should be installed using the appropriate crimping tool (AMP P/N 59250 T-EAD Crimping Tool or equivalent.)

5. SUPPLYING POWER TO THE UNIT

AC-Powered Systems

The AC-powered ATLAS 830 and ATLAS 890 come equipped with a detachable 6-foot power cord with a 3-prong plug for connecting to a grounded power receptacle. As shipped, the ATLAS is set to factory default conditions. After installing the unit and any option modules, the ATLAS is ready for power-up. To power-up the unit, ensure that the unit is properly connected to an appropriate power source, and then turn on the unit using the on/off switch on the rear panel.

CAUTION

- *The unit shall be installed in accordance with Article 400 and 364.8 of the NEC NFPA 70 when installed outside of a Restricted Access Location (i.e., central office, behind a locked door, service personnel only area).*
- *Power to the ATLAS 830 AC system must be from a grounded 90-130/190-240 VAC, 50/60 Hz source.*
- *Power to the ATLAS 890 AC system must be from a grounded 90-130 VAC, 50/60 Hz source.*
- *The power receptacle uses double-pole, neutral fusing.*
- *Maximum recommended ambient operating temperature is $45^{o}C$.*

DC-Powered Systems

The DC-powered ATLAS comes equipped with a DC Power supply to furnish the voltages necessary for proper backplane operation. As shipped, the ATLAS is set to factory default conditions. After installing the unit and any option modules, the ATLAS is ready for power-up.

CAUTION

- *The unit shall be installed in accordance with Article 400 and 364.8 of the NEC NFPA 70 when installed outside of a Restricted Access Location (i.e., central office, behind a locked door, service personnel only area)*
- *Power to the ATLAS DC system must be from a reliably grounded -48 VDC source which is electrically isolated from the AC source.*
- *The branch circuit overcurrent protection shall be a fuse or circuit breaker rated minimum 60 VDC, maximum 10A.*
- *A readily accessible disconnect device, that is suitably approved and rated, shall be incorporated in the field wiring.*
- *Maximum recommended ambient operating temperature is $45^{o}C$.*

6. MOUNTING OPTIONS

The ATLAS 830 may be used on a tabletop or installed in a 19-inch or 23-inch rackmount configuration. The ATLAS 890 must be rackmounted. For rackmount installations, the ATLAS allows flush-face mount, face-forward mount, and center mount (see Figure 1).

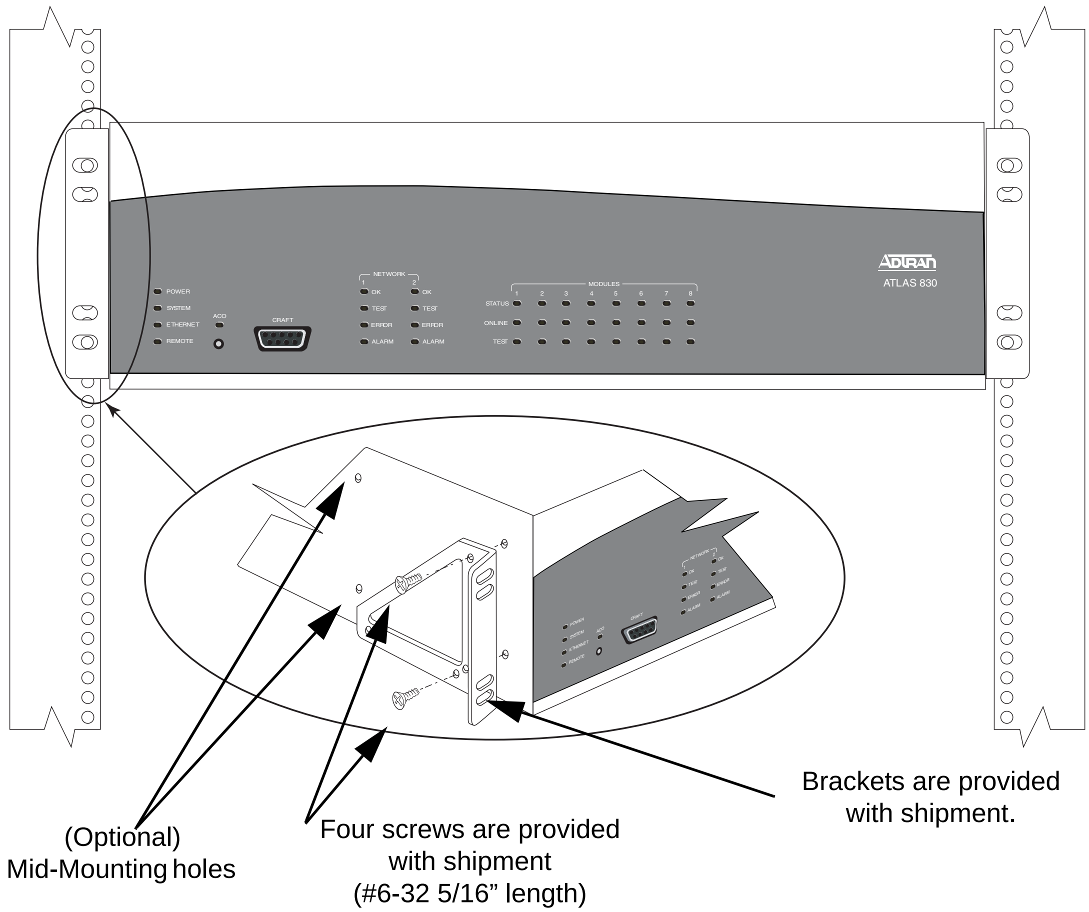

Figure 1. Mounting Brackets (shown with ATLAS 830)

> **CAUTION**
>
> *Be careful not to upset the stability of the equipment mounting rack when installing this product.*

7. INSTALLING NETWORK AND OPTION MODULES

Option Slots Numbering

Figure 2 shows the option slot numbering designation for the ATLAS 830, and Figure 3 shows the option slot numbering designation for the ATLAS 890. (Slots 7 and 8 of the ATLAS 830 may also be used for an optional redundant power supply.) The two units share the same ATLAS 800 Series option module cards. However, the controller slots of the ATLAS 890 only accept ATLAS 890 controller modules. Understanding the slot numbering convention is important for successful module installation.

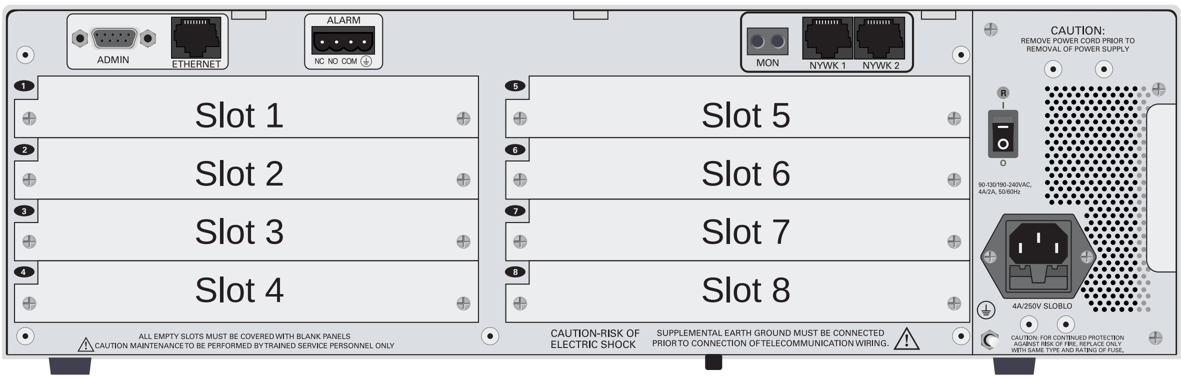

Figure 2. ATLAS 830 Slot Designation (Rear Panel)

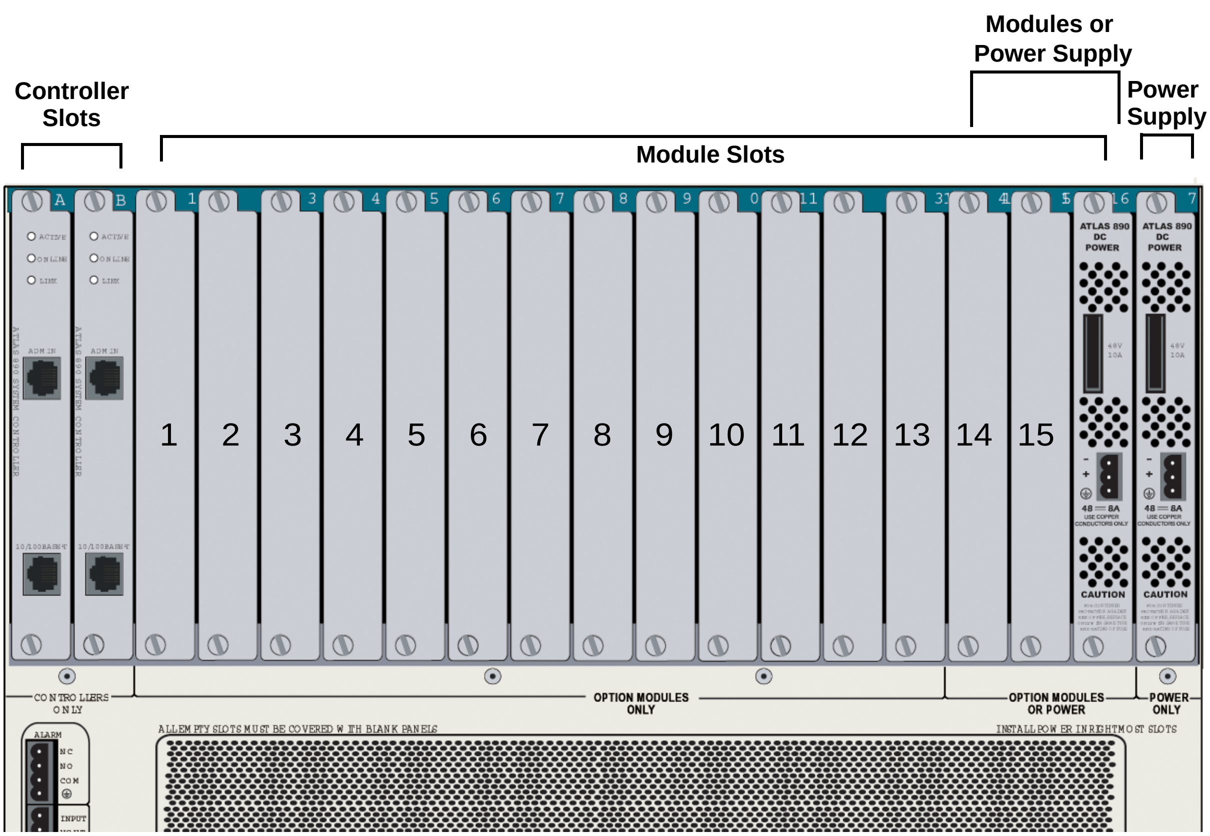

Figure 3. ATLAS 890 Slot Designations (Rear Panel)

WARNING *Option modules are intended to be serviced by qualified service personnel only.*

Modules Installation Instructions

1. Remove the cover plate from the appropriate **option** slot of the ATLAS rear panel.
2. Slide the option module into the option slot until the module is firmly seated against the front of the chassis.
3. Secure the (thumb)screws at both edges of the module. Tighten with a screwdriver.
4. Connect the cables to the associated device(s).

Modules Shipping Contents

Quad T1/PRI Option Module (P/N 1200185L3)

- Quad T1/PRI Option Module
- Quad T1/PRI Option Module Quick Start Guide
- Four cables (RJ-48C to RJ-48C), ADTRAN P/N: 3125M008
- Two cross-over cable (RJ-48C to RJ-48C), ADTRAN P/N: 3125M010
- Two DB-15 to RJ-48 Adapters, ADTRAN P/N: 3196027

Quad E1/PRA Option Module (P/N 1200264L1)

- Quad E1/PRA Option Module
- Quad E1/PRA Option Module Quick Start Guide
- One DB-62 to Quad DB-15 female cable, ADTRAN P/N: 3125I061

NOTE *The Quad E1/PRA Option Module may also be purchased with BNC Network Connection Interfaces (P/N 4200264L1).*

Quad Nx 56/64 Option Module (P/N 1200184L1)

- Quad Nx 56/64 Option Module
- Quad Nx 56/64 Option Module Quick Start Guide
- Two DB-37 to V.35 converter cables, ADTRAN P/N 1200784L1

Quad USSI Option Module System (P/N 4200261Lx)

- Quad USSI Option Module System
- Quad USSI Option Module System Quick Start Guide

And one of the following:

- EIA-530 to DB-78 Cable (System P/N 4200261L2, Cable P/N 3125I058)
- RS-449/V.36 (System P/N 4200261L1, Cable P/N 3125I057)
- RS-232 (System P/N 4200261L4, Cable P/N 3125I063)
- CCIT X.21 V.11 (System P/N 4200261L3, Cable P/N 3125I056)

Octal Basic Rate ISDN (U-Interface) Option Module (P/N 1200186L2)

- Octal Basic Rate ISDN (U-Interface) Option Module
- Octal Basic Rate ISDN (U-Interface) Option Module Quick Start Guide
- Eight RJ-45-to-RJ-11 cables, ADTRAN P/N: 3125M007

Octal Basic Rate ISDN (S/T Interface) Option Module (P/N 1200343L1)

- Octal Basic Rate ISDN (S/T Interface) Option Module
- Octal Basic Rate ISDN (S/T Interface) Option Module Quick Start Guide
- Eight RJ-45-to-RJ-11 cables, ADTRAN P/N: 3125M007

T3 Option Module (P/N 1200223L1)

- T3 Option Module
- T3 Option Module Quick Start Guide
- Two 6 ft. coaxial BNC cables (ADTRAN P/N 3125I054)

T3 Option Module with Drop and Insert Interface (P/N 1200225L1)

- T3 Option Module with Drop and Insert Interface
- T3 Option Module with Drop and Insert Interface Quick Start Guide
- Four 6 ft. coaxial BNC cables (ADTRAN P/N 3125I054)

NxT1 HSSI/V.35 Option Module (P/N 1200771L1)

- NxT1 HSSI/V.35 Option Module
- NxT1 HSSI/V.35 Option Module Quick Start Guide
- Four 15 ft. RJ-48 to RJ-48 cables (ADTRAN P/N 3125M008)

> NOTE
> *A SCSI-II to V.35 adapter cable is available (P/N 1200763L1) for applications requiring a V.35 interface.*

Octal FXS Option Module (P/N 1200338L1)

- Octal FXS Option Module
- Octal FXS Option Module Quick Start Guide

8,16,24,32 Channel Voice Compression Resource Modules (P/N 1200221Lx)

- 8,16,24,32 Channel Voice Compression Resource Modules
- 8,16,24,32 Channel Voice Compression Resource Modules Quick Start Guide

Nx 56/64 BONDing Resource Module (P/N 1200262L1):

- Nx 56/64 BONDing Resource Module
- Nx 56/64 BONDing Resource Module Quick Start Guide

HDLC Resource Module (P/N 1200222L1)

- HDLC Resource Module
- HDLC Resource Module Quick Start Guide

Modem-16 Resource Module (P/N 1200181L1)

- Modem-16 Resource Module
- Modem-16 Resource Module Quick Start Guide

Modem-24 Resource Module (P/N 1200782L1)

- Modem-24 Resource Module
- Modem-24 Resource Module Quick Start Guide

Async-232 Option Module (P/N 1200182L1)

- Async-232 Option Module
- Async-232 Option Module Quick Start Guide
- Two DB-78 to Octal RS-232 cables (ADTRAN P/N 3125I030)

Dual Video Option Module (P/N 4200773Lx)

- Dual Video Option Module
- Dual Video Option Module Quick Start Guide

And one of the following:

- V.35 (System P/N 4200773L1, Cable P/N 1200774L1)
- EIA-530 (System P/N 4200773L2, Cable P/N 1200774L2)
- RS-449 (System P/N 4200773L3, Cable P/N 1200774L3)

SECTION 4 USER INTERFACE GUIDE

Provides detailed descriptions of all menu options and configuration parameters for the ATLAS 800 Series System.

This section is designed for use by network administrators and others who will configure and provision the system. It contains information about navigating the VT100 user interface, configuring the unit and modules, and using the menus.

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1. NAVIGATING THE TERMINAL MENUS

Log in to the ATLAS 800 Series by connecting a standard straight-through serial cable to a VT100 terminal (or PC with VT100 emulator) and the DB-9 **CRAFT** port located on the front panel of the unit or the **ADMIN** port on the rear panel of the unit. Configure the terminal settings for 9600 data rate, no parity, 8 data bits, 1 stop bit, and no flow control.

After you connect to the unit, a login screen appears. The default password for the ATLAS 800 Series is ***password*** (all lower case). (Refer to DLP-2, *System Login and Menu Access*, for detailed instructions.)

Terminal Menu Window

After you log in, all menu items and data fields are displayed in the terminal menu window, through which you have complete control of the ATLAS 800 Series (see Figure 1).

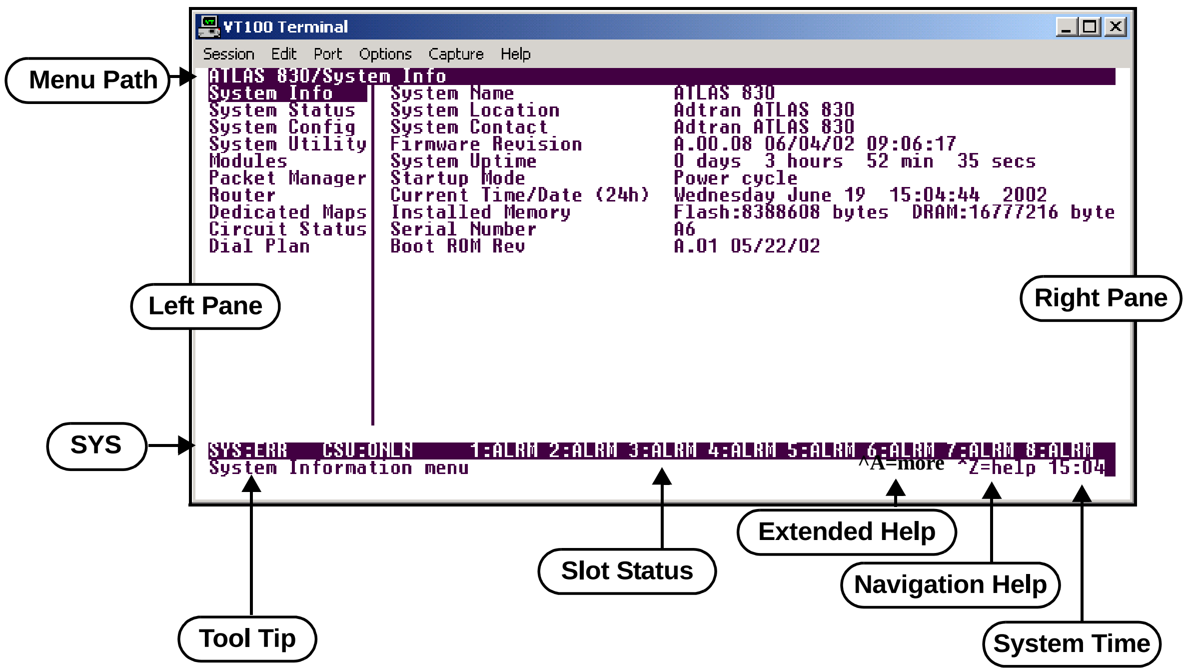


Figure 1. Top-Level Terminal Menu Window

Menu Path

The first line of the terminal menu window (the menu path) shows the session's current position (path) in the menu structure. For example, Figure 1 shows the top-level menu with the cursor on the **SYSTEM INFO** submenu; therefore, the menu path reads **ATLAS 830/SYSTEM INFO**.

> **NOTE** *For simplicity, only the ATLAS 830 is used in examples throughout this section.*

Window Panes

When first starting a terminal menu session, the terminal menu window is divided into left and right panes. The left pane shows the list of available submenus, while the right pane shows the contents of the currently selected submenu.

You can view the terminal windows in two ways: with fields and submenus displaying horizontally across the right pane, or with fields and submenus displaying vertically down the right pane. Viewing submenus vertically rather than horizontally allows you to see information at a glance rather than scrolling horizontally across the window. To change the view, move your cursor to an index number and press <Enter>. Figure 2 shows this alternate view. Fields and submenu names may vary slightly in this view.

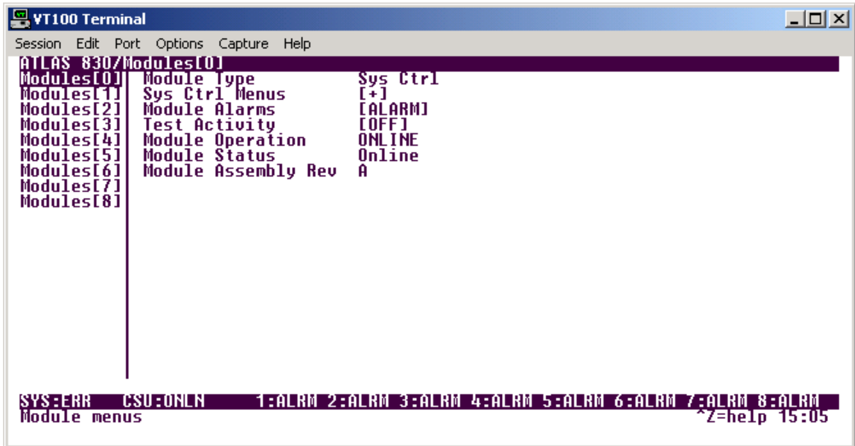


Figure 2. Alternate Menu View

Window Pane Navigation

Use the following chart to assist you in moving between and within the two window panes.

To do this...	Press this key...
Move from left pane to right pane	Tab Enter Right Arrow
Move from right pane to left pane	Tab Escape Left Arrow Backspace
Move within each pane	Up Arrow Down Arrow Left Arrow Right Arrow

Right Window Pane Notation

The right window pane shows the contents of the currently selected menu. These contents can include both submenu items and data fields. Some submenus contain additional submenus and some data fields contain additional data fields. The following chart explains the notation used to identify these additional items.

This notation...	**Means that...**
[+]	More items are available when selected
[DATA]	More items are available when selected
<+>	An action is to be taken, such as activating a test
Highlighted menu item	You can enter data in this field
Underlined field	The field contains read-only information

Additional Terminal Menu Window Features

- SYS - displays status information about the system controller, such as ONLIN (online), STBY (standby), and NRDY (not ready).
- Tool Tip - provides a brief description of the currently selected (highlighted) command
- Slot Status - displays status information, such as OK, WARN, or ALRM about slots 1-8
- Extended Help - displays information about selected commands (CTRL+A)
- Navigation Help - lists characters used for navigating the terminal menu and session management (CTRL+Z)
- System Time - displays current time

Navigating using the Keyboard Keys

Use keyboard keys to move through the terminal menu, manage a terminal menu session, and configure the system. Press the keyboard combination CTRL+Z to activate a pop-up screen listing the navigation keystrokes.

Moving through the Menus

To do this...	Press this key...
Return to the home screen	H
Jump between two menu items Press *J* while the cursor is located on a menu item, and you jump back to the main screen. Go to another menu item, press *J*, and you jump back to the screen that was displayed the first time you pressed *J*. Press *J* anytime you want to jump between these items.	J
Select items	↑ ↓ ← →
Edit a selected menu item	Enter
Cancel an edit	Esc
Close pop-up help screen	Esc
Move between the left and right panes	Tab ← →
Move to the top of a screen	A
Move to the bottom of a screen	Z
Ascend one menu level	← Backspace

Session Management Keystrokes

To do this...	Press this key...
Log out of a session	Ctrl + L
Invalidate the password entry and return to the login screen	Ctrl + S
Refresh the screen - To save time, only the portion of the screen that has changed is refreshed. This option should only be necessary if the display picks up incorrect characters caused by disconnecting and reconnecting the terminal session.	Ctrl + R
View Extended Data - Display data fields too large for display window.	Ctrl + V

Configuration Keystrokes

To do this...	Press this key...
Restore factory default settings. This setting restores the factory defaults based on the location of the cursor. If the cursor is on a module line (in the **MODULES** menu), then only the selected module is updated to factory defaults.	F
Copy selected items to the clipboard. The amount of information you can copy depends on the cursor location when you press *C*: If the cursor is over an editable field, only that item is copied. If the cursor is over the index number of a list, then all of the items in the row of the list are copied. For example, if the cursor is over the **SLOT #** field in the **MODULES** screen, all of the information associated with the slot is copied.	C
Paste the item stored in the clipboard, if the information is compatible. You must confirm all pastes, except those to a single editable field.	P
Increment the value of certain types of fields by one when you paste information into those fields.	> .
Decrement the value of certain types of fields by one when you paste information into those fields.	< ,
Insert a new list item. For example, add a new item to the **DEDICATED MAP** connection list by pressing *I* while the cursor is over the index number.	I
Delete a list item. For example, delete an item from the **DEDICATED MAP** connection list by pressing *D* while the index number is active.	D

Getting Help

The bottom line of the terminal menu window contains context-sensitive help information. When the cursor is positioned over a set of configuration items, a help message displays (when available) providing a description of the item. When more detailed help is available for a particular item, ^A displays at the bottom of the window. At this point, if you press the key combination CTRL+A, a pop-up help screen displays with information about the item. Press the key combination CTRL+Z to activate a help screen that displays the available keystrokes you can use to navigate the terminal menu.

2. TERMINAL MENUS AND SYSTEM CONTROL

Selecting the Appropriate Menu

The terminal menus are the access point to all other operations. Each terminal menu item has several functions and submenus that identify and provide access to specific operations and parameters. Use the chart below to help select the appropriate terminal menu.

To do this...	Go to this menu...
Review and monitor general system information for the ATLAS.	System Info
Review and monitor system status for the ATLAS.	System Status
Set up the operational configuration for the ATLAS.	System Config
Update settings, transfer files, perform system diagnostics, and reboot the ATLAS.	System Utility
Review and configure settings for each installed module, including the ATLAS built-in network ports.	Modules
Define and configure all layer 2 connections including Frame Relay and PPP endpoints.	Packet Manager
Define, configure and monitor all ATLAS Router functions.	Router
Assign dedicated connections between any two ports in the ATLAS.	Dedicated Maps
Monitor the status of backup links, manually force a backup switch, and restore a primary connection.	Circuit Status
Set global ATLAS switch parameters or set individual parameters for each port in the ATLAS that handles a switched call.	Dial Plan

Security Levels

To edit terminal menu items, users must have a password and the appropriate security level. Table 1 describes the six security levels.

Table 1. Password Security Levels

Security Level	Description
5	Read-only permission for all menu items - minimum rights
4	Read permission for all menu items and permission to use test commands
3	Access to all commands except passwords, flash download, authentication methods, and interface configurations
2	Access to all commands except passwords, flash download, and authentication methods
1	Access to all commands except passwords
0	Permission to edit every menu item, including creating and editing passwords - maximum rights

3. SYSTEM INFO MENU DESCRIPTIONS

The **SYSTEM INFO** menu provides basic information about the unit as well as data fields for editing information. Figure 3 displays the submenus and data fields available for this menu.

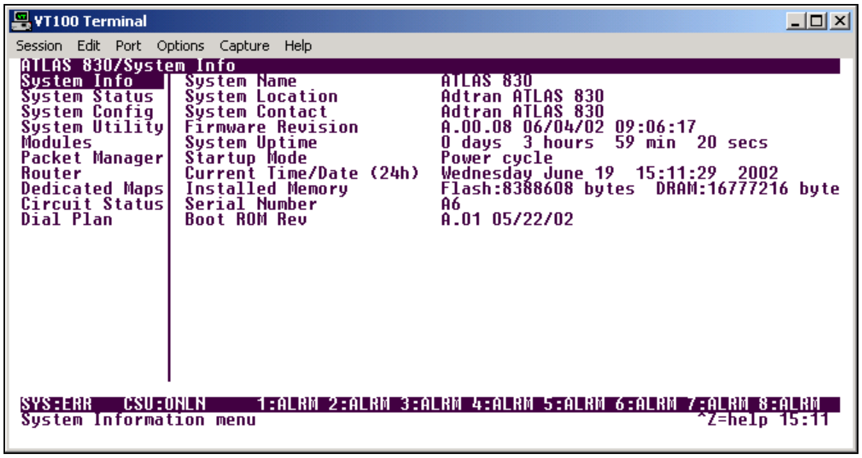


Figure 3. System Info Menu

System Name

Write security: 3; Read security: 5

Provides a user-configurable text string for the name of the ATLAS. This name can help distinguish between different installations. Enter up to 40 alphanumeric characters in this field, including spaces and special characters (such as an underbar).

System Location

Write security: 3; Read security: 5

Provides a user-configurable text string for the location of the ATLAS. This field helps keep track of the physical location of the unit. Enter up to 40 alphanumeric characters in this field, including spaces and special characters (such as an underbar).

System Contact

Write security: 3; Read security: 5

Provides a user-configurable text string for a contact name. Use this field to enter the name, phone number, or e-mail address of a person responsible for the ATLAS system. Enter up to 40 alphanumeric characters in this field, including spaces and special characters (such as an underbar).

Firmware Revision

Read security: 5

Displays the current firmware revision level of the controller.

System Uptime

Read security: 5

Displays the length of time the ATLAS system has been running. Resetting the system resets this value to 0 days, 0 hours, 0 min and 0 secs.

Startup Mode

Read security: 5

Displays details about the last system startup. For example, this field reads “Warm Reboot” when rebooting the ATLAS from the **SYSTEM UTILITY** menu.

Current Time/Date (24Hr)

Write security: 3; Read security: 5

Displays the current date and time, including seconds. To edit this field, place the cursor on the field and press <Enter>. Then, enter the time in a 24-hour format (such as 23:00:00 for 11:00 pm), and the date in mm-dd-yyyy format (for example, 10-30-2003). Press <Enter> to exit the menu.

Installed Memory

Read security: 5

Displays the type and amount of memory in use (including Flash memory and DRAM).

Serial Number

Read security: 5

Displays the serial number for the unit. The serial number of the ATLAS automatically displays in this field.

Boot ROM Rev

Read security: 5

Displays the boot ROM revision.

4. SYSTEM STATUS MENU DESCRIPTIONS

The **SYSTEM STATUS** menu provides the user with status information about the ATLAS operational parameters including logged system events and timing. Figure 4 displays the submenus and data fields.

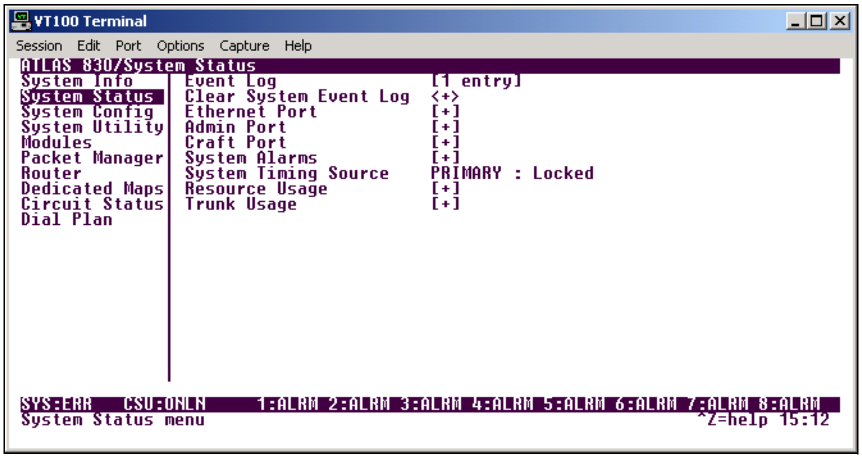


Figure 4. System Status Menu

Event Log

Displays the last 349 warning or failure messages sent including the day, date, and priority of the message. The most recent messages display at the top of the list. The following read-only fields are available for review:

Time — Displays the date (mm/dd) and the time (hh:mm:ss) that the event occurred.

Category — Displays the severity of the event. The possible categories are **CRITICAL**, **MAJOR**, **MINOR**, **WARNING**, **NORMAL**, and **INFO**. Specify which types of errors to log with the **SYSTEM EVENT LOGGING** option. (See *System Event Log* on page 357 for details.)

Source (Src) — Displays the source of the event.

Slot/Pktlnk — Displays the slot number in which the event occurred. If this field displays (**0**), the event that occurred was on one of the two built-in network ports.

Port/Sublink — Displays the port in which the event occurred.

Description — Displays a description of the event.

Clear System Event Log

Write security: 3; Read security: 3
Clears the event log. Select **Y** to clear the log or **N** to exit the command. The following prompt displays:

Confirm (y/n)
This will clear the entire event log.

CAUTION *After clearing the event log, data cannot be retrieved.*

Ethernet Port

Read security: 5
Displays status information about the Ethernet port. An asterisk (*) indicates activity for the item. The following read-only fields are available to review:

I/F Status Indicates the current status of the Ethernet port.

Tx Frames Indicates the number of frames transmitted from the Ethernet port since system startup.

Rx Frames Indicates the number of frames received on the Ethernet port since system startup.

Ethernet Rate Indicates whether the Ethernet network is 10 or 100BaseT.

Admin Port

Write security: 2; Read security: 5
Displays the status of the **ADMIN** port.

Signal Leads Displays the state of the **ADMIN** port signals (**RTS**, **CTS**, **DTR**, and **DCD**).

Tx Bytes Displays the number of bytes transmitted from the **ADMIN** port.

Rx Bytes Displays the number of bytes received by the **ADMIN** port

Overrun Errs Displays the number of overrun errors received by the **ADMIN** port.

Framing Errs Displays the number of framing errors received by the **ADMIN** port.

Clear Counters Clears the **ADMIN** port statistics. Press **Y** to activate this command.

Craft Port

Write security: 2; Read security: 5
Displays the status of the **CRAFT** port.

Tx Bytes Displays the number of bytes transmitted from the **CRAFT** port.

Rx Bytes Displays the number of bytes received by the **CRAFT** port.

Overrun Errs Displays the number of overrun errors received by the **CRAFT** port.

Framing Errs Displays the number of framing errors received by the **CRAFT** port.

Clear Counters Write security: 5; Read security: 5
Clears the **CRAFT** port statistics. Press **Y** to activate this command.

System Alarms (ATLAS 830)

Read security: 5

Contains alarm information about the ATLAS system including power and temperature alarms. The following status symbols are used:

Symbol	Description
[–]	Normal condition
[*]	Failure condition
[!]	No information available

Power Indicates that one or both of the power supplies are not functional. Both the primary and auxiliary (installed in slots 7 and 8 of the ATLAS 830) power supplies are continuously monitored to determine failures. If one of these supplies fails, a message will be placed in the **EVENT LOG** (see *System Event Log* on page 357 for more details).

Temperature Indicates that the internal temperature of the power supply has exceeded normal operating limits. When the operating temperature is exceeded by any power supply, a warning will be placed in the **EVENT LOG** but no other action will be taken (see *System Event Log* on page 357 for more details).

System Alarms (ATLAS 890)

Displays the status of all ATLAS 890 system alarms. The following symbols are used.

Symbol	Description
[–]	Normal condition
[*]	Failure condition
[!]	No information available. May indicate that one of the four power supply slots does not contain a power supply.

Power

Indicates that one or both of the power supplies are not functional. These power supplies are continuously monitored to determine failures. If one of these supplies fails, a message will be placed in the **EVENT LOG** (see *System Event Log* on page 357 for more details).

Temperature

Indicates that the internal temperature of the power supply has exceeded normal operating limits. When the operating temperature is exceeded by any power supply, a warning will be placed in the **EVENT LOG** but no other action will be taken (see *System Event Log* on page 357 for more details).

Fans

Indicates that installed fans are operating normally.

External Input

Indicates that the external input has been activated. **[–]** indicates that input is not active and **[*]** indicates that input is active.

System Timing Source

Read security: 5

Indicates which timing source (primary or backup) is in use by ATLAS and whether the system is locked onto this source. If the display does not indicate locked, the ATLAS does not have a valid source of timing and cannot reliably transfer data. Review the current setting for system timing source in the **SYSTEM CONFIG** menu. See *Primary Timing Source* on page 86 and *Backup Timing Source* on page 86 for details.

Resource Usage

Write security: 5; Read security: 5

Provides resource usage tracking for dynamic resources throughout the system. This includes current, average, and minimum availability for both analog and digital resources.

Data Tables

Read security: 5
Displays resource usage for dynamic resources throughout the system in a table format.

Submenus	Description
Resource Type	Displays types of dynamically allocated resources being tracked throughout the system. Examples are Analog (analog modem resource), SW Digital (digital call resource), and Pkt Voice (packet voice compression resource). Choices are **ADPCM VOICE**, **ANALOG**, **NL DIGITAL**, **PKT VOICE**, and **SW DIGITAL**.
Current	Shows the number of resources available (not in use) and the total number of resources. If a resource is taken offline, it is not included in the total.
Average	Shows the average number of resources available since the statistics were last reset.
Min	Shows the fewest number of resources available since the last reset.
0 (Zero) Avail	Provides a count of the number of times the quantity of available resources reached 0.
Hr Data	Displays the **TIME OF DAY, AVERAGE**, **MINIMUM**, and **0 AVAILABLE** data broken down in hour increments for a 24-hour period.
Reset	Write security: 4; Read security: 5 Activates the reset of all accumulated availability statistics for the selected resource.

Config

Write security: 3; Read security: 5
Configures the statistics displayed under data tables.

Submenus	Description
Display Format	Toggle this display format for all **RESOURCE USAGE** statistics to either **RAW DATA** or **PERCENT.**
Reset Mode	Sets the reset mode for the **RESOURCE USAGE** statistics to one of the following: Daily — Performs reset daily at 12:00 AM Weekly — Performs reset on Saturday night, 12:00 AM Manual — Disables automatic reset of the resource usage statistics

Trunk Usage

Write security: 5; Read security: 5

DS0 usage tracking for Dial Plan connections. Indicates trunk use: (**NET TERM PRI**, **NET TERM RBS**; **USER TERM PRI**, and **USER TERM RBS**).

Data Tables

Read security: 5
Displays collected trunk resource usage data.

Submenus	Description
Trunk Type	Displays types of trunks in the system including the following: Net RBS — T1 (Robbed Bit Signaling) trunks configured in the **DIAL PLAN** as **NETWORK TERM.** Net PRI — Primary Rate ISDN circuits configured in the **DIAL PLAN** as **NETWORK TERM.** User RBS — T1 (Robbed Bit Signaling) trunks configured in the **DIAL PLAN** as **USER TERM.** User PRI — Primary Rate ISDN circuits configured in the **DIAL PLAN** as **USER TERM.**
Current	Shows the number of resources available (not in use) and the total number of resources. If a resource is taken offline, it is not included in the total.
Average	Shows the average number of resources available since the statistics were last reset.
Min	Shows the fewest number of resources available since the last reset.
0 (Zero) Avail	Provides a count of the number of times the quantity of available resources reached 0.
Slot/Port Data	Displays the usage data (**CURRENT**, **AVERAGE**, **MIN**, **0 AVAIL**, and **HR DATA**) broken down by slots and ports.
Reset Stats	Write security: 4; Read security: 5 Activates the reset of all accumulated availability statistics.

Config

Write security: 5 Read security: 5
Configures the statistics displayed under data tables.

Submenus	Description
Display Format	Sets the display format for all **TRUNK USAGE** statistics to either **RAW DATA** or **PERCENT.**
Reset Mode	Write security: 5; Read security: 5 Sets the reset mode for the **TRUNK USAGE** statistics to one of the following: Daily — Performs reset daily at 12:00 AM. Weekly — Performs reset on Saturday night, 12:00 AM. Manual — Disables automatic reset of the trunk usage statistics

Redundancy (ATLAS 890)

Write security: 5; Read security: 5

SCU A Displays the status of the system controller unit (SCU) installed in Slot A.

SCU B Displays the status of the system controller unit (SCU) installed in Slot B.

Hardware Compatibility Displays the current hardware of the SCUs installed in Slots A and B. Provides status for any compatibility issues that exist.

Firmware Compatibility Indicates whether the firmware revision of SCUs A and B have any incompatibility problems that would affect controller switchover. For proper operation, the firmware in SCU A should match the firmware in SCU B.

Active/Standby Configuration Compares the configuration of SCUs A and B. Displays any discrepancies in the comparison and indicates when the controllers are synchronized.

Standby Startup Mode Displays the manner in which the standby controller booted. In the event that the Standby SCU previously rebooted, this message attempts to explain the cause of the reboot.

InterController Communications Displays the status of the Intercontroller Communications Channel (ICC).

5. SYSTEM CONFIG MENU DESCRIPTIONS

The **SYSTEM CONFIG** menu allows you to set up the ATLAS operational configuration. Figure 5 shows the items included in this menu. Menu options follow.

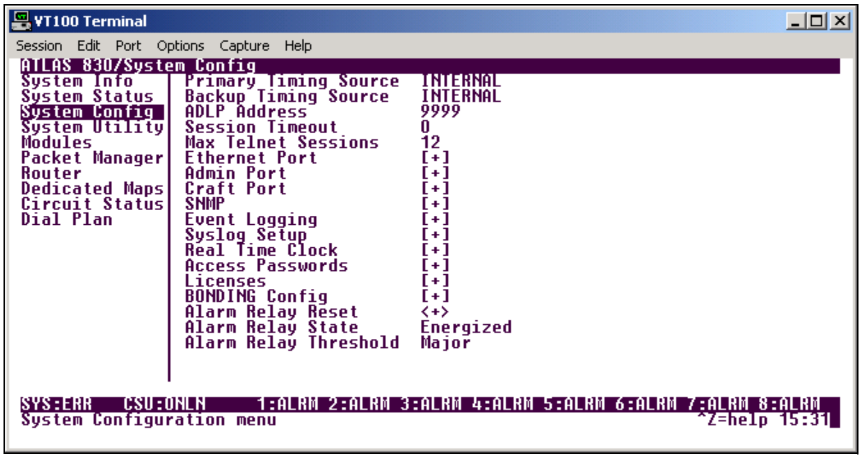


Figure 5. System Config Menu

Primary Timing Source

Write security: 1; Read security: 5

Selects the primary timing source. You can select either Internal or any port available that is capable of providing timing. Please refer to the specific module information to determine whether a port can provide timing for the system.

Backup Timing Source

Write security: 1; Read security: 5

Selects the secondary timing source. You can select either Internal or any port available that is capable of providing timing. Please refer to the specific module information to determine whether a port can provide timing for the system. ATLAS 800 Series uses the backup timing source if the primary timing source goes into alarm. The backup timing source should be different from the primary timing source for the most reliable operation.

ADLP Address

Write security: 2; Read security: 5

Shows the system ADTRAN Data Link Layer Protocol (ADLP) address for connecting remote devices to ADTRAN management software. The allowable range is between 2 and 65520. Enter a value not used by any other ADTRAN units controlled by the management software.

Session Timeout

Write security: 3; Read security: 5

Defines the number of seconds the terminal session must remain idle before the session times out (valid range 0 to 65535). You can enter zero to deactivate this option (the session will never time out).

Max Telnet Sessions

Write security: 3; Read security: 5

Defines the maximum number of Telnet sessions that can be active at the same time. Enter a number between 0 and 12 in this field.

> CAUTION
>
> *If you enter zero in* **MAX TELNET SESSIONS**, *you will not be able to use Telnet. Only enter zero if you want to completely lock out Telnet access.*

Ethernet Port

Write security: 2; Read security: 5

Provides a way to configure various settings for the Ethernet port. The following options are available for review and editing:

Port Name
Defines the name of the Ethernet port. You can leave this field blank.

IP Address
Lists the address assigned to the base Ethernet port. This address is in dotted decimal notation (four decimal numbers, each in the range of 0 to 255, separated by periods). Default value is 10.0.0.1. The IP address is used for the 10/100BaseT Ethernet interface. Obtain the correct IP address from your LAN administrator.

Default Gateway
Defines or changes the default gateway. Enter the default gateway address by entering a decimal number into the appropriate field and then pressing **<Enter>** to move to the next field. You will need a default gateway if the LAN contains multiple segments. This address is in dotted decimal notation (four decimal numbers, each in the range of 0 to 255, separated by periods). This value is set to 0.0.0.0 by default. Contact your LAN administrator for the appropriate address.

Subnet Mask
Defines which part of a destination IP address contains the network number. This address is in dotted decimal notation (four decimal numbers, each in the range of 0 to 255, separated by periods). Default value is 255.255.255.0 by default. This part of the destination IP address is used along with the ATLAS 800 Series IP address to determine which nodes must be reached through the default IP gateway.

MAC Address
Read-only field displays the system Ethernet Media Access Control (MAC) address.

Ethernet Speed
Defines the rate at which the Ethernet port operates. Choose from **10 MBPS** or **AUTO 10/100**. When the unit is set for Auto 10/100, the ATLAS 800 Series auto detects the data rate of the LAN and sets itself to that rate, either 10 or 100 Mbps.

Admin Port

Write security: 2; Read security: 5
Accepts input for configuring the **ADMIN** port located on the rear of the unit.

Port Name	Defines the name of the **ADMIN** port. You can leave this field blank.
Port Type	Specifies whether you use **DIRECT** or **DIAL** mode. **DIRECT** mode is used when connecting to a VT100 terminal, and **DIAL** mode is used for modem access.
Port Speed	Specifies the baud rate of the port. Select either 2400, 9600, 19200, or 38400. If you are using **DIAL** for **PORT TYPE**, ensure that the **PORT SPEED** setting matches the modem baud rate.
Modem Initialization String	Specifies the initialization string for a modem. Refer to your modem documentation for acceptable initialization strings. The default value will set most modems to the appropriate configuration for the ATLAS 800 Series.
Initialize Modem	Write security: 4; Read security: 5 Sends the modem initialization string to the modem. When you select this command, the following message displays: *Please verify a modem is connected to the Admin port before continuing. Confirm (y/n).* Ensure that a modem is connected before selecting **Y**.
Flow Control	This option sets the flow control for the **ADMIN** port. You may configure the **ADMIN** port flow control for **NONE** or **HARDWARE**.

Craft Port

Write security: 2; Read security: 5
Accepts input for configuring the **CRAFT** port located on the front of the unit.

Port Name	Defines the name of the **CRAFT** port. You can leave this field blank.
Port Speed	Specifies the baud rate of the port. Select either **2400, 9600, 19200,** or **38400** to match the VT100 terminal (or emulator) settings.

SNMP

Write security: 3; Read security: 5

Provides a way to configure SNMP access for the ATLAS. The following options are available for review and editing:

SNMP Access Defines whether SNMP access to the ATLAS is enabled or disabled. Select the appropriate option.

SNMP Communities Defines SNMP manager(s) characteristics as follows:.

Submenus	Description
IP Address	Specifies the IP address of the network manager.
Privileges	Defines the **GET** (read-only) and **GET/SET** (read and write) privileges.
Get Name	Defines the community name for **GET** access. This value must match the **GET** name defined on the network management station. **PUBLIC** is the default name.
Set Name	Defines the community name for **SET** access. This value must match either the **GET** or **SET** name defined on the network management station. **PUBLIC** is the default name

Trap Transmission Enables and disables SNMP trap transmission.

Authen Trap Transmission Enables and disables the authentication failure trap.

Traps Destination Defines the destination for SNMP traps as follows:

Submenus	Description
IP Address	Identifies the IP address for the network manager (NM) to sends traps.
Community Name	Defines the community name for trap destinations. This name must match the community name defined on the NM.
Trap Filtering	Sets the minimum severity level required for a system event to generate an SNMP trap. If a trap event occurs with a security level equal to or more severe than the trap type's current threshold setting, the event is sent as an SNMP trap. (Refer to the ADTRAN Technical Support web page (www.adtran.com) for a listing of all MIBs containing traps and their security levels.) The following threshold levels for the available selections: **DISABLED**, **CRITICAL**, **MAJOR**, **MINOR**, **WARNING**, **NORMAL**, and **INFO.**
Station Type	To deliver the SNMP trap packet with the **COMMUNITY NAME** unchanged, define the **STATION TYPE** as **NORMAL**. If you are using T-Watch PRO, define the **STATION TYPE** as **T-WATCH MGMT** and append the **COMMUNITY NAME** with ".ADLP ADDRESS." Within the SNMP trap packet, this field is automatically updated before it is sent to the management station.

DS1 Current Perf Thresholds

Defines performance threshold values for DS1 Line and Path statistics recorded in a 15-minute interval. Refer to the ADTRAN Enterprise MIB and the DS1 Extension MIB (available on the ADTRAN website at www.adtran.com) for more MIB-specific information. If a statistic value exceeds its threshold value, then the corresponding Alert Trap will be sent if the alert event is armed and Alert Traps are enabled. These thresholds apply to all DS1 interfaces in the system.

Submenus	Description
Current ES Thrsh	Current 15 minute Errored Seconds (ES) parameter. The default value is 65 for an approximate BER level of 10E-5.
Current SES Thrsh	Current 15 minute Severely Errored Seconds (SES) parameter. The default value is 10 for an approximate BER level of 10E-5.
Current SEFS Thrsh	Current 15 minute Severely Errored Framing Seconds (SEFS) parameter. The default value is 2 for an approximate BER level of 10E-5.
Current UAS Thrsh	Current 15 minute Unavailable Seconds (UAS) parameter. The default value is 10 for an approximate BER level of 10E-5.
Current CSS Thrsh	Current 15 minute Controlled Slip Seconds (CSS) parameter. The default value is 1 for an approximate BER level of 10E-5.
Current PCV Thrsh (D4)	Current 15 minute Path Code Violations (PCV) parameter, when the Line Type is Super Frame (AT&T D4 format) DS1. The default value is 72 framing errors for an approximate BER level of 10E-5.
Current PCV Thrsh (ESF)	Current 15 minute Path Code Violations (PCV) parameter, when the Line Type is Extended Super Frame DS1. The default value is 13,296 CRC errors for an approximate BER level of 10E-5.
Current LES Thrsh	Current 15 minute Line Errored Seconds (LES) parameter. The default value is 65 for an approximate BER level of 10E-5.
Current LCV Thrsh	Current 15 minute Line Code Violations (LCV) parameter. The default value is 13,340 for an approximate BER level of 10E-5.

DS1 Total Perf Thresholds

Defines performance threshold values for DS1 Line and Path statistics. Refer to the ADTRAN Enterprise MIB and DS1 Extension MIB (available on the ADTRAN website at www.adtran.com) for more MIB specific information. If a statistic value exceeds its threshold value, then the corresponding Alert Trap will be sent if the alert event is armed and Alert Traps are enabled. These thresholds apply to all DS1 interfaces in the system.

Submenus	Description
Total ES Thrsh	Total Errored Seconds (ES) parameter. The default value is 648 for an approximate BER level of 10E-5.
Total SES Thrsh	Total Severely Errored Seconds (SES) parameter. The default value is 100 for an approximate BER level of 10E-5.
Total SEFS Thrsh	Total Severely Errored Framing Seconds (SEFS) parameter. The default value is 17 for an approximate BER level of 10E-5.
Total UAS Thrsh	Total Unavailable Seconds (UAS) parameter. The default value is 10 for an approximate BER level of 10E-5.
Total CSS Thrsh	Total Controlled Slip Seconds (CSS) parameter. The default value is 4 for an approximate BER level of 10E-5.
Total PCV Thrsh (D4)	Total Path Code Violations (PCV) parameter, when the Line Type is Super Frame (AT&T D4 format) DS1. The default value is 691 framing errors for an approximate BER level of 10E-5.
Total PCV Thrsh (ESF)	Total Path Code Violations (PCV) parameter, when the Line Type is Extended Super Frame DS1. The default value is 132,960 CRC errors for an approximate BER level of 10E-5.
Total LES Thrsh	Total Line Errored Seconds (LES) parameter. The default value is 648 for an approximate BER level of 10E-5.
Total LCV Thrsh	Total Line Code Violations (LCV) parameter. The default value is 133,400 for an approximate BER level of 10E-5.

ASP Endpoint Communities

(Write security: 0; Read security: 0)
Configures the ADLP list used when accepting incoming traps from remote ADTRAN TSU 100 Series or ISU 512 units. For a trap to be recognized and sent to the network management station listed in the Traps Destination field, the remote unit must be listed in the ASP Endpoint Communities list. The ADLP Address and ADLP Password parameters must be configured.

Submenus	Description
ADLP Address	Enter the ADLP address (Unit ID) of the remote unit. Only traps containing an ADLP address listed here will be accepted.
ADLP Password	Enter the ADLP password (Unit Password) of the remote unit. The password will be verified before traps will be accepted from the remote unit.

SNMP/ASP Proxy

(Write security: 0; Read security: 0)
Enables or disables Get_Request capabilities for remote units. When enabled, this feature allows SNMP requests to be sent from the Network Management Station through the ATLAS 800 Series to the selected remote unit. Remote units must be ADTRAN TSU 100 Series or ISU 512 products. All remote units must be listed in the **ASP ENDPOINT COMMUNITIES** list.

SNMP/ASP Polling

(Write security: 0; Read security: 0) Enables or disables trap polling through the ATLAS 800 Series to remote ADTRAN TSU 100 Series or ISU 512 units. When enabled, this feature allows the ATLAS 800 Series to forward any traps received from remote units to the Network Management Station listed in the **TRAPS DESTINATION** field. The remote unit must be listed in the **ASP ENDPOINT COMMUNITIES** for the traps to be forwarded.

Event Logging

Write security: 3; Read security: 5

Sets the system event severity level threshold for each of the ATLAS 800 Series system event types. When a system event occurs, the event is logged if the event's severity level is equal to or more severe than the event type's current threshold setting. See *System Event Log* on page 357 for detailed information on the system events.

Syslog Setup

Write security: 3; Read security: 3

Configures the ATLAS 800 Series Syslog client for use with a Syslog server (supplied with ADTRAN Utilities or available on most UNIX platforms).

Transmission

(Write security: 3; Read security: 3) Enables or disables the transmission of log events to the external Syslog server

Host IP Address

(Write security: 3; Read security: 3) Lists the IP address of the external server that is running the Syslog host daemon.

Host Facility (Write security: 3; Read security: 3)
Specifies the facility destination of log events. Facilities are located on the host and are managed by the Syslog host daemon running on either a UNIX machine or a PC. For details on the ADTRAN syslog server host facilities, please refer to Section 7, *ADTRAN Utilities*, on page 371.

Real Time Clock

Write security: 3; Read security: 5
Provides access to the two options listed below. You can review and edit these options.

Current Time/Date Displays the current date and time, including seconds. To edit this field, enter the time in 24-hour format (such as 23:00:00 for 11:00 pm), and enter the date in mm-dd-yyyy format (for example, 09-23-1998).

Auto Daylight Savings When enabled, automatically updates the time and date when Daylight Savings Time starts and when Standard Time ends.

Access Passwords

Write security: 0; Read security: 0
Provides a way to edit passwords and to add new users and passwords. All menu items are protected by passwords of varying security levels. By assigning different passwords to different security levels, the ATLAS 800 Series system administrator can control which users can change various menu items. You can assign multiple passwords at the same access level. This way, different users with the same access privileges can have different passwords. Each of the six password security levels is described in Table 1 on page 68.

Label Defines a username.

Password Allows you to change the password (the default password is “password”). The current password displays as a series of asterisks (********). The password can contain up to a combination of 12 case-sensitive alphanumeric characters, spaces, or special characters.

Access Rights Defines the password level for the corresponding label. You can select from six different password levels (see Table 1 on page 68).

Active Displays the number of users currently logged into the system for each label.

Licenses

Write security: 0; Read security: 0
(Not currently used.) Provides menus to enable the optional ATLAS 800 Series feature upgrades.

Feature Names the ATLAS 800 Series feature upgrade.

License Key Displays the license key of the feature upgrade.

Serial Number Displays the serial number of the feature upgrade.

Lic Cnt Displays the number of instances of the feature that the license provides. This field may not be applicable for a given feature—if it is not, this field is blank.

Status Reflects the status, **PERMANENT** or **TEMPORARY**, of the feature upgrade license key.

Bonding Config

Write security: 3; Read security: 5

Displays the configuration submenus available for the BONDing Module. This configuration is shared among all BONDing Modules.Time is given in seconds

TXINIT Timer Specifies the length of time the originating endpoint attempts to detect the BONDING negotiation pattern from the answering endpoint before deciding the BONDING call has failed.

TXFA Timer Specifies the length of time both endpoints attempt to detect the BONDING frame pattern when a call is connected before deciding the BONDING call has failed. When interoperating with other manufacturers' BONDING equipment, it may be necessary to change this time so that it matches **TXADD01**.

TXADD01 Timer Specifies the length of time both endpoints wait for additional calls to be connected at the end of negotiation before deciding that the BONDING call has failed. The factory default setting is sufficient for most calls to connect, although when dialing overseas it may be necessary to lengthen this timer to allow for slower call routing.

TXDEQ Timer Specifies the length of time both endpoints attempt to equalize the network delay between the bearer channels before deciding the BONDING call has failed.

TANULL Timer Specifies the length of time the answering endpoint attempts to detect the BONDING negotiation pattern from the originating endpoint before deciding the BONDING call has failed. It may be necessary to shorten this timer if the DTE equipment using the BONDING module also has timer constraints for completing non-BONDING parameter negotiation.

TCID Timer Specifies the length of time both endpoints attempt to negotiate an agreeable value for bearer channels and channel capacities before deciding the BONDING call has failed.

Call Stagger Specifies the amount of delay between placing calls for outgoing BONDING sessions. The following call stagger values are available:

Submenus	Description
No Stagger	There is no delay between the call dialing of a BONDING session.
500 ms	Wait approximately ½ second between the call dialing of a BONDING session.
1 sec	Wait approximately 1 second between the call dialing of a BONDING session.
2 sec	Wait approximately 2 seconds between the call dialing of a BONDING session.

Alarm Relay Reset

Write security: 3; Read security: 5

Clears the Alarm Relay located on the rear panel of the ATLAS 890. Activating the software Alarm Relay Reset functions the same as manually pressing the ACO Switch located on the ATLAS 890 front panel.

Alarm Relay State

Write security: 3; Read security: 5

Configures the alarm relay response during an active alarm. The following sections are available:

Energized In an alarm condition, the Normally Open (NO) relay is closed and the Normally Closed (NC) relay is opened.

De-Energized In an alarm condition, the NO relay is opened and the NC relay is closed.

Alarm Relay Threshold

Write security: 3; Read security: 5

Defines the event log category for the message associated with the alarm. For more details on Event Log categories refer to *System Event Log* on page 357.

Ext. Input Threshold (ATLAS 890)

Write security: 3; Read security: 5

Defines the alarm level and text for external switch contacts. If the external switch contact is closed, the alarm is thrown and the event text is sent to the event log.

Name Read security: 5
Displays the name External Input to identify the entry for the external input alarm.

Description Write security: 3; Read security: 5
Contains the user-defined text that will be sent to the ATLAS 800 Series event log when the alarm is triggered.

Level Write security: 3; Read security: 5
Defines the event log category for the message associated with the alarm. For more details on event log categories, refer to *Section 7, System Event Log*.

Ext. Input Alarm (ATLAS 890)

Selects the condition that will trigger an External Input Alarm.

Present The alarm activates when a signal is present.

Absent The alarm activates when a signal is absent.

6. SYSTEM UTILITY MENU DESCRIPTIONS

Use the **SYSTEM UTILITY** menu to view and set the system parameters shown in Figure 6.

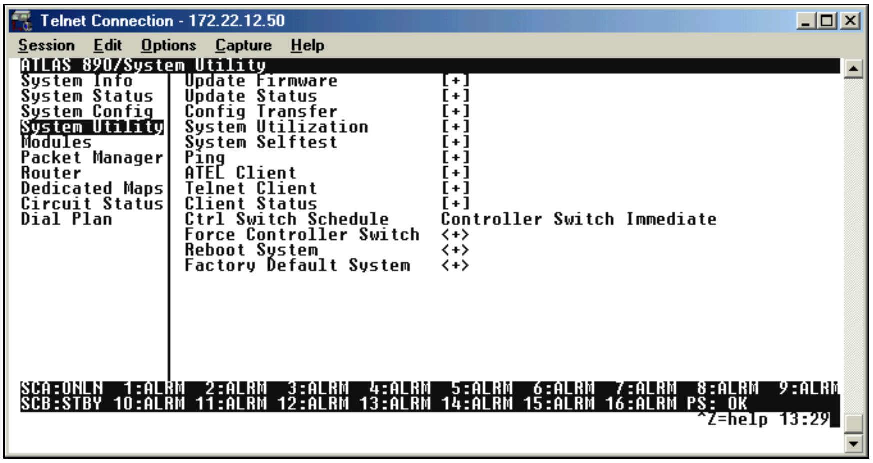


Figure 6. System Utility Menu

Update Firmware

Write security: 1; Read security: 5

Updates firmware when ATLAS 800 Series enhancements are released. Two transfer methods are available for use in updating any modules that contain Flash memory—including the ATLAS 800 Series system controller. The first transfer method uses the ATLAS 800 Series serial Admin port of the system controller and XMODEM protocol. The second transfer method uses the ATLAS 800 Series built-in Ethernet port of the system controller and Trivial File Transfer Protocol (TFTP). For more details on updating firmware, please refer to DLP-6, *Updating ATLAS Firmware using TFTP* and *DLP-7, Updating ATLAS Firmware using XMODEM.*

Module Slot

Displays the slot you selected for firmware updating. When this option first appears, **NONE SELECTED** displays. When you move the cursor to this field and press <Enter>, a dialog box opens, allowing you to select various slots or **ALL MODULES OF A TYPE**.

Module Type

Reflects the module type selected in **MODULE SLOT**. The selections only include upgradable modules.

Transfer Method

Lists the two transfer methods for updating firmware after selecting a module slot: **XMODEM** and **TFTP**. **XMODEM** transfers files by connecting to a communications program that supports XMODEM uploads to the terminal interface. **TFTP** transfers files by specifying an appropriate server address and filename.

TFTP Server IP Address

(Available for TFTP transfers only). Configures the IP address of the TFTP Server on which the update file resides. The ATLAS 800 Series uses this field to locate the network server on which the update file resides.

TFTP Server Filename (Available for TFTP transfers only). Identifies the name of the update file to retrieve from the TFTP Server. Enter the full path name and filename for the file.

Restart Schedule Indicates when to restart the updated module to invoke the new software, after selecting a module slot. The two options include **RESTART IMMEDIATELY AFTER UPDATE** and **RESTART AT SPECIFIED DATE AND TIME.**

Submenus	Description
Restart Immediately After Update	Automatically restarts the module or unit (when **SLOT 0** is selected) immediately after the update is complete.
Restart At Specified Date and Time	Lets you specify a date and time to automatically restart the updated module or unit (when Slot 0 is selected). When you select this option, a new field called Restart Date and Time displays below the current field. Restart Date and Time: Defines the date and time to restart the system after updating. Enter the time using a 24-hour format (i.e., 23:25:30 for 11PM, 25 minutes, 30 seconds). Enter the date in mm-dd-yyyy format (i.e.,11-08-2000).

Current Update Status If **MODULE SLOT** is set to **ALL MODULES OF A TYPE**, the following fields appear; otherwise, this field simply indicates the status of the current update.

Submenu	Description
Slot	Indicates the slot number.
Module type	Indicates the module type for the chosen expansion slot.
Current Update Status	Indicates the status of the current update.
Previous Update Status	Indicates the status of the previous update.

Previous Update Status If **MODULE SLOT** is set to **ALL MODULES OF A TYPE**, this information appears under **CURRENT UPDATE STATUS**; otherwise, this field simply indicates the status of the previous update.

Begin Firmware Update This field begins or cancels an update of the specified module(s).

Update Status

Read security: 5

Displays the status of the current firmware update. These fields are identical to those previously defined in *Current Update Status*.

Config Transfer

Write security: 3; Read security: 5

(Available with TFTP transfers only.) Sends a file containing the ATLAS 800 Series configuration to a file on a TFTP server using the TFTP protocol through the 10/100BaseT Ethernet port. **CONFIG TRANSFER** also lets you save the ATLAS 800 Series configuration as a backup file, so you can use the same configuration with multiple ATLAS 800 Series units. In addition, **CONFIG TRANSFER** can retrieve a configuration file from a TFTP server.

To support these transfers, ADTRAN delivers a TFTP program with the ATLAS 800 Series called *TFTP Server*. You can configure any PC running Microsoft Windows with this software, and store a configuration file.

Only one configuration transfer session (upload or download) can be active at a time. The TCP/IP parameters are not saved or overwritten as part of an ATLAS 800 Series unit's transferred configuration; therefore, identical configurations can be sent to multiple units. For complete details on configuration transfers to/from the ATLAS 800 Series, please refer to DLP-8, *Saving the Current Configuration using TFTP*.

Transfer Method
Displays the method used to transfer the configuration file to or from a server. Currently, TFTP is required.

TFTP Server IP Address
Specifies the IP address of the TFTP server. Get this address information from your System Administrator.

TFTP Server Filename
Defines the name of the configuration file that you transfer to or retrieve from the TFTP server. The default name is at830.cfg, but it is editable.

Current Transfer Status
Read security: 5
Indicates the current status of the transfer.

Previous Transfer Status
Read security: 5
Indicates the status of the previous transfer.

Load and Use Config
Retrieves the configuration file specified in the **TFTP SERVER FILENAME** field from the server. To start this command, enter **Y.** To cancel this command, enter **N**.

> CAUTION
> *If you execute the* **LOAD AND USE CONFIG** *command, ATLAS retrieves the configuration file, reboots, then restarts using the new configuration.*

Save Config Remotely
Saves the configuration file specified in **TFTP SERVER FILENAME** to the server identified in **TFTP SERVER IP ADDRESS**. To start this command, enter **Y.** To cancel this command, enter **N**.

System Utilization

Write security: 0; Read security: 0

Displays statistics related to the ATLAS 800 Series internal operating system. Please check with ADTRAN Technical Support before attempting to use this menu.

System Selftest

Write security: 3; Read security: 5

Initiates a system self-test. The self-test consists of memory tests and data integrity tests for each installed module.

> CAUTION *Self-tests disrupt data flow.*

Selftest Activates the self-test. To confirm self-test activation, press **Y**; to cancel the self-test press **N**.

Selected Tests Allows the user to select a system-wide test or an individual card test. Choose from **ALL TESTS**, **SLOT: 0 SYS CTRL**, or any other installed option/network module.

Current Test Status Displays which part of self-test is active. See *View Selftest Log* on page 100 for details on individual tests.

Current Slot/Port Displays which slot and port are being tested.

View Selftest Log (Read security: 5) Displays time-stamped log of the tests conducted and the Pass/Fail results. Self-tests verify data integrity and processor control to each port. Each port is looped back and a data pattern is sent and tested. The result of the self-test on each installed port is listed with Pass/Fail results. Figure 7 depicts a typical test log.

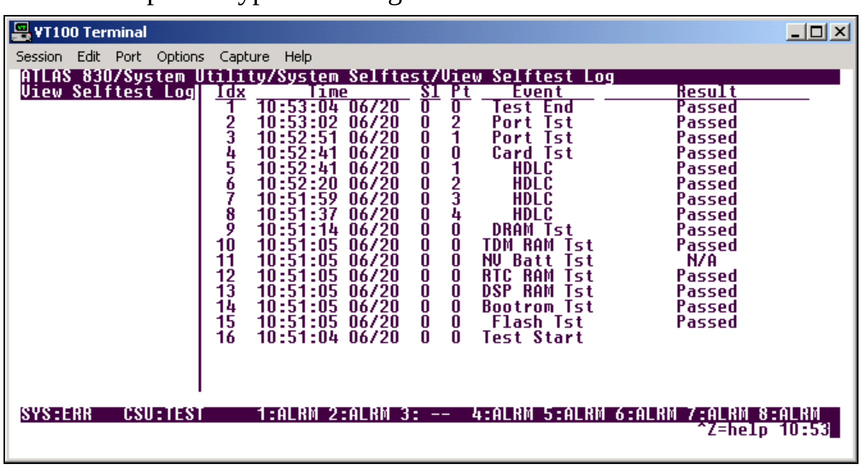


Figure 7. View Self-test Log

Submenu	Description (Self-test Log)
Idx	Index number of the log.
Time	Time and date of the log entry.
Sl	ATLAS 800 Series slot number.
Pt	ATLAS 800 Series port number.
Event	Event description.
Result	Show **PASS**/**FAIL** results

Submenu	Description (System Controller)
Flash	Flash memory checksum verified
BootRom	Boot ROM checksum verified
DSP RAM	Memory associated with the Digital Signal Processor
RTC RAM	Memory associated with the real time clock
NV Batt	Tests the battery associated with non-volatile memory
TDM RAM	Memory associated with mapping TDM bandwidth
DRAM	Dynamic RAM used for program execution
HDLC	The High-Level Data Link Controllers
Card Tst	Tests the data path for each slot in the system with an installed option module.
Port Tst (0.1, 0.2)	Built-in T1/PRI ports located on the rear panel

Clear Selftest Log Clears the self-test log.

Ping

Write security: 5; Read security: 5

Allows you to send pings (ICMP echo requests) to devices accessible via the Ethernet interface.

NOTE *Only one ping session can be active at a time.*

IP Address Specifies the IP address to ping.

Count Specifies the number of pings to send. The default value is 4, and the maximum value is 99.

Size (Bytes)
Specifies the size in bytes of the data portion of the ping request. The default value is 64 bytes, and the maximum size is 1024 bytes.

Timeout (ms)
Specifies the time in milliseconds to wait for the ping reply before timing out. The default timeout is 3 seconds (3000), and the maximum timeout value is 10 seconds (10,000).

Round Trip Min
Read security: 5
Displays the minimum round trip time of the ping request/reply of the current set of pings.

Round Trip Avg
Read security: 5
Displays the average round trip time of the ping request/reply of the current set of pings.

Round Trip Max
Read security: 5
Displays the maximum round trip time of the ping request/reply of the current set of pings.

Tx Stats
Read security: 5
Displays the number of ping requests transmitted (*n* **TXED**), the number of ping replies received (*n* **RXED**), and the number of ping requests that were lost (*n* **LOST**).

Reset Stats
Resets all ping statistics to zero. If the ping client is active, this menu will stop it.

Start/Stop
If the ping client is currently idle, this menu sends pings to the specified address. If the ping client is active, the menu either starts or stops sending pings.

ATEL Client

Write security: 5; Read security: 5
Allows a user to remotely configure ADTRAN TSUs using ADLP over the inband management channel on a V.35 port. This feature only allows for remote sessions through the ATLAS 800 Series to the TSUs, not vice versa.

ATEL Address
Defines the ADLP address (Unit ID) assigned to the remote unit you are trying to connect to. The valid range is 2 to 65520.

Connect
Activator used to start an ATEL client session to the remote unit configured in the **ATEL ADDRESS** field.

Telnet Client

Write security: 5; Read security: 5
Allows a user to open a Telnet session to any device listed in the ATLAS 800 Series route table.

Address.	Defines the IP address assigned to the remote unit you are trying to connect to.
Escape Char	Defines the Telnet client escape character. Typing the combination characters will close the active telnet session to the remote unit specified in the **ADDRESS** field.

Option	Keystroke
^]	<Ctrl > +]
**^ **	<Ctrl > + \\
^ [	<Ctrl > + [
^ ^	<Ctrl > + <Shift > + 6
^ _	<Ctrl > + <Shift > + -

Port	Defines the IP port used in the remote login session. Default (for Telnet) is **23**
Connect	Activator used to start a Telnet session to the remote unit configured in the **ADDRESS** field.

Client Status

Write security: 5; Read security: 5
Displays status from current Telnet client sessions.

User Name	In an active Telnet client session, displays the username (from access passwords list).
Session ID	Displays the remote units IP address followed by the IP port of an active Telnet client session (in the format **IP.IP.IP.IP:PORT**).

Control Switch Schedule (ATLAS 890)

Write security: 5; Read security: 5
Specifies when a controller switch from active to standby will occur.

Controller Switch Immediate	A forced controller switch will occur immediately.
Controller Switch at Time	Controller switch will occur at the specified date and time. When this option is selected, a new field called **CTRL SWITCH DATE AND TIME** will be displayed below the current field.

Force Controller Switch (ATLAS 890)

Write security: 0; Read security: 0

Forces the switch from active to standby to occur immediately.

Reboot System

Write security: 0; Read security: 0

Reboots the ATLAS 800 Series system. When you select this command, the following message displays:

**** WARNING ** This will reboot the entire system and service will be interrupted!**

Press **Y** to reboot the system or **N** to cancel the command.

Factory Default System

Write security: 0; Read security: 0

Resets the entire system to the factory default settings. To reset the system, press **Y**. To cancel this command, press **N**. When you select this command, the following message displays:

> **WARNING**
>
> *This will delete all configuration settings. ADTRAN recommends making a backup copy of the configuration before defaulting the system.*

Alarm Relay Test (ATLAS 890)

Write security: 5; Read security: 5

TOGGLE TEST MODE / **TOGGLE** set the amount of time for which the alarm relay test mode is active. Change the amount of time by placing the cursor over the **TOGGLE** field and pressing the "**.**" key to increases the amount of test time and the "**,**" key to decreases the amount of test time. The displayed time is in seconds.

7. MODULES MENU DESCRIPTIONS

Write security: 3; Read security: 5

The **MODULES** menu provides status information and menu options that allow you to configure and control the installed option modules, as well as the network ports (see Figure 1).

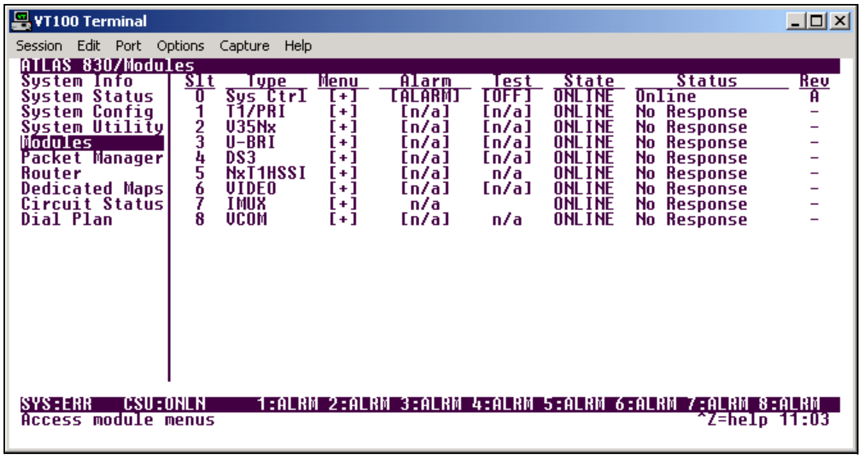


Figure 8. Modules Menu

> *If you install a module in a slot, then want to install a different type of module in the slot, you must set this field to Empty before selecting another module type.*
>
> *If a module is installed, the module type automatically shows the name of the installed module, and it cannot be set to any other option.*

Slt

Read security: 5

ATLAS 830

Displays the eight module slots and the system controller slot (which includes the two built-in T1/PRI ports located on the rear panel).

ATLAS 890

Display the four types of slots: system controller, option module, option module or power supply, and power supply only.

- The two controller slots are designated **SCUA** and **SCUB** for system controller units A and B.
- The 13 option module slots are designated **1** through **13**.
- The three hybrid option module or power supply slots are designated **14** through **16**.
- Slot **17** is used for power supplies only.

CAUTION

Inserting modules into inappropriate slots will result in damage to the ATLAS.

ATLAS 830:

- *Auxiliary power supplies are for use in Slots 7 and 8 only.*

ATLAS 890:

- *System Controller modules are for use in the controller slots SCUA and SCUB only.*
- *Option Modules are for use in the option module slots 1-16 only.*
- *Power supplies are for use in the power supply slots 14-17 only.*

Type

Write security: 3; Read security: 5

Displays the type of module actually installed in the slot or the type of module you plan to install in the slot. The ATLAS controller automatically detects the type of module installed in each slot, and the **TYPE** field automatically defaults to the installed module type. You can also use this field to preconfigure a unit before actually installing modules by specifying the module that you want to install in each slot.

To use this option, navigate to the field you want to edit and press <Enter>. For empty slots, a list of all the available module types displays. Select the one you want and it displays in the **TYPE** field. If this field is already configured with a module, you can only set this field to **EMPTY**. To change from one module type to another, you must set the field to **EMPTY** first.

Menu

Read security: 5

Displays additional status and configuration menus for the ATLAS controller or selected module. To access the submenus for this item, use the arrow keys to scroll to the **MENU** column for the module you want to edit, and press <Enter>. For detailed information on each submenu item for a particular module, refer to the modules menus discussion for the appropriate option or resource module.

Alarm

Read security: 5

Displays whether there is an alarm condition on the ATLAS controller or selected module. Press <Enter> to access the **ALARM** menu. For detailed information on each submenu item for a particular module, refer to the following sections for the appropriate option or resource module alarm menu discussions.

Test

Read security: 5

Displays whether the ATLAS controller or selected module is executing a test. Press <Enter> to access the **TEST** menu. This option will allow you to setup and initiate tests. You may also access this menu through the **MENU** submenu on this screen. For detailed information on each submenu item for a particular module, refer to the following sections for the appropriate option or resource module test menu discussions.

State

Read security: 5

Displays whether the ATLAS controller or selected module is online or offline. Even though a module is physically installed, it must be marked **ONLINE** for it to be considered an available resource. This parameter allows an installed module to be marked **OFFLINE**, which may be useful in system troubleshooting. If you choose **OFFLINE**, the module will not be in alarm condition, but will display **OFFLINE**. While in **OFFLINE,** the **STATUS** LED will flash green. A module will automatically change to the **ONLINE** state when installed.

Status

Read security: 5

Displays status information on the installed modules as follows:

Online The module is enabled and is responding to the system controller's status polls. This is the normal response of the system.

No Response The module is enabled but is not responding to the system controller's status polls. This response indicates a problem in the system or that the module is not properly installed.

Empty The system controller has not detected the presence of a module in the system; nor has a module been manually enabled for this option slot.

Offline The module is installed but has been taken offline by a user. The module is still responding to controller polls.

Offline/No Response The module is installed but has been taken offline by a user. The module is not responding to controller polls.

Not Supported The module is not supported by the current system configuration.

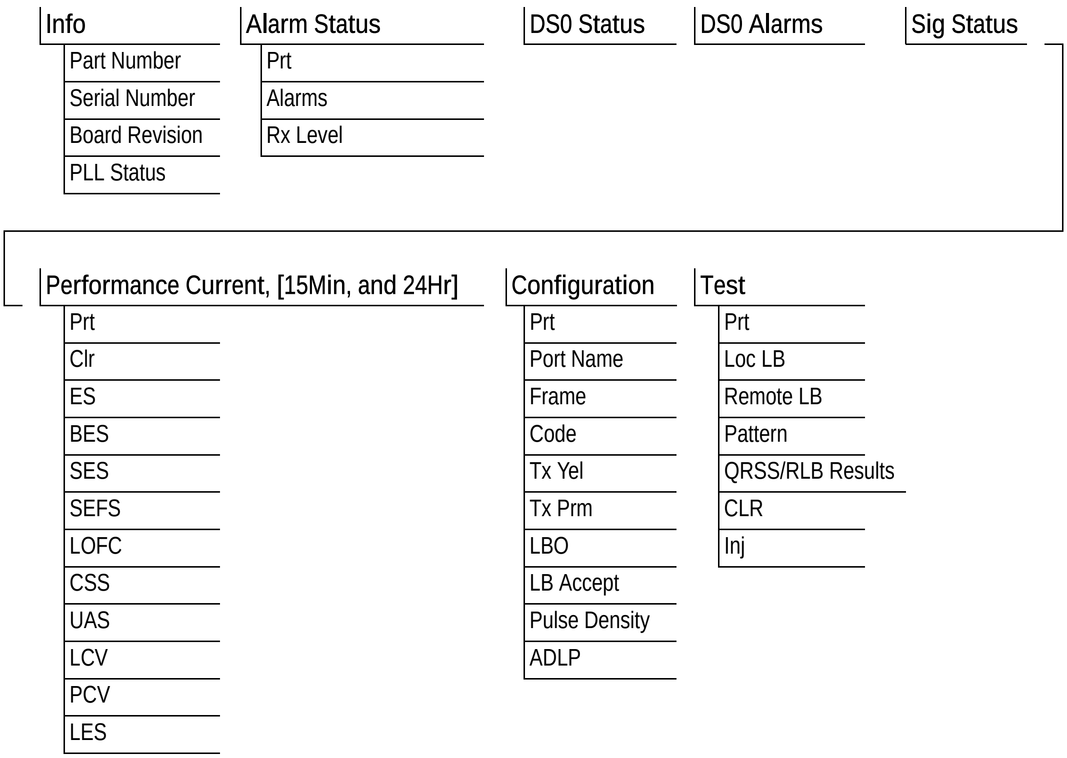
Rev

Read security: 5

Displays the hardware revision of the ATLAS and installed modules.

QUAD T1/PRI OPTION MODULE

This section provides detailed information on the **MODULES** menu and submenus for the Quad T1/PRI Option Module (P/N 1200185L3). The ATLAS 800 Series system controller automatically detects the presence of the Quad T1/PRI Option Module when it is installed in the system (listed as **MODULES** (**T1/PRI**)). To see the menus for the Quad T1/PRI Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.



Info

Read security: 5

Displays general information about the Quad T1/PRI Option Module.

Part Number Displays the part number of the Quad T1/PRI Option Module.

Serial Number Displays the module's serial number.

Board Revision Displays the board revision of the module.

PLL Status Indicates whether the module phase lock loop is locked to its specific source.

Alarm Status

Read security: 5

Displays the current T1 alarm status.

Prt Indicates the port number.

Alarms Displays the following alarm conditions on the ATLAS 800 Series unit. Press <Enter> to access this menu item.

Alarm Types	Descriptions
LOS	Indicates a loss of signal detected on port interface.
RED	Indicates inability to frame data received on the port. Alternately referred to as Out of Frame (OOF).
YELLOW	Receiving remote alarm (RAI) on port.
BLUE	Receiving unframed all ones from the port Alarm Indicator Signal (AIS).
DS0 ALARM	Displays per-DS0 alarm status; that is, at least one DS0 channel is in alarm if an asterisk (*) appears. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

Rx Level Receive level indicates the strength of the signal (in dB) received on the port.

DS0 Status

Read security: 5

The following characters indicates usage on a DS0-basis.

Character	Description
-	Unallocated
*	Inactive
+	Signaling mismatch
A	Active B Channel
D	Active D Channel
M	Maintenance
N	Dedicated (nailed)

Character	Description
O	Off hook - originate (RBS)
R	Ringing (RBS); Restart (ISDN)
W	Waiting dial tone

DS0 Alarms

Read security: 5

Displays per-DS0 alarm status. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

Character	Description
-	No Alarm DS0
D	D Channel Alarm (ISDN)
F	Frame Alarm (packet)
T	TBOP Alarm (packet)
P	PPP Alarm (packet)

Sig Status

Read security: 5

Indicates the signaling of all 24 DS0s. The A/B bits for Rx (receive) and Tx (transmit) DS0s are shown. Dashes display for those DS0s where robbed bit signaling (RBS) is not being transferred by the ATLAS 800 Series.

Performance Current

Write security: 3; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.403 and AT&T TR54016 for the T1/PRI port. Except for **CLR**, these fields are all read-only. The monitored parameters include the following

Prt Displays the port number.

Clr Clears performance information for the selected port.

ES Errored Second (ES) is a second with one or more error events OR one or more Out Of Frame events OR one or more Controlled Slips.

BES Bursty Errored Second (BES) is a second with more than one, but less than 320 error events.

SES Severely Errored Second (SES) is a second with 320 or more error events OR one or more Out Of Frame events.

SEFS Severely Errored Frame Second is a second that contains four consecutive errored framing patterns.

LOFC Loss of Frame Count is a count of seconds in which a valid framing pattern could not be obtained.

CSS Controlled Slip Second.

UAS Unavailable Second

LCV Line Code Violation.

PCV Path Code Violation.

LES Line Errored Second.

Performance 15Min

Write security: 3; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *Performance Current* for a detailed description of these fields.

Performance 24Hr

Write security: 3; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *Performance Current* for a detailed description of these fields.

Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to whether the port is connected to a Primary Rate ISDN circuit or a channelized T1 circuit.

Prt Read security: **5**
Displays the port number.

Port Name Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the ATLAS 800 Series.

Frame
Write security: 2; Read security: **5**
This line framing field must be set to match the frame format of the circuit to which it is connected, available from the network supplier. Choose either **D4** or **ESF**.

Code
Write security: 2; Read security: **5**
Set this line encoding field to match the line code of the circuit to which it is connected (this information is available from the network supplier). Choose either **AMI** (Alternate Mark Inversion) or **B8ZS** (Bipolar Eight Zero Substitution).

Tx Yel
Controls the transmission of yellow alarms. Choose either **ON** or **OFF**.

Tx Prm
Controls the sending of performance report messaging (PRM) data on the facility data link (FDL). The PRM data continues to be collected even if **XMIT PRM** is turned off (possible only with ESF format). Choose either **ON** or **OFF**.

LBO
Selects the Line Build Out (LBO) for the network interface. When connecting an ATLAS 800 Series port to a DSX-1 interface, this parameter is typically set to match the distance (in feet) between the ATLAS 800 Series and the device with which it is connecting. When you select this item, a list of choices displays (**0 DB, -7.5 DB, -15 DB, -22 DB, 266 FT, 399 FT, 533 FT, 655 FT**). Select the appropriate option.

LB Accept
Sets unit to accept or reject the in-band loop up and loop down codes as defined in ANSI T1.403. This is a line loopback. Choose either **ACCEPT** or **IGNORE**.

Pulse Density
Choose either **ON** or **OFF**. Pulse Density Enforcer **ON** causes the ATLAS 800 Series to monitor for ones (1s) density violations and insert a one (1) when needed to maintain ones at 12.5%. This data insertion causes data errors.

ADLP
Read security: **5**
The ADTRAN Data Link Protocol (ADLP) provides a communications link between ADTRAN equipment over point-to-point or multidrop connections that can be used for configuration and monitoring remote ADTRAN devices. Choose **ENABLE** to activate the ADLP over the FDL for the DS1 interface. (For ADTRAN use only.)

Test

Write security: 5; Read security: 5

These options initiate different types of tests and display test results.

Prt
Read security: 5
Displays the port number.

Loc LB

Write security: 4; Read security: 5
Causes loopback on near-end (local) port (see Figure 3 on page 74). The following options are available:

Options	Description
Line	Metallic loopback
Payld	Payload loopback; framing and clocking are regenerated.

Remote LB

Write security: 4; Read security: 5
Sends loopback code to remote CSU. The following options are available:

Options	Description
AT&T Inband line	(ESF/D4) - Full 1.544 Mbps loopback of the signal received from the network (metallic loopback).
ANSI FDL Line	(ESF) - Full 1.544 Mbps loopback of the signal received from the network. Initiated through loopback activation transmission over the facility data link (FDL).
ANSI FDL Pyld	(ESF) - 1.536 Mbps loopback of the payload data received from the network maintaining bit-sequence integrity for the information bits by synchronizing (regenerating) the timing. Initiated through loopback activation transmission over the facility datalink (FDL).
Inband NIU	(ESF/D4) - Full 1.544 Mbps loopback of the signal received from the network after passing through the T1 framer of the remote unit.

Pattern

Write security: 4; Read security: 5
Test pattern to be transmitted out the port. The following options are available:

Options	Description
All Ones	Framed ones
All Zeros	Framed zeros

QRSS/RLB Results

Write security: 3; Read security: 5
Pseudo-random pattern with suppression of excess zeros. Displays current status of T1 tests including information regarding loopbacks and test patterns. When displaying test pattern status, the display string is composed of pattern sync status and errored seconds:

Status	Description
None	No sync.

Status	Description
LOS	Sync has been lost.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

CLR

Write security: 3; Read security: **3**
Clears error counters on test pattern results menu.

Inj

Write security: 3; Read security: **3**
Injects errors into transmitted test pattern.

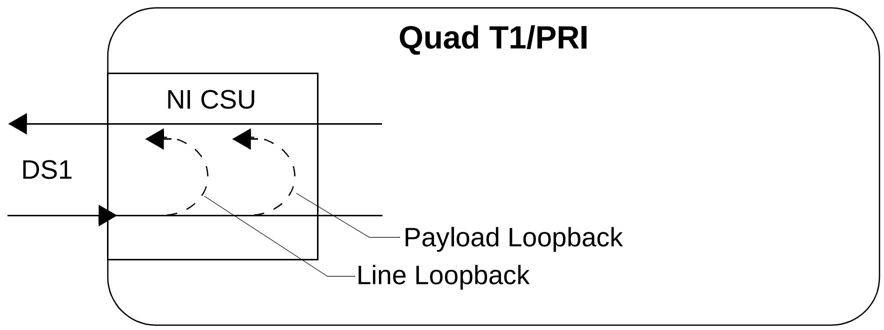
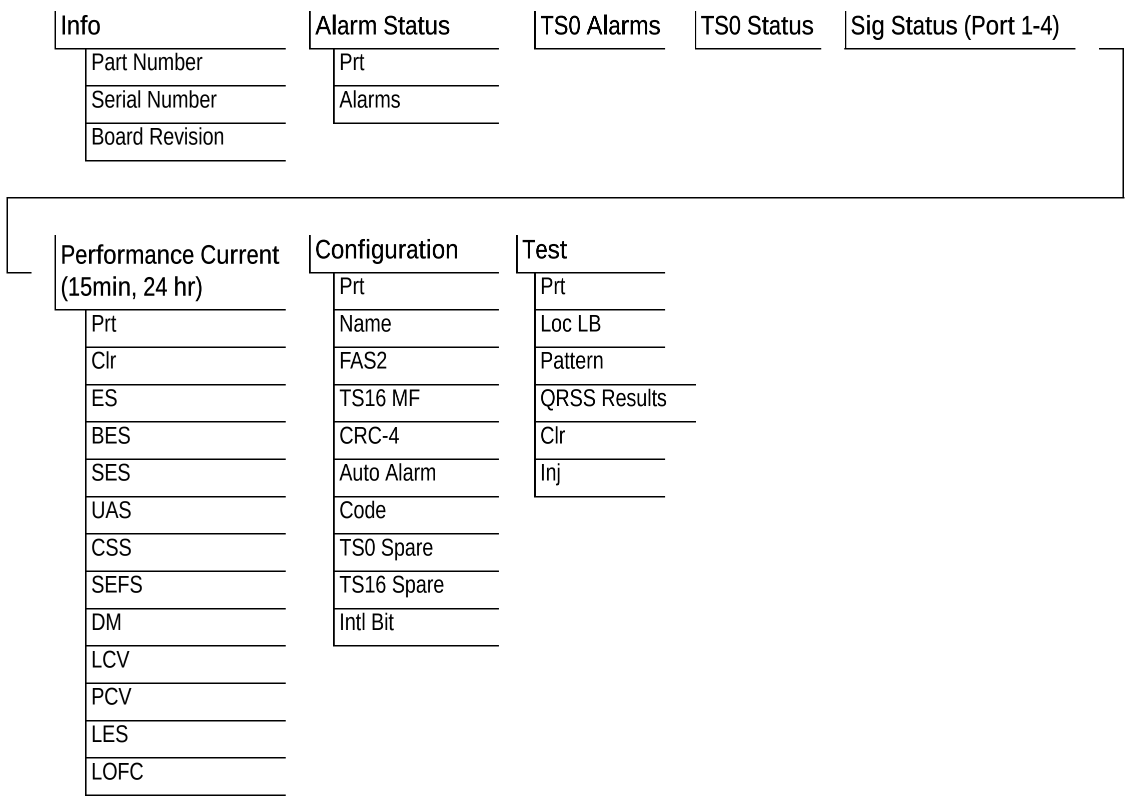


Figure 9. Loopback Test Diagram

QUAD E1/PRA OPTION MODULE

This section provides detailed information on the **MODULES** menu and submenus for the Quad E1/PRA Option Module (P/N 1200284L1). The ATLAS 800 Series system controller automatically detects the presence of the Quad E1/PRA Option Module when it is installed in the system (listed as **E1/PRA**). To see the menus for the Quad E1/PRA Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.



Info

Read security: 5

Displays general information about the Quad E1/PRA Option Module.

Part Number Displays the part number of the Quad E1/PRA Option Module.

Serial Number Displays the module’s serial number.

Board Revision Displays the board revision of the module.

Alarm Status

Read security: 5

Displays any active alarms, as follows:

Prt Indicates the port number. The Quad E1/PRA Option Module is a single-port device.

Alarms Displays the alarm type, as listed below.

Alarm Types	Description
LOS	(Loss of Signal) No signal detected on port interface.
LOF	(Loss of Framing) The receiver is unable to synchronize to the Frame Alignment Signal (FAS) framing pattern of the received signal.
LOMF	(Loss of Multi-frame) The receiver is unable to synchronize to the TS15 multi-frame pattern of the received signal.
CRC4	(Loss of CRC-4 Framing) The receiver is unable to synchronize to the CRC-4 frame pattern of the received signal.
AIS	(Alarm Indication Signal) An upstream failure has been detected and all ones are being received.
REM	(Remote Frame Alarm) Loss of frame alarm being received from far end.
REMMF	(Remote Multi-Frame Alarm) Loss of multi-frame alarm being received from far end.

TS0 Alarms

Read security: 5

Displays per-TS0 alarm status. These alarms usually indicate the failure to receive the protocol that has been configured for the TS0.

Character	Description
-	No Alarm TS0
D	D Channel Alarm (ISDN)
F	Frame Alarm (packet)
T	TBOP Alarm (packet)
P	PPP Alarm (packet)

TS0 Status

Read security: 5

The TS0 status indicates usage on a TS0 basis for each port. These options are read-only:

Character	Description
•	Idle
–	Inactive
A	Active call on this TS0
D	Active D Channel TS0
M	Maintenance TS0
N	Dedicated (nailed) TS0
O	Off hook detected
R	Ringing detected
S	Signaling

Sig Status (Port 1-4)

Read security: 5

Displays the state of the A/B/C/D signaling bits for the Quad E1/PRA Option Module. Dashes indicate TS0s where signaling is not being transferred by the ATLAS 800 Series.

Performance Current

Write security:5; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in G.821 and RFC 1406 for the E1/PRA port.

Prt	Displays the port number.
Clr	Clears performance information for the selected port.
ES	Errored Second (ES) is a second with one or more error events OR one or more Out Of Frame events OR one or more Controlled Slips.
BES	Bursty Errored Second (BES) is a second with more than one, but less than 320 error events.
SES	Severely Errored Second (SES) is a second with 320 or more error events OR one or more Out Of Frame events.
UAS	Unavailable Second.
CSS	Controlled Slip Second.
SEFS	Severely Errored Frame Second is a second that contains four consecutive errored framing patterns.
DM	Degraded Minutes is the number of minutes with a bit error rate of 10^{-6} or greater.
LCV	Line Code Violation.
PCV	Path Code Violation.
LES	Line Errored Second.
LOFC	Loss of Frame Count is a count of seconds in which a valid framing pattern could not be obtained.

Performance 15Min

Write security:5; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *Performance Current* on page 118 for a detailed description of these fields.

Performance 24Hr

Write security:5; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *Performance Current* on page 118 for a detailed description of these fields.

Configuration

Write security:5; Read security: 5

All of the following configurable parameters apply whether the port is connected to a Primary Rate Access circuit or a channelized E1 circuit.

Prt Displays the port number.

Name Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Quad E1/PRA Option Module.

FAS2 If enabled, resync if FAS or bit 2 of non-FAS frame is received in error three consecutive times. If disabled, rSesync if FAS is received in error three consecutive times.

TS16 MF Must be enabled for CAS (common associated signaling) to be used. If disabled, CCS (common channel signaling) is used.

CRC-4 Transmits the CRC-4 checksum bits in the outgoing E1 data stream, when enabled. Also, checks the received signal for errors.

Auto Alarm Transmits a remote alarm when framing is lost (when Red Alarm Generation is on), and transmits an AIS alarm when all ones are received (when RCM AIS Generation is on).

Code Allows selection of line coding. HDB3 is normally the only coding method used on public networks. AMI may be selected for testing purposes.

TS0 Spare TS0 bits Sa4 through Sa8 in frames not containing the Frame Alignment Signal may be used in specific applications, but should be set to 1s when crossing an international border. Enter decimal number whose 5 LSB are to be used for all Sa4.Sa8 bits. Refer to CCITT G.704 for more information.

TS16 Spare TS16 in CAS frame 0 contains 3 spare bits: 0000XYXX where ‘X’ marks a spare bit and ‘Y’ marks an alarm indications to the remote end. Enter a decimal number whose masked 4 LSB are inserted into TS0 in CAS frame 0. Refer to CCITT G.704 for more information.

Intl Bit Bit 0 in all non-CRC4 frames are reserved for international use. They may be used nationally if the path does not cross an international border. If not specifically used, the bits should be set to ‘1’ on paths crossing a border. Enter the international bit value of 0 or 1. Refer to CCITT G.704 for more information.

Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Prt Displays the port number.

Loc LB Causes loopback on near-end (local) port (see Figure 3). The following options are available:

Options	Description
None	No loopback active
Line	Metallic loopback

Pattern Test pattern to be transmitted out the port. The following options are available:

Options	Description
All ones	Framed ones
All zeros	Framed zeros
QRSS	Pseudo-random pattern with suppression of excess zeros

QRSS Results Test pattern results that indicate sync and errors of received data pattern.

Clr Clears test results on **QRSS RESULTS** field.

Inj Injects errors into transmitted test pattern. Return receipt of the errors is displayed in the **QRSS RESULTS** field.

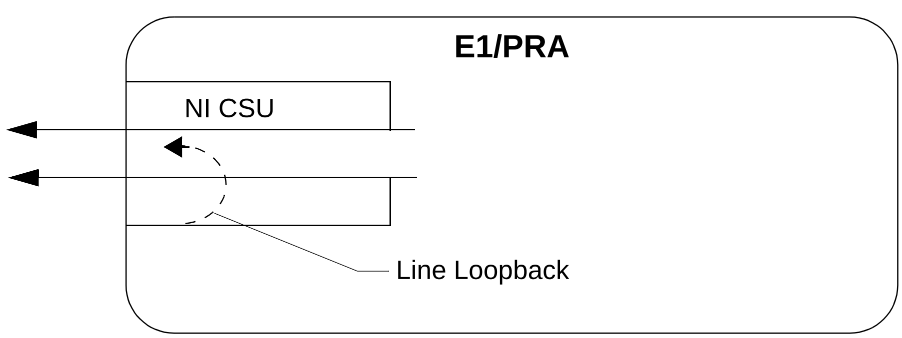


Figure 10. E1/PRA Network Loopback Test Diagram

QUAD NX56/64 OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Quad Nx 56/64 Option Module (P/N 1200184L1) when it is installed in the system (listed as **V35NX**). To see the menus for the Quad Nx 56/64 Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
- Alarm Status
  - Port
  - Alarms
- DTE Status
  - Prt
  - Dte Status
- Data Rate
  - Port
  - Rate
- Inband Stats
  - Port
  - Rx Frames
  - Tx Frames
  - Rx Bytes
  - Tx Bytes
  - Tx Accept
  - Flow Budget
  - Poll Skips
  - Rx Overflow
  - Tx Reset
  - Link Verify
  - Remote Fail
  - Link Verify Ack
  - Reset Stats
- PLL/FIFO
  - Port
  - PLL/FIFO
- Configuration
  - Port
  - Name
  - Clk +/-
  - Data
  - CTS
  - DCD
  - DSR
  - DTR
  - 0 Inh
  - Inband
  - Send Leads
- Dial
  - Prt
  - Mode
  - Dial
  - Src ID
  - Number
- Test
  - Port
  - Loopback
  - 511
  - 511 Result
  - Inject
  - CLR

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Alarm Status

Read security: 5

Displays the current alarm status.

Port Indicates the port number.

Alarms Displays an alarm condition on the ATLAS 800 Series unit:

Condition	Description
Slip	A rate mismatch exists between the DTE clock and the network-side clock (as set by DS0 assignment).
Pll	The Nx port is not able to lock onto the clock provided by the network interface.
Zero	The DTE is sending an excessive number of consecutive zeroes to the network interface.
No Ext Clk	The DTE is not providing an external transmit clock. This alarm displays only if the Nx port is configured to get its transmit clock from the DTE.
Pkt Ep Alm	A packet endpoint has detected missing or incorrect framing.

DTE Status

Read security: 5

Shows the status of key DTE interface signals. An asterisk (*) indicates the presence of a signal and a hyphen (-) indicates no signal present.

Prt Operating port number.

Dte Status The following signals are monitored (these options are read-only):

Option	Description
RTS	Request to send from DTE.
CTS	Clear to send to DTE.
DTR	Data terminal ready from DTE.
DSR	Data set ready to DTE.
DCD	Data carrier detect to DTE.
RI	Ring indicate to DTE.
TD	Transmit data from the DTE.
RD	Receive data toward the DTE.
EC	External clock present.

Data Rate

Read security:

Displays the data rate at which each Nx port is currently operating. A port's data rate is determined by the number of DS0s assigned to it and the rate per DS0 associated with the active maps.

Port Operating port number.

Rate This read-only field displays the data rate for the selected port.

Inband Stats

Read security: 5

Provides information on the following inband channel statistics.

Port Operating port number.

Rx Frames The number of frames received on the operating port since system startup.

Tx Frames The number of frames transmitted from the operating port since system startup.

Rx Bytes The number of bytes received from the operating port since system startup.

Tx Bytes The number of bytes transmitted to the operating port since system startup.

Tx Accept The number of transmitted frames accepted by the far end.

Flow Budget The number of times the Inband Flow Budget buffer is exceeded.

Poll Skips The number of times the Inband Poll is skipped due to box congestion.

Rx Overflow The number of times the Inband Rx buffer is overflowed.

Tx Reset The number of times the transmitter is reset.

Link Verify The number of Link Verify frames received from the far end.

Remote Fail The number of communication failures with the far end.

Link Verify Ack The number of Link Verify Acknowledge frames received from the far end.

Reset Stats Clears inband statistic results.

PLL/FIFO

Read security: 5

Displays the Phase Lock Loop (PLL) and FIFO status.

Port Indicates the operating port.

PLL/FIFO Displays the state of the PLL and FIFO systems.

State	Description
Lock	PLL is locked (This is required to transfer data.)
RXE	Receive data FIFO empty.
RXF	Receive data FIFO full.
TXE	Transmit data FIFO empty.
TXF	Transmit data FIFO full.

Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to the individual V.35 ports.

Port Read security: 5
Displays the port number.

Name Accepts any alpha-numeric name up to 17 characters long, to uniquely identify each port on the Quad V.35 Option Module.

Clk +/- Controls the clock used by the ATLAS 800 Series to accept the transmit (TX) data from the DTE. This is usually set to **NORMAL**. If the interface cable is long, causing a phase shift in the data, the clock can be set to **INVERTED**. This switches the phase of the clock, which compensates for a long cable.

Data Controls the inverting of the DTE data. This inversion can be useful when operating with a high-level data link control (HDLC) protocol (often used as a means to ensure 1s density). Select either **NORMAL** or **INVERTED**. Data inversion configuration must match at both ends of the circuit.

CTS Determines the behavior of the Clear To Send (CTS) signal. If set to Normal, CTS will follow the value of Request To Send (RTS). If set to Forced On, CTS will always be asserted.

DCD Determines the behavior of the Data Carrier Detect (DCD) signal, also called RLSD on V.35 interfaces. If set to Normal, DCD will generally be asserted when the interface is capable of passing data. If set to Forced On, DCD will always be asserted. If set to Remote RTS, the value of DCD will track the value of the remote unit's RTS signal. Note that this feature requires the Inband control channel to be Enabled.

DSR Determines the behavior of the Data Set Ready (**DSR**) signal. If set to **NORMAL**, **DSR** will generally be asserted when the interface is capable of passing data. If set to **FORCED ON**, **DSR** will always be asserted. If set to **REMOTE DTR**, the value of **DSR** will track the value of the remote unit's DTR signal. This remote feature requires the Inband control channel to be **ENABLED**.

DTR Determines whether the ATLAS 800 Series treats a connection as permanent (**IGNORE**) or connects only when Data Terminal Ready (**DTR**) is active (**CONNECT ON DTR**). Select either **IGNORE** or **CONNECT ON DTR**.

0 Inh When the port detects an uninterrupted string of 0s being transmitted for more than one second, setting this parameter to **ON** will cause the ATLAS 800 Series to send 1s toward the network.

Inband Creates an inband management channel by robbing 8 kbps bandwidth from the port's allocated bandwidth. This channel can be used for management for ADTRAN products that are not co-located with the ATLAS. Consult the manual for ADTRAN T1 equipment for details on using this feature.

Send Leads Sends the state of the DTE leads to the remote unit whenever any of the leads change state. If any leads on the remote unit are set to track a remote signal, this option must be enabled. The DTE lead states are conveyed using the Inband control channel, which must be enabled (see Table 2).

Table 2. DTE Lead States

SIGNAL	RTS	V.54 LOOPBACK	511 TEST ON	SELF TEST ACTIVE	NETWORK TEST ACTIVE	NO DS0 MAPPED	NETWORK ALARM
CTS	Follows	Off	Off	Off	Off	Off	Off
DCD	—	—	—	Off	Off	Off	Off
DSR	—	Off	Off	Off	Off	Off	—
— = Do not care							
Force On = On under all conditions							

Dial

Write security: 3; Read security: 5

Dials an Nx port that is configured to ignore DTR.

Prt Read security: 5
Displays the port number.

Mode Configures the dialing mode. The following options are available:

Options	Description
Persistent	Redial whenever the call is cleared or if the call fails.
One Time	Attempt the call only once.

Dial Write security: 0; Read security: 0
Signals the Nx port to dial/clear the call.

Src ID Indicates the **SOURCE ID** of the number to be dialed. Configure this field in the Nx **INTERFACE CONFIGURATION** section of the **DIAL PLAN**.

Number Indicates the number to be dialed. Configure this field in the Nx **INTERFACE CONFIGURATION** section of the **DIAL PLAN**.

Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Port Indicates operating port.

Loopback Write security: 4; Read security: 5
Test pattern to be transmitted out the port. The following options are available:

Options	Description
No Loopback	No active loopback.

Options	Description
Local Loopback	Activates both a local loopback (back toward the DTE) and a port loopback (toward the network).
Remote Loopback	V.54 loopback code to be sent to the far end, and if the device at the far end supports V.54, the device activates a loopback on detection of the V.54 code.
Loopback Status	Read security: 5 This read-only option indicates a port’s current loopback status by displaying any of the following status messages: No Loopback Active Looping Up Remote Unit Remote Unit Looped Back Looping Down Remote Unit Remote Loop-Up Failed Port Looped From Remote Source Port Loopback Active

511

Write security: 4; Read security: 5
Controls the activation of the 511 test pattern generator and detector.

511 Result

Read security: 5
Displays the results of the 511 test. This option is read-only. Clear these results by pressing <Enter> when **CLR** is selected.

Results	Description
None	Pattern is not synchronized.
LOS	At one point the pattern was synchronized, but is currently not synchronized.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

Inject

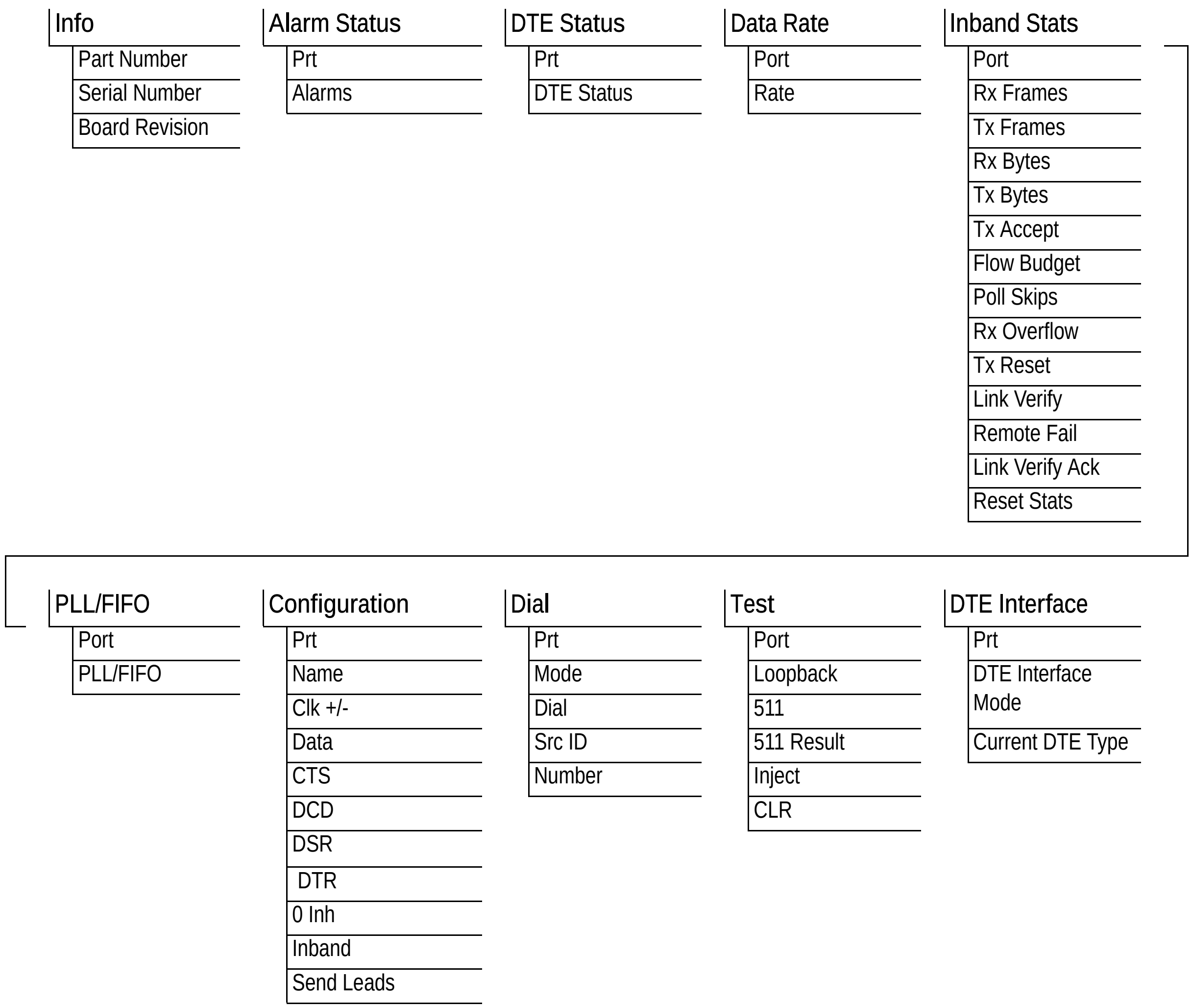
Write security: 4; Read security: 4
Injects errors into transmitted test pattern.

CLR

Write security: 4; Read security: 4
Clears error counters on test pattern results menu.

USSI OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Quad USSI Option Module (P/N 4200261Lx) when it is installed in the system (listed as **USSI**). To see the menus for the Quad USSI Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.



Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Alarm Status

Read security: 5

Displays the current alarm status.

Prt Indicates the port number.

Alarms Displays an alarm condition on the ATLAS 800 Series unit.

Condition	Description
Slip	A rate mismatch exists between the DTE clock and the network-side clock (as set by DS0 assignment).
Pll	The USSI port is not able to lock onto the clock provided by the network interface.
Zero	The DTE is sending an excessive number of consecutive zeroes to the network interface.
No Ext Clk	The DTE is not providing an external transmit clock. This alarm displays only if the USSI port is configured to get its transmit clock from the DTE.
Pkt Ep Alm	A packet endpoint has detected missing or incorrect framing.

DTE Status

Read security: 5

Shows the status of key DTE interface signals. An asterisk (*) indicates the presence of a signal and a hyphen (-) indicates no signal present.

Prt. Operating port number.

DTE Status The following signals are monitored (these options are read-only):

Options	Description
RTS	Request to send from DTE.
CTS	Clear to send to DTE.
DTR	Data terminal ready from DTE.
DSR	Data set ready to DTE.
DCD	Data carrier detect to DTE.
RI	Ring indicate to DTE.

Options	Description
TD	Transmit data from the DTE.
RD	Receive data toward the DTE.
EC	External clock present.

Data Rate

Read security: 5

Displays the data rate at which each USSI port is currently operating. A port's data rate is determined by the number of DS0s assigned to it and the rate per DS0 associated with the active maps.

Port Displays operating port.

Rate Displays the data rate of the selected port.

Inband Stats

Read security: 5

Provides information on the inband channel statistics.

Port	Operating port number.
Rx Frames	The number of frames received on the operating port since system startup.
Tx Frames	The number of frames transmitted from the operating port since system startup.
Rx Bytes	The number of bytes received from the operating port since system startup.
Tx Bytes	The number of bytes transmitted to the operating port since system startup.
Tx Accept	The number of transmitted frames accepted by the far end.
Flow Budget	The number of times the Inband Flow Budget buffer is exceeded.
Poll Skips	The number of times the Inband Poll is skipped due to box congestion.
Rx Overflow	The number of times the Inband Rx buffer is overflowed.
Tx Reset	The number of times the transmitter is reset.
Link Verify	The number of Link Verify frames received from the far end.
Remote Fail	The number of communication failures with the far end.
Link Verify Ack	The number of Link Verify Acknowledge frames received from the far end.
Reset Stats	Clears inband statistic results.

PLL/FIFO

Read security: 5

Displays the Phase Lock Loop (PLL) and FIFO status.

Port Indicates the operating port.

PLL/FIFO Displays the state of the PLL and FIFO systems:

State	Description
Lock	PLL is locked (This is required to transfer data.)
RXE	Receive data FIFO empty.
RXF	Receive data FIFO full.
TXE	Transmit data FIFO empty.
TXF	Transmit data FIFO full.

Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to the individual USSI ports.

Prt Read security: 5
Displays the port number.

Name Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Quad USSI Option Module.

Clk +/- Controls the clock used by the ATLAS 800 Series to accept the transmit (TX) data from the DTE. This is usually set to **NORMAL**. If the interface cable is long, causing a phase shift in the data, the clock can be set to **INVERTED**. This switches the phase of the clock, which compensates for a long cable.

Data Controls the inverting of the DTE data. This inversion can be useful when operating with a high-level data link control (HDLC) protocol (often used as a means to ensure 1s density). Select either **NORMAL** or **INVERTED**. Data inversion configuration must match at both ends of the circuit.

CTS Determines the behavior of the Clear To Send (**CTS**) signal. If set to **NORMAL, CTS** will follow the value of Request To Send (**RTS**). If set to **FORCED ON, CTS** will always be asserted.

DCD Write security: 3; Read security: 5
Determines the behavior of the Data Carrier Detect (DCD) signal, also called RLSD on some interfaces. If set to **NORMAL, DCD** will generally be asserted when the interface is capable of passing data (consult the ATLAS 800 Series

User Manual for exact conditions.) If set to **FORCED ON, DCD** will always be asserted. If set to **REMOTE RTS**, the value of **DCD** will track the value of the remote unit's RTS signal. Note that this feature requires the Inband control channel to be **ENABLED**.

DSR

Write security: 3; Read security: 5
Determines the behavior of the Data Set Ready (DSR) signal. If set to **NORMAL, DSR** will generally be asserted when the interface is capable of passing data. If set to **FORCED ON, DSR** will always be asserted. If set to **REMOTE DTR**, the value of DSR will track the value of the remote unit's DTR signal. This remote feature requires the Inband control channel to be **ENABLED**.

DTR

Write security: 3; Read security: 5
Determines whether the ATLAS 800 Series treats a connection as permanent (**IGNORE**) or connects only when Data Terminal Ready (**DTR**) is active (**CONNECT ON DTR**). Select either **IGNORE** or **CONNECT ON DTR**.

0 Inh

Write security: 3; Read security: 5
When the port detects an uninterrupted string of 0s being transmitted for more than one second, setting this parameter to **ON** will cause the ATLAS 800 Series to send 1s toward the network.

Inband

Write security: 3; Read security: 5
Creates an inband management channel by robbing 8 kbps bandwidth from the port's allocated bandwidth. This channel can be used for management for ADTRAN products that are not co-located with the ATLAS. Consult the manual for ADTRAN T1 equipment for details on using this feature.

Send Leads

Write security: 3; Read security: 5
Sends the state of the DTE leads to the remote unit whenever any of the leads change state. If any leads on the remote unit are set to track a remote signal, this option must be enabled. The DTE lead states are conveyed using the Inband control channel, which must be enabled (see Table 1 on page 130).

Table 3. USSI Module Send Leads

SIGNAL	RTS	V.54 LOOPBACK	511 TEST ON	SELF TEST ACTIVE	NETWORK TEST ACTIVE	NO DS0 MAPPED	NETWORK ALARM
CTS	Follows	Off	Off	Off	Off	Off	Off
DCD	—	—	—	Off	Off	Off	Off
DSR	—	Off	Off	Off	Off	Off	—
— = Do not care							
Force On = On under all conditions							

Dial

Write security: 3; Read security: 5

Dials a USSI port that is configured to ignore DTR.

Prt Read security: 5
Displays the port number.

Mode Configures the dialing mode. The following options are available:

Options	Description
Persistent	Redial whenever the call is cleared or if the call fails.
One Time	Attempt the call only once.

Dial Write security: 0; Read security: 0
Signals the USSI port to dial/clear the call.

Src ID Indicates the **SOURCE ID** of the number to be dialed. Configure this field in the USSI **INTERFACE CONFIGURATION** section of the **DIAL PLAN**.

Number Indicates the number to be dialed. Configure this field in the USSI **INTERFACE CONFIGURATION** section of the **DIAL PLAN**.

Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Port Write security: 5; Read security: 5
Displays the port number.

Loopback Write security: 4; Read security: 5
Test pattern to be transmitted out the port. The following options are available:

Options	Description
No Loopback	No active loopback.
Local Loopback	Activates both a local loopback (back toward the DTE) and a port loopback (toward the network).
Remote Loopback	V.54 loopback code to be sent to the far end, and if the device at the far end supports V.54, the device activates a loopback on detection of the V.54 code.
Loopback Status	Read security: 5 This read-only option indicates a port's current loopback status by displaying any of the following status messages: No Loopback Active Looping Up Remote Unit Remote Unit Looped Back Looping Down Remote Unit Remote Loop-Up Failed Port Looped From Remote Source Port Loopback Active

511

Write security: 4; Read security: 5
Controls the activation of the 511 test pattern generator and detector.

511 Result

Read security: 5
Displays the results of the 511 test. This option is read-only. Clear these results by pressing <Enter > when **CLR** is selected.

Results	Description
None	Pattern is not synchronized.
LOS	At one point the pattern was synchronized, but is currently not synchronized.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

Inject

Write security: 4; Read security: 4
Injects errors into transmitted test pattern.

CLR

Write security: 4; Read security: 4
Clears error counters on test pattern results menu.

DTE Interface

Write security: 5; Read security: 5

Configures the Quad USSI Module for the appropriate interface type. Select the parameters matching the interface cable being used.

Prt.
Read security: 5
Displays the port number.

DTE Interface Mode
Write security: 3; Read security: 5
Configures the Quad USSI Module interface type. The following options are available:

Options	Description
Auto	The ATLAS 800 Series will automatically detect the interface type. The cable must be connected before the interface can be determined.
EIA-530\RS-449\V.36	Configures the interface for EIA-530, RS-449, or V.36 use.
X.21/V.11	Configures the interface for X.21 or V.11 use.
RS-232	Configures the interface for RS-232 use.

Current DTE Type
Read security: 5
Displays the current configuration of the Quad USSI Module DTE Interface.

OCTAL BRI U OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Octal BRI Option Module (P/N 1200186L2) when it is installed in the system (listed as **U-BRI**). To see the menus for the Octal BRI Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
- Alarms
  - Prt
  - Alarms
- Channel Usage
  - Prt
  - Cha
- Performance Current
  - Prt
  - Reset
  - NEBE
  - FEBE
- Configuration
  - Prt
  - Port Name
- Test
  - Prt
  - Local Loopback
  - Remote Loopback

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Alarms

Read security: 5

Displays the alarm status for the selected Octal BRI Option Module.

Prt Indicates the port number.

Alarms Displays the current alarm status of each BRI U interface.

Alarm	Description
L1 Down	A layer one alarm is indicated by an asterisk (*) when the BRI U physical layer is not active. An L1 alarm is present when problems are detected with the endpoint or a cabling problem.
Channel	Displays the alarm status of each 2B+D channel. A hyphen (–) indicates no active channel alarm and D indicates an active D channel alarm.

Channel Usage

Read security: 5

Displays the status of each of the BRI U interfaces.

Prt Indicates the port number.

Cha (Channel) Displays the status of individual channels. The following symbols may display:

Character	Description
-	Unallocated channel
.	Inactive channel
A	Active B channel
D	Active D channel

Performance Current

Write security: 3; Read security: 5

The performance field provides status on key performance measures for each of the four Octal BRI U ports. These fields are all read-only.

Prt Displays the port number.

Reset Resets the NEBE and FEBE statistics.

NEBE Near-end block errors.

FEBE Far-end block errors.

Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to the individual BRI U interfaces.

Prt Read security: 5
Displays the port number.

Port Name Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Octal BRI Option Module.

Test

Write security: 5; Read security: 5

These options initiate different types of tests and display test results.

Prt
Displays the port number.

Local Loopback
Write security: 4; Read security: 5
Activates a local loopback toward the U interface. The following options are available:

Options	Description
None	No active loopback.
Loopback B1	Loops the first B channel of the interface.
Loopback B2	Loops the second B channel of the interface.
Loopback B1 + B2	Loops both B channels of the interface.
Loopback 2B+D	Loops the entire physical interface.

Remote Loopback
Write security: 4; Read security: 5
Activates a loopback towards the controller. The following options are available:

Options	Description
None	No active loopback.
Loopback B1	Loops the first B channel of the interface.
Loopback B2	Loops the second B channel of the interface.
Loopback 2B+D	Loops the entire physical interface.

OCTAL BRI S/T OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Octal BRI S/T Option Module (P/N 1200343L1) when it is installed in the system (listed as **ST-BRI**). To see the menus for the Octal BRI S/T Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

Info	Alarms	Channel Usage	Configuration	Test
Part Number	Prt	Prt	Prt	Prt
Serial Number	Alarms	Cha	Port Name	Local Loopback
Board Revision	Channel			Remote Loopback

Info

Write security: 5; Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Read security: 5
Displays the part number of the module. (Read-only.)

Serial Number Read security: 5
Displays the serial number of the module. (Read-only.)

Board Revision Read security: 5
Displays the board revision of the installed module. (Read-only.)

Alarms

Write security: 5; Read security: 5

Displays the alarm status for the selected Octal BRI S/T Option Module.

Prt Indicates the port number.

Alarms Displays the current alarm status of each Octal BRI S/T interface.

Alarm	Description
L1 Down	A layer one alarm is indicated by an asterisk (*) when the Octal BRI S/T physical layer is not active. An L1 alarm is present when problems are detected with the endpoint or a cabling problem.

Channel Displays the alarm status of the D-channel alarm. A hyphen (–) indicates no active channel alarm and D indicates an active D channel alarm.

Channel Usage

Read security: 5

Displays the channel status of each of the eight Octal BRI S/T module ports.

Prt Write security: 5; Read security: 5
Indicates the port number.

Cha Write security: 5; Read security: 5
(Channel) Displays the status of individual channels. The following symbols may display:

Character	Description
-	Unallocated channel
.	Inactive channel
A	Active B channel
D	Active D channel

Configuration

Write security: 5; Read security: 5

Allows the user to personally identify each port with an appropriate name.

Prt Write security: 5; Read security: 5
Displays the port number.

Port Name Write security: 3; Read security: 5
Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Octal BRI S/T Option Module.

Test

Write security: 5; Read security: 5

These options initiate different types of tests and display test results.

Prt Identifies the port number.

Local Loopback

Write security: 4; Read security: 5
Activates a local loopback toward the S/T interface. The following options are available:

Options	Description
None	No active loopback.
Loopback B1	Loops the first B channel of the interface.
Loopback B2	Loops the second B channel of the interface.
Loopback B1 + B2	Loops both B channels of the interface.
Loopback 2B+D	Loops the entire physical interface.

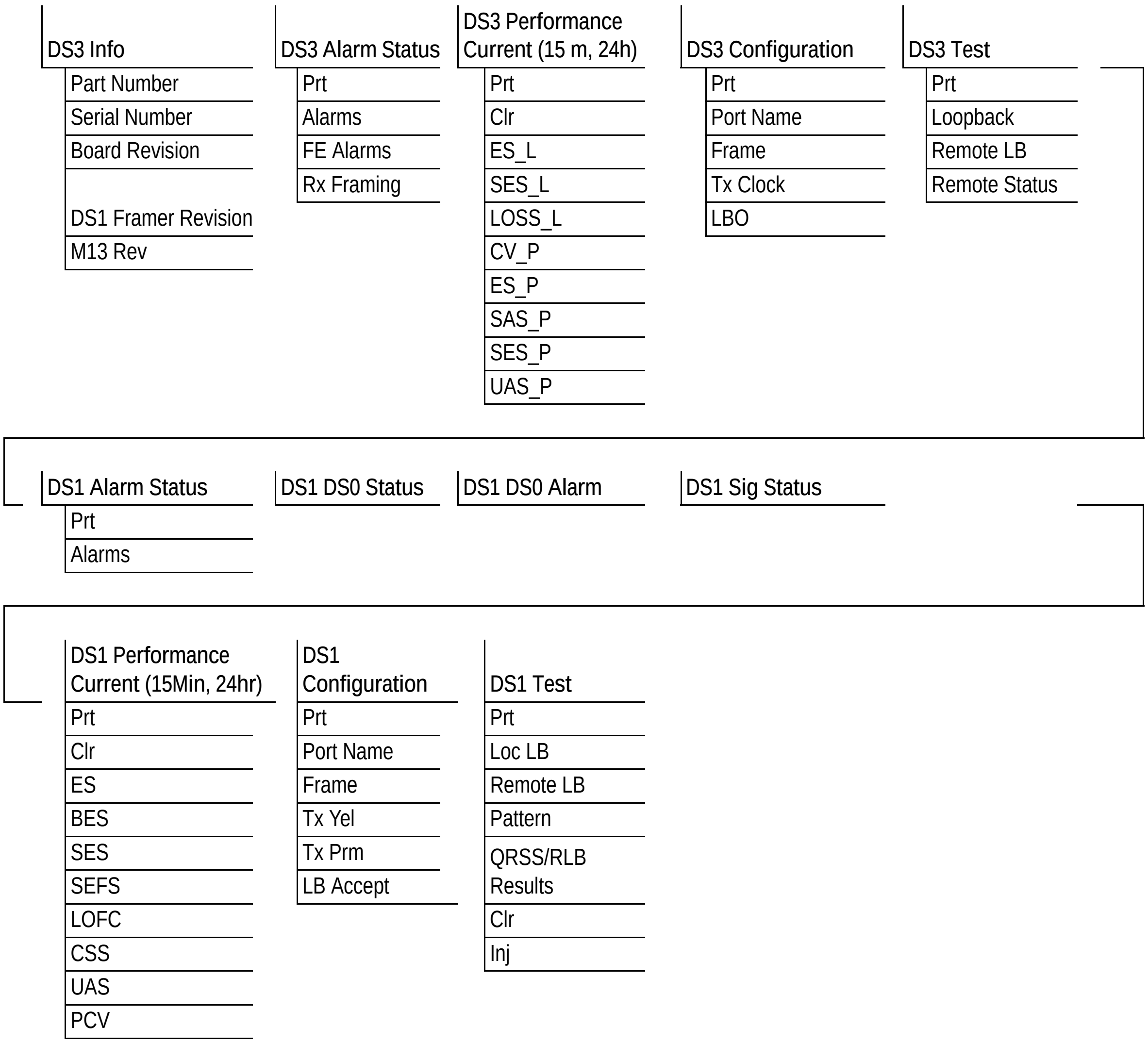
Remote Loopback

Write security: 4; Read security: 5
Activates a loopback towards the controller. The following options are available:

Options	Description
None	No active loopback.
Loopback B1	Loops the first B channel of the interface.
Loopback B2	Loops the second B channel of the interface.
Loopback 2B+D	Loops the entire physical interface.

T3 OPTION MODULE

The ATLAS system controller automatically detects the presence of the T3 Option Module (P/N 1200223L1) when it is installed in the system (listed as **DS3**). To see the menus for the T3 Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.



DS3 Info

Read security: 5

Displays general information about the Option Module.

Part Number Displays the part number of the Option Module.

Serial Number Displays the module’s serial number.

Board Revision Displays the board revision of the module.

DS1 Framer Revision Displays the revision of the DS1 framer on the installed module.

M13 Rev Displays the revision of the M13 mux on the installed module.

DS3 Alarm Status

Read security: 5

Displays the current alarm status of the T3 interface.

Prt Indicates the port number.

Alarms Displays the alarm status for the T3 circuit. An asterisk (*) indicates the presence of an alarm and a dash (-) indicates no alarm. The following alarms are monitored:

Alarms	Description
LOS	Loss of Signal. No T3 signal detected on the port interface.
Red	Loss of Frame or Red Alarm. Received T3 cannot be frame-synchronized. A Red Alarm is indicated when the T3 has been out of frame for 2.5 seconds.
Blue	Alarm Indication Signal (AIS) or Blue Alarm. Receiving AIS in the T3 payload from far-end equipment indicating a problem upstream.
Yellow	Remote Alarm Indication (RAI) or Yellow Alarm. Receiving RAI signal from far-end equipment indicating the far-end equipment is in Red Alarm.

FE Alarms Displays received alarms from the far-end equipment.

Rx Framing Indicates whether Rx framing is being used on the T3 circuit. An asterisk (*) indicates the presence of Rx framing and a dash (-) indicates no Rx framing present.

DS3 Performance Current

Write security: 3; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.231-1993 for DS3 interfaces.

Prt Displays the port number.

Clr Clears performance information for the selected port.

ES_L (Errored Seconds - Line) Count of seconds containing excessive zeros, LOS, or BPVs, not due to line code substitutions.

SES_L (Severely Errored Seconds - Line) Count of seconds containing excessive zeros, LOS, or BPVs, not due to line code substitutions above a predetermined threshold.

LOSS_L (Loss of Signal Second - Line) Count of seconds of LOS condition.

CV_P (Code Violation - Path) For the M13 applications, an accumulation of P-bit parity errors. For the C-bit parity application, an accumulation of CP-bit parity errors.

ES_P (Errored Second - Path) An accumulation of seconds during which any one of the following conditions exist: parity errors, severely errored frame, or AIS signal received.

SAS_P (SEF/AIS Second) An accumulation of seconds during which severely errored frame or AIS signal is received.

SES_P (Severely Errored Seconds - Path) An accumulation of seconds during which parity errors, severely errored frames, or AIS signal is received.

UAS_P (Unavailable Seconds - Path) An accumulation of one-second intervals during which the DS3 path is unavailable; i.e., 10 contiguous SES_Ps.

DS3 Performance 15Min

Write security: 3; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *DS3 Performance Current* for a detailed description of these fields.

DS3 Performance 24Hr

Write security: 3; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *DS3 Performance Current* for a detailed description of these fields.

DS3 Configuration

Write security: 3; Read security: 5

Includes all of the configurable parameters pertaining to the T3 interface.

Prt Read security: 5
Displays the port number

Port Name Enter any text up to 15 characters to uniquely identify the T3 port on the DS3 Option Module.

Frame Configures the framing format for the T3 circuit. Selections are **M13** or **C-BIT**.

Tx Clock Selects the source of the T3 transmit clock. The following options are available:

Options	Description
Recovered	Unit derives transmit T3 timing from the receive T3.
Internal	Unit derives transmit T3 timing from the internal ±20 PPM crystal source.

NOTE: *Every T3 connection should have one* **RECOVERED** *and one* **INTERNAL** *transmit clock. Failure to configure these clocks will result in T3 clock slips.*

LBO Selects the line build out for the T3 transmitter. The following options are available:

Options	Description
Short	0 to 100 feet of cable
Long	100 to 450 feet of cable

DS3 Test

Write security: 3; Read security: 5

Executes loops and indicates test status.

Prt Read security: 5
Indicates the T3 port under test.

Loopback Write security: 3; Read security: 5
This field indicates the present loopback selected. The following options will display:

Options	Description
None	No loopback in effect
Line	T3 line loopback active

Remote LB

Write security: 3; Read security: 5
This field indicates if loopbacks initiated from remote sources are in effect and may be used to execute remote loopbacks on the far-end T3 equipment. The following options are available:

Options	Description
None	No remote loopbacks are activated
DS3 Line	T3 line loopback active
DS1 #1... DS1 #28	Remote individual T1 line loopback is activated
DS1 All Line	Remote T1 line loopbacks for all 28 T1s is activated

Remote Status

Write security: 3; Read security: 5
This field indicates the progress of remote loopbacks. The following options will display:

Options	Description
Line Loopback Active	Remote line loopback is active.
No Loops Active	Remote line loopbacks are inactive.

DS1 Alarm Status

Write security: 3; Read security: 5

Indicates T1 alarm status.

Prt

Read security: 5
Indicates the number of the T1 circuit (1-28).

Alarms

Read security: 5
Displays the alarm status for each of the 28 T1 circuits. An asterisk (*) indicates the presence of an alarm and a dash (-) indicates no alarm. The following alarms are monitored:

Alarms	Description
Red	Loss of Frame or Red Alarm. Received T1 cannot be frame-synchronized. A Red Alarm is indicated when the T1 has been out of frame for 2.5 seconds.

Alarms	Description
Yellow	Remote Alarm Indication or Yellow Alarm. Receiving RAI signal from far-end equipment indicating that the far-end equipment is in red alarm.
Blue	Alarm Indication Signal or Blue Alarm. Receiving alarm indication signal in the T1 payload from far end equipment indicating a problem upstream.
DS0 Alarm	Displays per-DS0 alarm status; that is, at least one DS0 channel is in alarm if an asterisk (*) appears. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

DS1 DS0 Status

Read security: 5

Displays by port the status of all 24 DS0s, as follows:

Character	Description
- (dash)	Unallocated
. (period)	Inactive
+	Signaling mismatch
A	Active B channel
D	Active D channel
M	Maintenance
N	Dedicated (nailed)
O	Offhook-originate (RBS)
R	Ringing (RBS); Restart (ISDN)
W	Waiting for dialtone

DS1 DS0 Alarm

Read security: 5

Displays per-DS0 alarm status for each T1 in the T3 circuit. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

Character	Description
-	No Alarm DS0
D	D Channel Alarm (ISDN)
F	Frame Alarm (packet)
T	TBOP Alarm (packet)
P	PPP Alarm (packet)

DS1 Sig Status

Read security: 5

Read-only field that indicates signaling of all 24 DS0s for each T1 in the T3 circuit. The A/B bits for Rx (receive) and Tx (transmit) DS0s are shown when the T1s are configured for D4 and ESF framing. Dashes display for those DS0s where robbed bit signaling (RBS) is not being transferred by the ATLAS 800 Series.

DS1 Performance Current

Write security: 3; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.403 and AT&T TR54016 for the T1/PRI port. Except for **CLR**, these fields are all read-only.

Prt Displays the T1 number (1-28).

Clr Clears performance information for the selected T1.

ES Errored Second (ES) is a second with one or more error events OR one or more Out Of Frame events OR one or more Controlled Slips.

BES Bursty Errored Second (BES) is a second with more than one, but less than 320 error events.

SES Severely Errored Second (SES) is a second with 320 or more error events OR one or more Out Of Frame events.

SEFS Severely Errored Frame Second is a second that contains four consecutive errored framing patterns.

LOFC Loss of Frame Count is a count of seconds in which a valid framing pattern could not be obtained.

CSS Controlled Slip Second.

UAS Unavailable Second

PCV Path Code Violation.

DS1 Performance 15Min

Write security: 3; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *DS1 Performance Current* on page 141 for a detailed description of these fields.

DS1 Performance 24Hr

Write security: 3; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *DS1 Performance Current* on page 141 for a detailed description of these fields.

DS1 Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to whether the port is connected to a Primary Rate ISDN circuit or a channelized T1 circuit.

Prt Read security: 5
Displays the T1 number.

Port Name Write security: 3; Read security: 5
Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each T1 in the T3 circuit

Frame Write security: 2; Read security: 5
This field must be set to match the frame format of the circuit to which it is connected, available from the network supplier. Choose either **D4** or **ESF**.

Tx Yel Write security: 3; Read security: 5
Controls the transmission of yellow alarms. Choose either **ON** or **OFF**.

Tx Prm Write security: 3; Read security: 5
Controls the sending of performance report messaging (PRM) data on the facility data link (FDL). The PRM data continues to be collected even if **XMIT PRM** is turned off (possible only with ESF format). Choose either **ON** or **OFF**.

LB Accept

Write security: 3; Read security: 5
Sets unit to accept or reject the in-band loop up and loop down codes as defined in ANSI T1.403. This is a line loopback. Choose either **ACCEPT** or **IGNORE**.

DS1 Test

Write security: 3; Read security: 5

These options initiate different types of tests and display test results.

Prt

Read security: 5
Displays the T1 number.

Loc LB

Write security: 4; Read security: 5
Causes loopback on near-end (local) port. See Figure 3 on page 143. The following options are available:

Options	Description
None	No loopback is active.
Line	Loopback without regenerating framing.
Payld	Payload loopback - framing and clocking are regenerated.

Remote LB

Write security: 4; Read security: 5
Sends loopback code to remote CSU. The following options are available:

Options	Description
AT&T Inband line	Works in ESF and D4 mode
ANSI FDL Line	Requires ESF mode
ANSI FDL Payload	Requires ESF mode
Inband NIU	Works in ESF and D4 mode

Pattern

Write security: 4; Read security: 5
Test pattern to be transmitted out the port. The following options are available:

Options	Description
None	No test pattern transmitted
All ones	Framed ones
All zeros	Framed zeros
QRSS	Pseudo-random pattern with suppression of excess zeros

QRSS/RLB Results

Write security: 4; Read security: 5
Displays current status of T1 tests including information regarding loopbacks and test patterns. When displaying test pattern status, the display string is composed of pattern sync status and errored seconds.

Status	Description
None	No sync.
LOS	Sync has been lost.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

Clr

Write security: 3; Read security: 5
Clears error counters on test pattern results menu.

Inj

Write security: 3; Read security: 5
Injects errors into transmitted test pattern.

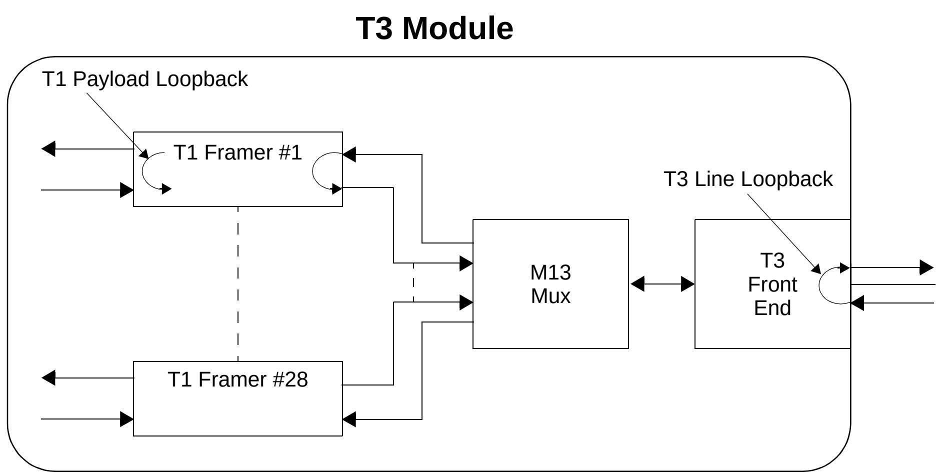


Figure 11. Network Loopback Tests

T3 D&I OPTION MODULE

The ATLAS system controller automatically detects the presence of the T3 with Drop and Insert Option Module (P/N 1200225L1) when it is installed in the system (listed as **DS3 D&I**). To see the menus for the T3 with Drop and Insert Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- DS3 Info
  - Part Number
  - Serial Number
  - Board Revision
  - DS1s Dropped
  - DS1 Framer Revision
  - M13 Rev
- Mux Configuration
  - DS1 Disposition
  - DS1s Dropped
  - DS1s Passed Thru
  - DS1 Pair 1-2 through DS1 Pair 27-28
- DS3 Alarm Status
  - Prt
  - Alarms
  - FE Alarms
  - Rx Framing
- DS3 Performance Current (15M, 24H)
  - Prt
  - Clr
  - ES_L
  - SES_L
  - LOSS_L
  - CV_P
  - ES_P
  - SAS_P
  - SES_P
  - UAS_P
- DS3 Configuration
  - Prt
  - Port Name
  - Frame
  - Tx Clock
  - LBO
- DS3 Test
  - Prt
  - Loopback
  - Remote LB
  - Remote Status
- DS1 Alarm Status
  - Prt
  - Alarms
- DS1 DS0 Status
- DS1 DS0 Alarm
- DS1 Sig Status
- DS1 Performance Current (15M, 24H)
  - Prt
  - Clr
  - ES
  - BES
  - SES
  - SEFS
  - LOFC
  - CSS
  - UAS
  - PCV
- DS1 Configuration
  - Prt
  - Port Name
  - Frame
  - Tx Yel
  - Tx Prm
  - LB Accept
- DS1 Test
  - Prt
  - Loc LB
  - Remote LB
  - Pattern
  - QRSS/RLB Results
  - Clr
  - Inj

DS3 Info

Read security: 5

Displays general information about the Option Module.

Part Number	Displays the part number of the option module.
Serial Number	Displays the module’s serial number.
Board Revision	Displays the board revision of the module.
DS1s Dropped	Displays the number of T1 circuits configured for use in the ATLAS 800 Series system and not passed through to the drop and insert interface.
DS1 Framer Revision	Displays the revision of the DS1 framer on the installed module.
M13 Rev	Displays the revision of the M13 mux on the installed module.

Mux Configuration

Write security: 3; Read security: 5

Allows users to define which T1s should be dropped for use in the ATLAS 800 Series system or passed on to the drop and insert interface. T1s are dropped in pairs.

DS1 Disposition

Read security: 5
This field has 28 letters, each corresponding (from left to right) to T1s 1-28 delivered on the T3 primary interface. The following letters will display:

Characters	Descriptions
D	Dropped (available for use in the ATLAS 800 Series system)
P	Pass through to the drop and insert (secondary) T3 interface

DS1s Dropped

Read security: 5
This field shows the number of T1s from the T3 circuit (in the primary interface) that are available for use in the ATLAS 800 Series system.

DS1s Passed Thru

Read security: 5
This field shows the number of T1s from the T3 circuit (in the primary interface) that are being passed out the drop and insert (secondary) interface to other equipment.

DS1 Pair 1-2 through DS1 Pair 27-28

Write security: 3; Read security: 5
These fields indicate which pairs of T1s of the T3 circuit connected to the primary interface are selected to be dropped or passed through to the secondary interface.

DS3 Alarm Status

Read security: 5

Displays the current alarm status of the primary and secondary T3 interfaces.

Prt Read security: 5
Indicates the port number.

Alarms Read security: 5
Displays the alarm status for the T3 circuit. An asterisk (*) indicates the presence of an alarm and a dash (-) indicates no alarm. The following alarms are monitored:

Alarm	Description
LOS	Loss of Signal. There is no T3 signal detected on the port interface.
Red	Loss of Frame or Red Alarm. Received T3 cannot be frame-synchronized. A Red Alarm is indicated when the T3 has been out of frame for 2.5 seconds.
Blue	Alarm Indication Signal or Blue Alarm. Receiving alarm indication signal in the T3 payload from far end equipment indicating a problem upstream.
Yellow	Remote Alarm Indication or Yellow Alarm. Receiving RAI signal from far-end equipment indicating that the far-end equipment is in red alarm.

FE Alarms Read security: 5
Displays received alarms from the far-end equipment.

Rx Framing Indicates whether Rx framing is being used on the T3 circuit. An asterisk (*) indicates the presence of Rx framing and a dash (-) indicates no Rx framing present.

DS3 Performance Current

Write security: 3; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.231-1993 for DS3 interfaces.

Prt Displays the port number.

Clr Clears performance information for the selected port.

ES_L (Errored Seconds - Line) Count of seconds containing excessive zeros, LOS, or BPVs, not due to line code substitutions.

SES_L (Severely Errored Seconds - Line) Count of seconds containing excessive zeros, LOS, or BPVs, not due to line code substitutions above a predetermined threshold.

LOSS_L (Loss of Signal Second - Line) Count of seconds of LOS condition.

CV_P (Code Violation - Path) For the M13 applications, an accumulation of P-bit parity errors. For the C-bit parity application, an accumulation of CP-bit parity errors.

ES_P (Errored Second - Path) An accumulation of seconds during which any one of the following conditions exist: parity errors, severely errored frame, or AIS signal received.

SAS_P (SEF/AIS Second) An accumulation of seconds during which severely errored frame or AIS signal is received.

SES_P (Severely Errored Seconds - Path) An accumulation of seconds during which parity errors, severely errored frames, or AIS signal is received.

UAS_P (Unavailable Seconds - Path) An accumulation of one-second intervals during which the DS3 path is unavailable; i.e., 10 contiguous Sysop.

DS3 Performance 15Min

Write security: 3; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *DS3 Performance Current* on page 145 for a detailed description of these fields.

DS3 Performance 24Hr

Write security: 3; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *DS3 Performance Current* on page 145 for a detailed description of these fields.

DS3 Configuration

Write security: 3; Read security: 5

Includes all of the configurable parameters pertaining to the T3 interface.

Prt Read security: 5
Displays the port number

Port Name Enter any text up to 15 characters to uniquely identify the T3 port on the DS3 Option Module.

Frame Configures the framing format for the T3 circuit. Selections are **M13** or **C-BIT**.

Tx Clock Selects the source of the T3 transmit clock. The following options are available:

> NOTE: *Every T3 connection should have one* **RECOVERED** *and one* **INTERNAL** *transmit clock. Failure to configure these clocks will result in T3 clock slips.*

Formats	Description
Internal	The ATLAS 800 Series will derive transmit T3 timing from the internal ±20 PPM crystal source.
Recovered	The ATLAS 800 Series will derive transmit T3 timing from the receive T3.

LBO Selects the line build out for the T3 transmitter. The following options are available:

Options	Description
Short	0 to 100 feet of cable
Long	100 to 450 feet of cable

DS3 Test

Write security: 3; Read security: 5

Executes loops and indicates test status.

Prt Read security: 5
Indicates the T3 port under test.

Loopback Write security: 3; Read security: 5
This field indicates the present loopback selected. The following options will display:

Options	Description
None	No loopback in effect
Line	T3 line loopback active

Remote LB

Write security: 3; Read security: 5
This field indicates if loopbacks initiated from remote sources are in effect and may be used to execute remote loopbacks on the far-end T3 equipment. The following options are available:

Options	Description
None	No remote loopbacks are activated
DS3 Line	T3 line loopback active
DS1 #1... DS1 #28	Remote individual T1 line loopback is activated
DS1 All Line	Remote T1 line loopbacks for all 28 T1s is activated

Remote Status

Write security: 3; Read security: 5
This field indicates the progress of remote loopbacks. The following options will display:

Options	Description
Line Loopback Active	Remote line loopback is active.
No Loops Active	Remote line loopbacks are inactive.

DS1 Alarm Status

Write security: 3; Read security: 5

Indicates T1 alarm status.

Prt

Read security: 5
Indicates the number of the T1 circuit (1-28).

Alarms

Read security: 5
Displays the alarm status for each of the 28 T1 circuits. An asterisk (*) indicates the presence of an alarm and a dash (-) indicates no alarm. The following alarms are monitored:

Alarm	Description
Red	Loss of Frame or Red Alarm. Received T1 cannot be frame-synchronized. A Red Alarm is indicated when the T1 has been out of frame for 2.5 seconds.
Yellow	Remote Alarm Indication or Yellow Alarm. Receiving RAI signal from far-end equipment indicating that the far-end equipment is in red alarm.

Alarm	**Description** *(Continued)*
Blue	Alarm Indication Signal or Blue Alarm. Receiving alarm indication signal in the T1 payload from far end equipment indicating a problem upstream.
DS0 Alarm	Displays per-DS0 alarm status; that is, at least one DS0 channel is in alarm if an asterisk (*) appears. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

DS1 DS0 Status

Read security: 5

Indicates usage on a DS0 basis for each T1 in the T3 circuit. These options are read-only:

Character	Description
-	Unallocated
. (period)	Inactive
+	Signaling mismatch
A	Active B Channel
D	Active D Channel
M	Maintenance
N	Dedicated (nailed)
O	Off hook - originate (RBS)
R	Ringing (RBS); Restart (ISDN)
W	Waiting dial tone

DS1 DS0 Alarm

Read security: 5

Displays per-DS0 alarm status for each T1 in the T3 circuit. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.

Character	Description
-	No Alarm DS0
D	D Channel Alarm (ISDN)
F	Frame Alarm (packet)
T	TBOP Alarm (packet)
P	PPP Alarm (packet)

DS1 Sig Status

Read security: 5

Read-only field that indicates signaling of all 24 DS0s for each T1 in the T3 circuit. The A/B bits for Rx (receive) and Tx (transmit) DS0s are shown when the T1s are configured for D4 and ESF framing. Dashes display for those DS0s where robbed bit signaling (RBS) is not being transferred by the ATLAS 800 Series.

DS1 Performance Current

Write security: 3; Read security: 5

The performance fields (either current, 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.403 and AT&T TR54016 for the T1/PRI port. Except for **CLR**, these fields are all read-only.

Prt Displays the T1 number (1-28).

Clr Clears performance information for the selected T1.

ES Errored Second (ES) is a second with one or more error events OR one or more Out Of Frame events OR one or more Controlled Slips.

BES Bursty Errored Second (BES) is a second with more than one, but less than 320 error events.

SES Severely Errored Second (SES) is a second with 320 or more error events OR one or more Out Of Frame events.

SEFS Severely Errored Frame Second is a second that contains four consecutive errored framing patterns.

LOFC Loss of Frame Count is a count of seconds in which a valid framing pattern could not be obtained.

CSS Controlled Slip Second.

UAS Unavailable Second

PCV Path Code Violation.

DS1 Performance 15 Min

Write security: 3; Read security: 5

Stores the performance data for the previous 15-minute window. Refer to *DS1 Performance Current* for a detailed description of these fields.

DS1 Performance 24Hr

Write security: 3; Read security: 5

Stores the performance data for the previous 24-hour window. Refer to *DS1 Performance Current* for a detailed description of these fields.

DS1 Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to whether the port is connected to a Primary Rate ISDN circuit or a channelized T1 circuit.

Prt Read security: 5
Displays the T1 number.

Port Name Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each T1 in the T3 circuit

Frame Write security: 2; Read security: 5
This field must be set to match the frame format of the circuit to which it is connected, available from the network supplier. Choose either **D4** or **ESF**.

Tx Yel Controls the transmission of yellow alarms. Choose either **ON** or **OFF**.

Tx Prm Controls the sending of performance report messaging (PRM) data on the facility data link (FDL). The PRM data continues to be collected even if **XMIT PRM** is turned off (possible only with ESF format). Choose either **ON** or **OFF**.

LB Accept Sets unit to accept or reject the in-band loop up and loop down codes as defined in ANSI T1.403. This is a line loopback. Choose either **ACCEPT** or **IGNORE**.

DS1 Test

Write security: 3; Read security: 5

These options initiate different types of tests and display test results.

Prt

Read security: 5
Displays the T1 number.

Loc LB

Write security: 4; Read security: 5
Causes loopback on near-end (local) port. See Figure 9 on page 152. The following options are available:

Options	Description
None	No loopback is active.
Line	Loopback without regenerating framing.
Payld	Payload loopback - framing and clocking are regenerated.

Remote LB

Write security: 4; Read security: 5 - Sends loopback code to remote CSU. The following options are available:

Options	Description
AT&T Inband line	Works in ESF and D4 mode
ANSI FDL Line	Requires ESF mode
ANSI FDL Payload	Requires ESF mode
Inband NIU	Works in ESF and D4 mode

Pattern

Write security: 4; Read security: 5 - Test pattern to be transmitted out the port. The following options are available:

Options	Description
None	No test pattern transmitted
All ones	Framed ones
All zeros	Framed zeros
QRSS	Pseudo-random pattern with suppression of excess zeros

QRSS/RLB Results Write security: 4; Read security: 5
Displays current status of T1 tests including information regarding loopbacks and test patterns. When displaying test pattern status, the display string is composed of pattern sync status and errored seconds.

Options	Description
None	No sync.
LOS	Sync has been lost.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

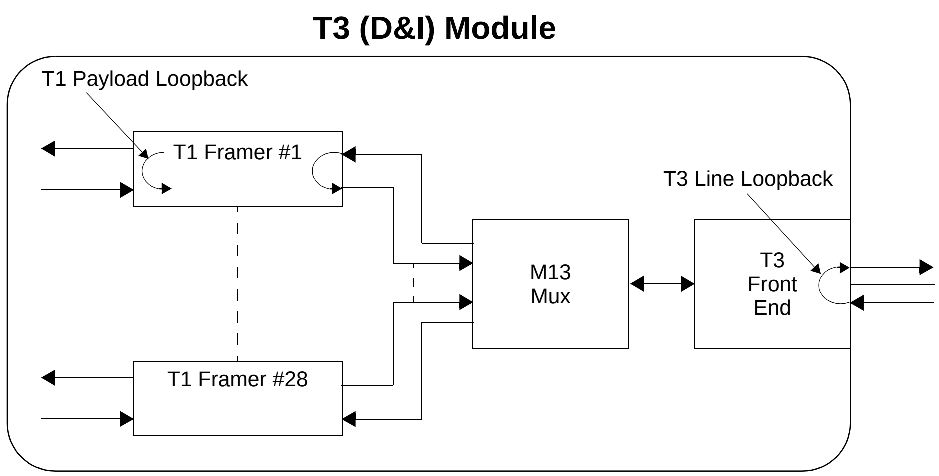


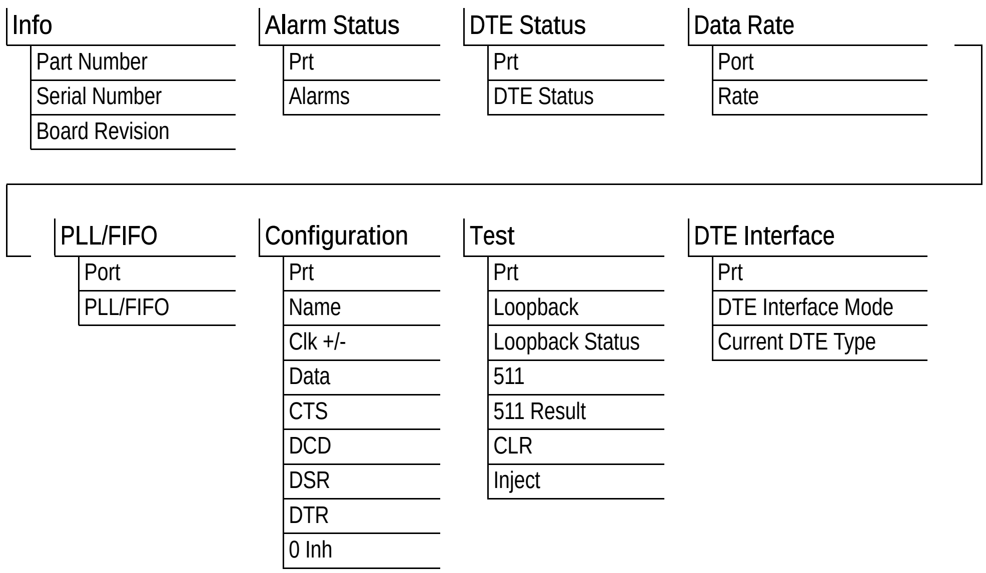
Figure 12. Network Loopback Tests

Clr Clears error counters on test pattern results menu.

Inj Injects errors into transmitted test pattern.

DUAL VIDEO OPTION MODULE

The ATLAS 830 system controller automatically detects the presence of the Dual Video Option Module (P/N 4200773Lx) when it is installed in the system. To see the menus for this module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.



Info

Write security: 5; Read security: 5

Provides information about the module part number, serial number, and board revision.

Part Number Displays the part number of the module. (Read-only.)

Serial Number Displays the serial number of the module. (Read-only.)

Board Revision Displays the board revision of the installed module. (Read-only.)

Alarm Status

Write security: 5; Read security: 5

Displays the current alarm status of the DTE interface.

Prt Indicates the port number.

Alarms Displays an alarm condition on the DTE interface.

Alarm	Description
SLIP	A rate mismatch exists between the DTE clock and the network-side clock (as set by DS0 assignment).
PLL	The Video Module DTE port is not able to lock onto the clock provided by the network interface.
ZERO	The DTE is sending an excessive number of consecutive zeroes to the network interface.
No Ext Clk	The DTE is not providing an external transmit clock. This alarm displays only if the Video Module DTE port is configured to get its transmit clock from the DTE.

DTE Status

Write security: 5; Read security: 5

Shows the status of key DTE interface signals. An asterisk (*) indicates the presence of a signal and a hyphen (-) indicates no signal present.

Prt Operating port number.

DTE Status The following signals are monitored (these options are read-only):

Options	Description
RTS	Request to send from DTE.
CTS	Clear to send to DTE.
DTR	Data terminal ready from DTE.
DSR	Data set ready to DTE.
DCD	Data carrier detect to DTE.
RI	Ring indicate to DTE.
TD	Transmit data from the DTE.
RD	Receive data toward the DTE.
EC	External clock present.

Data Rate

Write security: 5; Read security: 5

Displays data rate at which each port is currently operating.

Port Indicates port number.

Rate Displays the data rate at which each Video Module DTE port is currently operating. A port's data rate is determined by the number of B channels assigned to it and the rate per channel associated with the active call.

PLL/FIFO

Write security: 5; Read security: 5

Displays the Phase Lock Loop (PLL) and FIFO status.

Port Indicates the operating port.

PLL/FIFO Displays the PLL and FIFO status.

Options	Description
Lock	PLL is locked (This is required to transfer data.)
RXE	Receive data FIFO empty.
RXF	Receive data FIFO full.
TXE	Transmit data FIFO empty.
TXF	Transmit data FIFO full.

Configuration

Write security: 5; Read security: 5

Describes the configurable parameters which apply to the individual Video Module DTE ports.

Prt Displays the port number.

Name Write security: 3; Read security: 5
Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each DTE port on the Video Module.

Clk +/- Write security: 3; Read security: 5
Controls the clock used by the ATLAS 800 Series to accept the transmit (TX) data from the DTE. This is usually set to **NORMAL**. If the interface cable is long, causing a phase shift in the data, the clock can be set to **INVERTED**. This switches the phase of the clock, which compensates for a long cable.

Data

Write security: 3; Read security: 5
Controls the inverting of the DTE data. This inversion can be useful when operating with a high-level data link control (HDLC) protocol (often used as a means to ensure 1s density). Select either **NORMAL** or **INVERTED**. Data inversion configuration must match at both ends of the circuit.

CTS

Write security: 3; Read security: 5
Determines the behavior of the Clear To Send (**CTS**) signal. If set to **NORMAL**, CTS will follow the value of Request To Send (**RTS**). If set to **FORCED ON, CTS** will always be asserted.

DCD

Write security: 3; Read security: 5
Determines the behavior of the Data Carrier Detect (**DCD**) signal, also called RLSD on V.35 interfaces. If set to **NORMAL, DCD** will generally be asserted when the interface is capable of passing data. If set to **FORCED ON, DCD** will always be asserted.

DSR

Write security: 3; Read security: 5
Determines the behavior of the Data Set Ready (**DSR**) signal. If set to **NORMAL, DSR** will generally be asserted when the interface is capable of passing data. If set to **FORCED ON, DSR** will always be asserted.

DTR

Write security: 3; Read security: 5
Selects the response to DTR transitions. Table 4 lists the configuration options for the DTR parameter with respect to the current configuration for the module in the Dial Plan.

Table 4. DTR Descriptions

Dial Method (Dial Plan)	DTR Setting	Description
Dial on DTR	Recognize DTR	Call is dialed when DTR is high and disconnects when DTR goes low.
	Ignore DTR	Call will never connect.
RS-366	Recognize DTR	Call is dialed if DTR is already high and disconnected when DTR goes low.
	Ignore DTR	Call is dialed regardless of DTR state and must be disconnected manually.
Manual	Recognize DTR	Call is dialed if DTR is already high and disconnected when DTR goes low.
	Ignore DTR	Call is dialed regardless of DTR state and must be disconnected manually.

0 Inh

Write security: 3; Read security: 5
When the port detects an uninterrupted string of 0s being transmitted for more than one second, setting this parameter to On will cause the ATLAS 800 Series to send 1s toward the network.

Test

Write security: 5; Read security: 5

These options initiate different types of tests and display test results.

Prt

Write security: 5; Read security: 5
Indicates the port number.

Loopback

Write security: 4; Read security: 5
The Video Module supports both local and remote loopbacks. The following options are available:

Options	Description
No Loopback	No active loopback.
Local Loopback	Activates both a local loopback (back toward the DTE) and a port loopback (toward the network).
Remote Loopback	Initiates a local loopback request sent to the remote Video Module. This allows for end-to-end circuit test.

NOTE: *The* **REMOTE LOOPBACK** *option is only supported for Dual Video Module to Dual Video Module applications.*

Loopback Status

Write security: 5; Read security: 5
This read-only option indicates a port's current loopback status by displaying any of the following status messages:

No Loopback Active
Looping Up Remote Unit
Remote Unit Looped Back
Looping Down Remote Unit
Remote Loop-Up Failed
Port Looped From Remote Source
Port Loopback Active

511

Write security: 4; Read security: 5
Controls the activation of the 511 test pattern generator and detector. The 511 pattern is generated inward through the ATLAS system.

511 Result

Write security: 5; Read security: 5
Displays the results of the 511 test. This option is read-only. Clear these results by pressing <Enter > when **CLR** is selected.

Results	Description
None	Pattern is not synchronized.
LOS	At one point the pattern was synchronized, but is currently not synchronized.
Sync	Pattern is synchronized.
ES	Number of seconds with at least one bit error.

CLR

Write security: 4; Read security: 4
Clears error counters on test pattern results menu.

Inject

Write security: 4; Read security: 4
Injects errors into transmitted test pattern.

DTE Interface

Write security: 5; Read security: 5

Configures the DTE port of the Video Module for the appropriate interface type. Select the parameters matching the interface cable being used.

Prt

Displays the port number.

DTE Interface Mode

Write security: 3; Read security: 5
Configures the DTE port interface type. The following options are available:

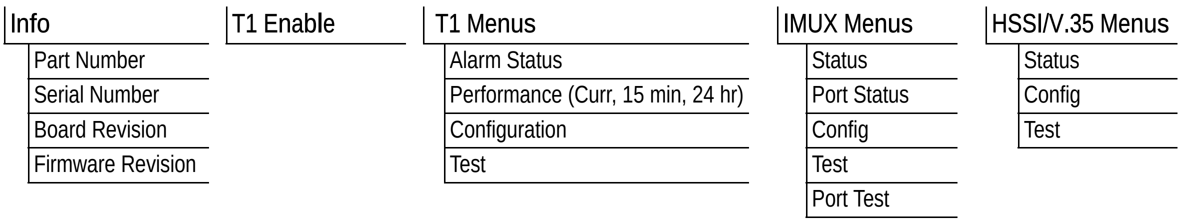
Options	Description
Auto	The ATLAS 800 Series will automatically detect the interface type. The cable must be connected before the interface can be determined.
EIA-530	Configures the interface for EIA-530 use.
V.35	Configures the interface for V.35 use.
RS-449	Configures the interface for RS-449 use.
Loopback	Configures the interface to emulate a connected loopback cable.

Current DTE Type

Write security: 5; Read security: 3
Displays the current configuration of the Video Module DTE Interface.

NXT1 HSSI OPTION MODULE

The NxT1 HSSI/V.35 Module (P/N 1200771L1) system controller automatically detects the presence of the NxT1 HSSI Option Module when it is installed in the system (listed as **NXT1 HSSI**). To see the menus for the NxT1 HSSI Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. V.35 is available when using the optional adapter cable (ADTRAN P/N 3125I081). The following menu tree shows the hierarchy of the menus discussed in this section. (Some of the following menus do not apply when configured for V.35 mode.)



Info

Read security: 5

Provides information about the module part number, serial number, and board revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the firmware revision of the installed module.

T1 Enable

Write Security: 3; Read Security: 5

Configures the NxT1 HSSI Option Module to activate the module's four built-in T1 interfaces. When configuring the module to use more than four T1s from other installed T1/T3 modules, set this field to **DISABLED**.

The NxT1 HSSI/V.35 Module's four built-in T1 interfaces are activated collectively as a bundle. Setting the **T1 ENABLE** *menu to* **ENABLED** *allows you to map any/all of the built-in T1 ports to the HSSI interface. Setting the* **T1 ENABLE** *menu to* **DISABLED** *requires ALL of the T1s mapped to the HSSI interface to be from other installed T1/T3 modules.*

T1 Menus

Read Security: 5

The following T1 Menus provide information about the four T1 interfaces located on the NxT1 HSSI Option Module. These menus are available only when **T1 ENABLE** is enabled.

Alarm Status Read security: **5**
Displays the current T1 alarm status.

Submenus	Description	
Prt	Indicates the port number.	
Alarms	Read security: 5 Displays an alarm condition on the ATLAS 550 unit. Press <Enter> to access this menu item. Descriptions of the alarms follow:	
	LOS	Indicates a loss of signal detected on port interface.
	Red	Indicates inability to frame data received on the port. Alternately referred to as Out of Frame (OOF).
	Yellow	Receiving remote alarm (RAI) on port.**T1 ENABLE.**
	Blue	Receiving unframed all ones from the port Alarm Indicator Signal (AIS).
	DS0 Alarm	Displays per-DS0 alarm status; that is, at least one DS0 channel is in alarm if an asterisk (*) appears. These alarms usually indicate the failure to receive the protocol that has been configured for the DS0.
Rx Level	(Receive Level) Indicates the strength of the signal (in dB) received on the port.	

Performance Write security: 3; Read security: 5
The performance fields (either current, previous 15-minute total, or 24-hour total) provide status on key performance measures as specified in ANSI T1.403 and AT&T TR54016 for the T1/PRI port. All fields except CLR are read-only. The monitored parameters include the following:

Status	Description
Prt	Displays the port number
CLR	Clears performance information for the selected port
ES	Errored Second (ES) is a second with one or more error events OR one or more Out Of Frame events OR one or more Controlled Slips
BES	Bursty Errored Second (BES) is a second with more than one, but less than 320 error events

Status	Description *(Continued)*
SES	Severely Errored Second (SES) is a second with 320 or more error events OR one or more Out Of Frame events
SEFS	Severely Errored Frame Second is a second that contains four consecutive errored framing patterns.
LOFC	Loss of Frame Count is a count of seconds in which a valid framing pattern could not be obtained.
CSS	Controlled Slip Second
UAS	Unavailable Second
LCV	Line Code Violation
PCV	Path Code Violation
LES	Line Errored Second

Configuration

Write security: 3; Read security: 5
All of the following configurable parameters apply to whether the port is connected to a Primary Rate ISDN circuit or a channelized T1 circuit.

Submenu	Description
Port	Displays the port number.
Port Name	Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the ATLAS 800 Series.
Frame	Write security: 2; Read security: 5 This field must be set to match the frame format of the circuit to which it is connected, available from the network supplier. Choose either D4 or ESF.
Code	Write security: 2; Read security: 5 Set this field to match the line code of the circuit to which it is connected (this information is available from the network supplier). Choose either AMI or B8ZS.
Tx Yel	Controls the transmitting of yellow alarms. Choose either ON or OFF.
LBO	Write security: 2; Read security: 5 Selects the Line Build Out (LBO) for the network interface. The LBO setting determines the amplitude of the transmitted signal. For short haul (intra-building) applications, choose from the ft options. For long haul (out of plant) applications, choose from the dB options. When you select this item, a list of choices displays. Select the appropriate option.

Test

Write security: 3; Read security: 5
These options initiate different types of tests and display test results.

Submenu	Description
Prt	Displays the port number.
Loc LB	Write security: 4; Read security: 5Causes loopback on near-end (local) port (see Figure 13 on page 178). The following options are available: Line — Metallic loopback Payld — Payload loopback - framing and clocking are regenerated

IMUX Menus

Read Security: 5

Contains the inverse muxing configuration parameters for the NxT1 HSSI Option Module.

Status

Submenu	Description
Least Dly Port	Link relative delay in milliseconds
Max Diff Dly	Maximum difference in delay in milliseconds
T1: FE State	Far-end state
T1: NE state	Near-end state
T1: FE Fail	Far-end failure state
T1: NE Fail	Near-end failure state
T1: #FE Fail	Number of far-end failures
T1: #NE Fail	Number of near-end failures
# Tx Active	Number of transmit active links
# Rx Active	Number of receive active links
T1: # PM Ticks	Number of PM ticks
T1: TX Cell Rate	Transmit cell rate
T1:Tx Cell Rate	Receive cell rate

Port Status

Submenu	Description
Port	Port number
T1: Clr	
Link State	Link status: active or inactive.
Link Delay	Link relative delay in milliseconds.
NE Tx State	Link near-end transmit state: Not in Group,
NE Rx State	Link near-end receive state: Not in Group
NE Tx Fail	Link near-end transmit failure state: No failure
NE Rx Fail	Link near-end receive failure state: No failure
# NE Tx Fail	Number of near-end transmit failures
# NE Rx Fail	Number of near-end receive failures
OCD	Out of cell delineation
LOC	Loss of cell delineation
CBO	Cell buffer overflow
UEH	Number of uncorrected errorred headers
CEH	Number of corrected errored headers
Rx cells	Number of received cells
Facility Lpbk	Facility loopback status
Terminal Lpbk (HSSI)	Terminal loopback status (HSSI)
Rx Packets	Number of packets received

Config

Read Security: 5; Write Security: 5
Parameters include T1 data streams to the HSSI interface.

Option	Description
Prt	Indicates the port number. Displays the port number for the T1s mapped to the NxT1 HSSI interface. Ports 1 through 4 are the T1 interfaces located on the NxT1 HSSI Option Module. Ports 5 through 8 are T1s mapped to the NxT1 HSSI Option Module in the Dedicated Maps.
Grp Assoc	Associates T1s (either mapped to this card and/or the on-board T1s) with the HSSI interface data stream. To add the T1 to the data stream, select the **GROUP1** option.
Scramble	Enabling the **SCRAMBLE** option configures the NxT1 HSSI Module to prevent ones density violations when transmitting ADTRAN IMUX headers on a T1 circuit with AMI line coding. *(See note on following page.)*

Use extreme caution when disabling the **SCRAMBLE** *option. ADTRAN recommends enabling the* **SCRAMBLE** *option for normal use.*

Test

Submenu	Description
Port	HSSI/V.35 port number (1 on 800 series modules)
Facility Lpbk	Port facility local loopback: On or Off
Terminal Lpbk (HSSI)	Port TC terminal loopback:

Port Test

Submenu	Description
Port	T1 resource numbers
Facility Lpbk	Port facility local loopback: On or Off
Terminal Lpbk (HSSI)	Port TC terminal loopback: On or Off

HSSI/V.35 Menus

Read Security: 5

Provides status, configuration, and testing parameters for the 50-pin SCSI-II HSSI interface.

Status

Read Security: 5
Displays the current loopback status of the HSSI interface.

Submenus	Description
Port	Indicates the port number.
Ifce Type	Interface type depends on the module's current status and/or the type of cable connected to its DTE interface.
Loopback	Displays the current loopback status of the HSSI interface. See Figure 13 on page 178.: Local DTE — A local DTE loopback occurs at the DTE port of the DCE, and is used to test the link between the DTE and DCE (NxT1HSSI module). Local Line — A local line loopback occurs in the IMUX engine and is used to test functionality between the DTE and the IMUX engine. Remote Line — A remote line loopback occurs at the T1 interface and is used to test functionality between the DTE and the T1 interfaces.
LA and LB	Displays the status of the loopback circuit A and B signals. LA and LB are asserted by the DTE to enable a loopback on the DCE and its associated data communications channel. The options include the following: **LA LB Loopback** Off Off No Loopback Active On On Local DTE Loopback is Active On Off Local Line Loopback is Active Off On Remote Line Loopback is Active Displays the status of the data Terminal equipment **AVAILABLE** signal. TA will be asserted by the DTE (independently of CA) when the DTE is prepared to both send and receive data to and from the DCE. Valid data transmission should not commence until CA has also been asserted by the DCE. If the data communications channel requires a keep alive data pattern when the DTE is disconnected, then the DCE shall supply this pattern while TA is de-asserted. When using the NxT1 HSSI Module (1200346L2 only) in V.35 mode, TA displays the status of the Request to Send (RTS) signal. When RTS is active in a V.35 configuration, Clear to Send (CTS) is also active.
T1:# Rx Chan	HSSI port number of channels in use

Submenus	**Description** *(Continued)*
T1:#Tx Chan	HSSI port number of channels in use
Rx Rate	Displays the current average receive data rate on the HSSI interface.
Tx Rate	Displays the current average transmit data rate on the HSSI interface.

Config

Read Security: 5
Provides configuration parameters for the HSSI interface including data clocking.

Submenu	Description
Port	Indicates port number.
Port Name	Select port name from drop-down list.
Tx Clk	Controls the clock used by the NxT1 HSSI/V.35 Module to accept the transmit (TX) data from the DTE. This is usually set to **NORMAL.** If the interface cable is long, causing a phase shift in the data, the clock can be set to **INVERTED**. This switches the phase of the clock, which compensates for a long cable.
CTS (V.35)	Clear to send: Normal, Forced On
DSR (V.35)	Data set ready: Normal, Forced On, Remote DTR
Ifce Auto Deact	Interface auto deactivation: Off, On
DCD (V.35)	Data carrier detect: Normal, forced On, Remote RTS
CA (HSSI)	(Not applicable in V.35 mode.) Asserts the data Communications equipment **AVAILABLE** signal from the DCE. CA will be asserted by the DCE, independently of TA, when the DCE is prepared to both send and receive data to and from the DTE. This indicates that the DCE has obtained a valid data communications channel. Data transmission should not commence until TA has also been asserted by the DTE.
LC	(Not applicable in V.35 mode.) Enables the Loopback Circuit C signal from the DCE. LC is an optional loopback request signal from the DCE to the DTE, requesting the DTE provide a loopback path to the DCE.

*When using the NxT1 HSSI/V35 Module in V.35 mode, Data Set Ready (***DSR***) and Data Carrier Detect (***DCD***) are always active.*

Test Select test by port.

Options	Description
Local Lpbk	None, Local Line, T1 Framer, Local DTE
Remote Lpbk (HSSI)	None, External DTE

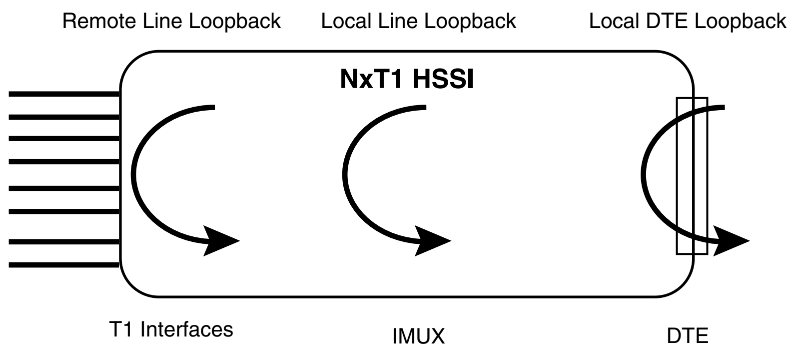


Figure 13. HSSI Interface Loopback Test Diagram

OCTAL FXS OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Octal FXS Option Module (P/N 1200338L1) when it is installed in the system (listed as **FXS-8**). To see the menus for the Octal FXS Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

Info	Status	Test	Config
Part Number	Port	Port	Port
Serial Number	Status	Test 2W	Port Name
Board Revision	Rx ABCD	1kHz Tone	Rx Gain
	Tx ABCD	Loopback	Tx Gain
			2W Impedance
			Coding Scheme

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the assembly revision.

Status

Read security: 5

Displays the status of each of the FXS ports.

Port Indicates the port number.

Status Displays the call status of each voice port. This field may display the following:

Status Options	Description
Inactive	The port is preconfigured, but the FXS module is not present.
Disabled	The FXS module is present, but the port is not mapped.
Idle	The FXS port is in an idle state for LS configurations.
Tip-Open	The FXS port tip conductor is high impedance.
Off Hook	The FXS port has detected an off hook condition (loop current flowing).

Status Options	Description	
Reverse Battery	The FXS port has reversed T/R polarity.	
Test	This generic FXS port test indicator is used when multiple tests are being run or the test is not a 2W test.	
	Active	Active test is currently running.
	Off Hook	Active/Reverse Battery test is running, but an off hook condition is detected.
	Rev. Bat	Reverse Battery test is currently running.
	Ringing	Ringing test is currently running
	Tip Open	Tip Open test is currently running.
	Ring GND	Tip Open test is currently running, but ring ground is detected.
	(-R) Trip	Ringing test is currently running, but an off hook condition is detected

Rx ABCD

Receive Signaling bits have local significance only, and represent signaling between the ATLAS 800 Series Controller and the voice port if the port is configured in the **DIAL PLAN**. The bit pattern is formatted **ESF RBS**.

Tx ABCD

Transmit Signaling bits have local significance only, and represent signaling between the ATLAS 800 Series Controller and the voice port if the port is configured in the **DIAL PLAN**. The bit pattern is formatted **ESF RBS**.

Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Port

Write security: 5; Read security: 5
Displays the operating port.

Test 2W

Activates 2W (FXS) tests on a per-port basis. Options include **OFF, ACTIVE, TIP OPEN, REV. BATTERY, DISABLED,** and **RINGING**. The 2W tests will disrupt the active call on the selected FXS port. Table 5 on page 181 displays the state of the 2W conductors during each test.

TX ABCD

Forces the Transmit Robbed Bit Signaling (Tx RBS) to a specified value. Values include **OFF, 0000, 0101, 1010,** or **1111**.

> NOTE: *Calls may be affected when activating the Tx ABCD test. This test is not valid when the port is used in the* **DIAL PLAN**.

1kHz Tone

Write security: 3; Read security: 5
Sends a 1kHz tone into the following locations, based on test selection: Near sends the tone out the FXS port, while Far sends the tone into the digital PCM stream of the ATLAS 800 Series controller. These tests are useful for verifying a voice path.

Loopback

Write security: 3; Read security: 5
Activates loopback tests on a per-port basis.

Option	Description
Off	Normal operation.
Analog	Loops the 2W test on itself.
Digital	Loops digital data entering the FXS from the ATLAS controller on itself.
Both	Processes both analog and digital loopback tests.

> NOTE: *Loopback tests disrupt the call in progress on the selected FXS port.*

Table 5. FXS 2W State Table

Test	Tip Output	Ring Output
Off	No test active	No test active
Active	Ground	Supervision voltage
Tip Open	High impedance	Supervision voltage
Rev. Battery	Supervision voltage	Ground
Disabled*	High impedance	High impedance
Ringing	Ringing voltage	Ringing voltage
* Disables the output of the FXS port; it does not disable the test.		

Config

Write security: 3; Read security: 5

All of the following configurable parameters apply to the individual FXS ports.

Port
Read security: 5
Displays the port number.

Port Name
Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Octal FXS Option Module.

Rx Gain
Adjusts the (+)Gain and (-)Attenuation of the relative signal received by the FXS. The range includes (in dB) +6 (loudest), 3, 0, -3, and -6 (softest).

Tx Gain
Adjusts the (+) Gain and (-) Attenuation of a digital signal transmitted by the FXS into the digital PCM stream. The range includes (in dB) +6 (loudest), +3, 0, -3, and -6 (softest).

When the digital signal is connected through the PSTN, use a setting of -3 dB.

2W Impedance
Read security: 5
2-wire input impedance is set to 600 ohms +2.16 µF. This is a read-only field.

Coding Scheme
Read security: 5
Displays the current PCM coding scheme. Currently only µ-Law is supported.

VCOM OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Voice Compression (VCOM) Resource Module when it is installed in the system (listed as **VCOM-X** where X is **8** for 1200221L1, **16** for 1200221L2, **24** for 1200221L3, and **32** for 1200221L4). To see the menus for the VCOM Resource Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter > to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

Info	Status	Config	Statistics
Part Number	Device	Configure VCOM Devices	Device
Serial Number	Status	Gain Settings	Usage Time
Board Revision	Algorithm	Current Fax Status	ATLAS Frms
Firmware Revision	Silence	Reset Module	ATLAS Drop
	Connection		VCOM Frms
	Frame Type		VCOM Drop
			Clear
			Reloads

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the current firmware revision of the selected module.

Status

Read security: 5

Displays the status of each of the voice compression resources.

Device Read security: 5
Indicates the resource number of the packet voice device listed. On the ATLAS 800 Series, packet voice devices are numbered 1-32.

Status

Read security: 5
Indicates the condition of the individual packet voice device. This field may display the following:

Options	Description
N/A	This device is not populated on the selected VCOM Resource Module.
Available	This resource is available for voice compression and functioning properly. If a VCOM-8 Option Module is installed, 8 voice compression resources will be **AVAILABLE** and the rest will display **N/A**. The same principle applies to the VCOM-16, 24, and 32 Option Modules.
Pending	This resource is currently changing state.
Busy	This resource is currently in use.
Testing	This resource is currently being tested and is not available for use.
Failed	This resource has failed testing and is not available for use.
Reloaded	This resource was reinitialized after excessive errors.

Algorithm

Read security: 5
Denotes the voice compression algorithm being used by the packet voice device. Any packet voice device can use any available compression algorithm. When ATLAS 800 Series chooses a packet voice device for a particular call, the voice compression algorithm is set to match the dial plan endpoint configuration. Refer to the Frame Relay menu section of this manual for more information.

Options	Description
N/A	This device has not been assigned a voice compression algorithm.
G.723.1	CCITT G.723.1 compression; 6.3 kbps bandwidth.
Netcoder	Proprietary NETCODER compression; 6.4 kbps bandwidth.

Silence

Voice endpoints continue to originate frame relay traffic during periods of relative silence. The ATLAS 800 Series expects to receive such silence frames; therefore, silence compression is **DISABLED** by default. Some voice endpoints can be configured so that no silence frames are transmitted during periods of relative silence. For compatibility with these devices, the ATLAS 800 Series can be configured to expect that silence suppression is **ENABLED**; thus, no frame relay traffic is generated during periods of silence. Both voice endpoints must agree on the silence suppression setting.

Connection

Read security: 5
Helps identify a suspect packet voice device if a particular call reports poor quality. The displayed packet identifier and the dial plan endpoint identify the call using this packet voice device.

Frame Type

Read security: 5
Displays the kind of frame the ATLAS 800 Series receives from the frame relay endpoint connected to the VCOM channel, allowing users to monitor the kind of data being carried on the network and processed by the ATLAS 800 Series. (The ATLAS 800 Series interprets the most-recently received frame from the endpoint.)

During a voice connection, the frame type displays as **VOICE**. For a FAX connection, a variety of frame types display. Initially, **VOICE** displays indicating that although the call has completed, the answering FAX machine has not yet announced its 2100 HZ tone. After completing the 2100 Hz, both FAX endpoints repeat a V.21 cycle for each page of the FAX document.

Each packet the ATLAS 800 Series receives from its connected frame relay endpoint is classified into one of the following groups:

Frame Options	Description
Blank	No frame has yet been received from the endpoint, or a FAX connection is between protocol states.
DTMF	Dual-tone, multi-frequency (DTMF) digit received.
Voice	Receiving voice frames. A connection to a FAX endpoint shows a VOICE status until the FAX protocol is established.
2100 Hz Tone	FAX single-frequency tone detected indicating the beginning of a FAX session.
V.21	FAX single-frequency tone detected indicating the beginning of a FAX page.
V.27ter (2400 bps)	FAX data reception of 2400 bps using protocol V.27ter.
V.27ter (4800 bps)	FAX data reception of 4800 bps using protocol V.27ter.
V.29 (7200 bps)	FAX data reception of 7200 bps using protocol V.29.
V.29 (9600 bps)	FAX data reception of 9600 bps using protocol V.29.V.33 (12000 bps)
V.33 (1200 bps)	FAX data reception of 12000 bps using protocol V.33.
V.33 (14400 bps)	FAX data reception of 14400 bps using protocol V.33

Some voice compression standards may be used only under specific licensing arrangements due to existing patents. The ATLAS 830 provides complete management of these licensed resources; therefore, users are not required to take additional steps to ensure conformance with licensing provisions. For example, the ATLAS 830 manages its resources so users never exceed the maximum licensed number of simultaneous connections.

Config

Write security: 4; Read security: 5

Provides diagnostic tools for suspected problems; under normal operation, users do not configure the packet voice devices.

Configure VCOM Devices

Write security: 4; Read security: 5
Contains configuration parameters for individual VCOM devices.

Submenu	Description
Device	Read security: 5 - Indicates the resource number of the packet voice device listed. On the ATLAS 800 Series, packet voice devices are numbered 1-32
State	Write security: 4; Read security: 5 - Controls the configuration state of the individual packet voice device. The ATLAS 800 Series determines the initial configuration state of each device. ATLAS uses this configuration information to determine which packet voice devices are functional and may be used, which are defective and should not be used, or which are not present on the module and should not be used. Users who suspect an individual packet voice device of improper operation can manually disable that device to prevent ATLAS from attempting to use it. The possible states are defined as follows: Deferred — Devices which fail built-in testing are automatically marked as **DEFERRED**, indicating that the ATLAS 800 Series declines to use the device. Available — The device is properly functioning and can be used when required. The ATLAS 800 Series automatically marks devices that pass built-in testing as **AVAILABLE**. Disabled — Marking a device as **DISABLED** prevents the ATLAS 800 Series from attempting to use it. You can mark a device currently in use as disabled without disturbing the connection, but the device will not be eligible for use in future calls until you re-mark it as **AVAILABLE**. This is helpful if you suspect that a particular device is malfunctioning and do not want any calls routed to it.

Gain Settings

Write security: 5; Read security: 5
Contains the configuration for output and input gain for the VCOM Resource Module.

Submenu	Description
Output Gain	Write security: 3; Read security: 5 Output gain is applied in the receive direction. Choices range from +12 dB (loudest) to -12 dB (softest) in 3 dB increments. This setting takes affect immediately.
Input Gain	Write security: 3; Read security: Input gain is applied in the transmit direction. Choices range from -12 dB (softest) to +12 dB (loudest) in 3 dB increments. This setting does not affect currently active calls.

Current Fax Status

Write security: 5; Read security: 5
Enables or disables fax over packet capability using the voice compression module.

Reset Module

Returns the module to its default settings (only available on the ATLAS 890).

Statistics

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Device

Read security: 5
Indicates the resource number of the packet voice device listed. On the ATLAS 800 Series, packet voice devices are numbered 1-32.

Usage Time

Write security: 4; Read security: 5
Measures the total elapsed time that a packet voice device has the status **BUSY**. The time is expressed with millisecond precision. Available packet voice devices are assigned new connections using a round-robin technique where all other available packet voice devices must be used before a given device is assigned a new connection. This scheme tends to use all packet voice devices evenly. If a given device shows significantly less elapsed usage time than other packet voice devices on the same ATLAS 800 Series, that device may be faulty.

ATLAS Frms

Write security: 4; Read security: 5
(ATLAS Frames) Counts every frame that the ATLAS 800 Series sends to or receives from the packet voice device. This count indicates activity but does not indicate the actual amount of frame relay data exchanged. The total number of frames handled by the packet voice device is given by the following equation:

$$\text{Frames}_{\text{ATLASTotal}} = \text{Frames}_{\text{ATLAS}} + \text{Frames}_{\text{ATLASDropped}}$$

See *ATLAS Drop* on page 171 for a description of the term: $\text{Frames}_{\text{ATLASDropped}}$

ATLAS Drop

Write security: 4; Read security: 5
A counter that measures each frame that is dropped or discarded during communication between the ATLAS 800 Series and the packet voice device; i.e., ATLAS Frames Dropped. The exchange protocol is designed so that no frames should be discarded during this operation. A consistent pattern of dropped frames by a given packet voice device may indicate a faulty packet voice device or an overloaded ATLAS 800 Series system.

The discarded frame indicated by this value does not reflect network-level performance management, but indicates an anomalous condition within the ATLAS 830 unit. Persistently dropped frames may indicate a problem with the ATLAS 830 unit or the Voice Compression Resource Module.

VCOM Frms

Write security: 4; Read security: 5
Counts every frame successfully sent to or received from the ATLAS 800 Series system controller. This is an indication of activity but does not indicate the actual amount of packet data exchanged. The following equation gives the total number of frames handled for this packet voice device by the ATLAS 800 Series:

$$\text{Frames}_{\text{VCOMTotal}} = \text{Frames}_{\text{VCOM}} + \text{Frames}_{\text{VCOMDropped}}$$

See *VCOM Drop* on page 172 for a description of the term: $\text{Frames}_{\text{VCOMDropped}}$

VCOM Drop

Write security: 4; Read security: 5
Counter that measures each frame dropped or discarded by ATLAS 800 Series during communication with the ATLAS 800 Series system controller about a packet voice device. The exchange protocol is designed so that no frames should be discarded during this operation. A consistent pattern of dropped frames by a given packet voice device may indicate a faulty packet voice device or an overloaded ATLAS 800 Series system.

The discarded frame indicated by this value does not reflect network-level performance management but indicates an anomalous condition within the ATLAS 830 unit. Persistently dropped frames may indicate a problem with the ATLAS 830 unit or the VCOM module.

Clear

Write security: 4; Read security: 5
Resets the elapsed usage time and frame counters for this packet voice device. Ordinarily, users won’t reset these performance measurements. However, this feature can be useful when testing that a suspected problem has been resolved and when zeroing the various counters would make observing future events easier.

Resetting these performance counters has no effect on the performance values accessible via the SNMP network management interface.

Reloads

Write security: 4; Read security: 5
Number of times since module reboot that this device has been reloaded due to a failure.

NX 56/64 BONDING RESOURCE MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Nx 56/64 BONDing Resource Module (P/N 1200262L1) when it is installed in the system (listed as **IMUX**). To see the menus for the Nx 56/64 BONDing Resource Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

Info	Status	Configuration
Part Number	Status	TXINIT Timer (sec)
Serial Number	NumB Channels	TXFA Timer (sec)
Board Revision	Data Rate	TXADD01 Timer (sec)
Firmware Revision	Bonded EP	TXDEQ Timer (sec)
		TANULL Timer (sec)
		TCID Timer (sec)
		Call Stagger

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the current firmware revision of the Nx 56/64 BONDing Resource Module.

Status

Read security: 5

Indicates the current status of a particular BONDING session.

Status Displays the current status of the BONDING session.

Options	Description
Idle	Indicates the number of Idle BONDING resources for a particular BONDING engine.
Reserved	BONDING resources reserved for a BONDING session that is in the process of coming up.
Negotiating	A single channel is connected and negotiating the BONDING call for a particular BONDING session.
Add Channels	The initial BONDING negotiation was successful, and the ATLAS 800 Series is in the process of adding channels to the BONDING session.
BONDING	The remaining channels were brought up successfully, and the BONDING session is now ready to pass data.
Terminated	The BONDING session has been terminated for some reason and is in the process of freeing BONDING resources.

NumB Channels Displays the number of bearer channels used in this BONDING session. When the number is displayed in the format X/Y, Y is the number of BONDING resources reserved for this session, and X is the number of calls belonging to this session that are up. If just a number is displayed, then all calls are up, and the number displayed is the number of BONDING resources in use for this session.

Data Rate Displays the data rate for this BONDING session. The number in the parenthesis is the data rate of the individual bearer channels.

Bonded EP Displays the slot and port of the terminating endpoint that is using this BONDING session.

Configuration

Write security: 3; Read security: 5

All of the following configurable parameters apply to the Nx 56/64 BONDing Resource Module. In most applications the default values will be correct.

TXINIT Timer (sec) Specifies the length of time the originating endpoint attempts to detect the BONDING negotiation pattern from the answering endpoint before deciding the BONDING call has failed.

TXFA Timer (sec)
Specifies the length of time both endpoints attempt to detect the BONDING frame pattern when a call is connected before deciding the BONDING call has failed. When interoperating with other manufacturers' BONDING equipment, it may be necessary to change this time so that it matches **TXADD01**.

TXADD01 Timer (sec)
Specifies the length of time both endpoints wait for additional calls to be connected at the end of negotiation before deciding that the BONDING call has failed. The factory default setting is sufficient for most calls to connect, although when dialing overseas it may be necessary to lengthen this timer to allow for slower call routing.

TXDEQ Timer (sec)
Specifies the length of time both endpoints attempt to equalize the network delay between the bearer channels before deciding the BONDING call has failed.

TANULL Timer (sec)
Specifies the length of time the answering endpoint attempts to detect the BONDING negotiation pattern from the originating endpoint before deciding the BONDING call has failed. It may be necessary to shorten this timer if the DTE equipment using the BONDING module also has timer constraints for completing non-BONDING parameter negotiation.

TCID Timer (sec)
Specifies the length of time both endpoints attempt to negotiate an agreeable value for bearer channels and channel capacities before deciding the BONDING call has failed.

Call Stagger
Specifies the amount of delay between placing calls for outgoing BONDING sessions. The following call stagger values are available:

Option	Description
No Stagger	There is no delay between the call dialing of a BONDING session.
500 ms	Wait approximately ½ second between the call dialing of a BONDING session.
1 sec.	Wait approximately 1 second between the call dialing of a BONDING session.
2 sec.	Wait approximately 2 seconds between the call dialing of a BONDING session.

HDLC RESOURCE MODULE

The ATLAS 800 Series system controller automatically detects the presence of the HDLC Option Module (P/N 1200222L1) when it is installed in the system (listed as **HDLC-128**). To see the menus for the HDLC Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices.The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
- Status
  - DS0s Available
  - Channels

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Status

Read security: 5

Displays the submenus for available resources on the HDLC Option Module.

DS0s Available Read security: 5
Displays the total number of DS0s currently available for allocation on the HDLC Option Module. The maximum value is 128.

Channels

Write security: 4; Read security: 5
Displays status information about the resources that have been allocated on the HDLC Option Module.

Options	Description
Channel ID	Read security: 5- Indicates the resource number of the allocated resource listed. If a number does not appear in the list, that resource is not currently allocated.
DS0s	Read security: 5 - Displays the number of DS0s that are being used by the resource. This value multiplied by the DS0 Rate yields the bandwidth that has been assigned to the resource.
56/64K	Read security: 5 - Displays the per DS0 rate that is being used by the resource. This value multiplied by the number of DS0s yields the bandwidth that has been assigned to this resource.
Tx Frames	Read security: 5 - Displays the number of frames that have been transmitted by this resource.
Rx Frames	Read security: 5 - Displays the number of frames that have been received by this resource.
Errors	Read security: 5 - Displays the total number of errors received by the resource. Press <Enter > on this field to view the number of Total Errors, CRC Errors, Aborted Frames, and Invalid Frames.
Clear Counters	Write security: 4; Read security: 5 - Resets all counters for the resource channel.

MODEM-16 RESOURCE MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Modem-16 Resource Module (P/N 1200181L1) when it is installed in the system (listed as **M56K-16**). To see the menus for the Modem-16 Resource Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
  - Firmware Revision
- Status
  - Analog Rscr Session Status
  - Analog Rscr Connections Stats
  - Analog Rsrc I/O Stats
  - Digital Rscr Session Status
  - Digital Rscr Connection Stats
  - Digital Rsrc I/O Stats
- Configuration
  - Analog Rsrc
  - Digital Rsrc

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the revision of the coprocessor firmware on the installed module.

Status

Read security: 5

Displays the status submenus for both analog and digital resources available on the Modem-16 Option Module.

Analog Rscr Session Status This submenu displays the session status information for the analog resources available on the Modem-16 Option Module.

System resource usage for analog and digital call resources can be viewed under the **SYSTEM STATUS** *menu of the ATLAS. This menu provides detailed resource availability information for each resource type, including hourly average available, minimum available, and number of times there were no available resources of a particular type.*

Submenus	Description	
Resource (Rscr)	Indicates the resource number of the analog call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.	
Status	Indicates the current status of the particular analog call resource and displays new activity as it occurs. The possible status display values are listed below.	
	n/a	Card is not able to determine the status of the analog call resource.
	Available	Indicates this resource is available for use as an analog call.
	In Use	Indicates this resource is currently being used in an analog call.
	Testing	Indicates this resource is in a test mode and may be unavailable for use.
	Disabled	Indicates this resource has been disabled for use as an analog call resource. This may be done automatically by the system if a given analog resource does not initialize properly.
Modulation	Displays the modulation scheme being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A.**	
Rx Bit Rate	Displays the receive bit rate of the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A.**	
Tx Bit Rate	Displays the transmit bit rate of the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.	
Error Correction	Displays the error correction mode being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.	
Data Compression	Displays the data compression mode being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.	
Last Disconnect Reason	Displays the reason for the previous disconnect which occurred on this analog resource. If no disconnect has occurred on this analog resource, this field will display **N/A**.	
Line Parameters	Displays technical details about the analog resource for the currently active call. This information may be used when troubleshooting modem connection problems with the Modem-16 Option Module. See Table 6 on page 197for a complete listing.	

Table 6. Analog Resource Session Status Line Parameters

Submenu	Description	
Resource Status	This field indicates the current status of the analog resource. The following states are valid.	
	n/a	Module is not able to determine the status of the analog resource
	Available	This resource is available for use as an analog call resource
	In Use	This resource is currently being used in an analog call
	Testing	This resource is in a test mode and may be unavailable for use
	Disabled	This resource has been disable for use as an analog call resource
Signal to Noise Ratio (dB)	Signal-to-noise ratio (in decibels) on the modem's receive signal.	
Rx Mean Square Error	Mean square error of the received signal.	
Round Trip Delay (ms)	Delay between the near and far end modem devices.	
Rx Level (-dBm)	Displays the level of the signal (in -dBm) of the signal received by the resource.	
Tx Level (-dBm)	Displays the level of the signal (in -dBm) of the signal transmitted by the resource.	
Near End Echo (-dBm)	Displays the echo level of the signal (in -dBm) of the signal received by the resource.	
Far End Echo (-dBm)	Displays the echo level of the signal (in -dBm) of the signal transmitted by the resource.	
Retrains Requested by Remote	Number of Retrain Requests sent to the resource.	
Retrains Granted to Remote	Number of Retrain Requests granted by the resource.	
Retrains Granted to Local	Number of Retrains granted to the resource.	
Renegotiations Requested by Remote	Number of Renegotiation Requests sent to the resource.	
Renegotiations Granted to Remote	Number of Renegotiation Requests granted by the modem card.	
Renegotiations Granted to Local	Number of Renegotiation Requests granted to the modem card	

Analog Rscr Connections Stats

Write security: 5; Read security: 5
This menu option displays the connection statistics for the analog resources available on the Modem-16 Option Module.

Submenu	Description
Rsrc	Indicates the resource number of the analog call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Attempts	Displays the number of connections attempted for this analog resource since the last reset.
Completed	Displays the number of successful connections for this analog resource.
Failures	Displays the number of unsuccessful connections for this analog resource. It is defined as the number of connection attempts minus the number of successful connections.
Reset Stats	Resets the connection statistics for the given analog resource. This option resets the connection attempts, connection completions, and the connections failures fields for the analog resource.
Rate Stats	Displays connection rate statistics for selected data rates for the given analog resource. The number of connections at a rate or range of rates is displayed.

Analog Rsrc I/O Stats

Write security: 5; Read security: 5
Displays the input and output statistics for the analog resources available on the module. All statistics are for the current active call and are reset once the call becomes disconnected.

Submenu	Description
Rsrc	Read security: 5 Indicates the resource number of the analog call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Tx-Bytes	Read security: 5 Displays the number of data bytes transmitted by the analog resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Bytes	Read security: 5 Displays the number of data bytes received by the analog resource from the client modem during the current call. This parameter is reset once the call is disconnected.
Tx-Frames	Read security: 5 Displays the number of data frames transmitted by the analog resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.

Submenu	**Description** *(Continued)*
Rx-Frames	Read security: 5 Displays the number of data frames received by the analog resource from the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Ovrns	Read security: 5 Displays the number of receiver overruns which occurred on the analog resource during the current call. A receiver overrun occurs when the client modem transmits data too fast for the analog resource to keep up. This causes data to be lost. This parameter is reset once the call is disconnected.
Rx-Prty	Read security: 5 Displays the number of bytes received by the analog resource from the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Frme	Read security: 5 Displays the number of framing errors detected by the analog resource during the current call. This parameter is reset once the call is disconnected.
Rx-CRC Bad	Read security: 5 Displays the number of received PPP frames by the analog resource from the remote client modem during the current call. This is used only when the analog resource is performing Sync-to-Async PPP conversion. This parameter is reset once the call is disconnected.
Reset Stats	Write security: 5; Read security: 5 Resets the input and output statistics for the given analog resource. This option resets the transmit and receive statistics for the analog resource.

Digital Rscr Session Status

Write security: 5; Read security: 5
Displays the session status information for the digital resources available on the Modem-16 Option Module.

Submenus	Description
Rsrc	Read security: 5 Indicates the resource number of the digital call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Status	Read security: 5 Indicates the current status of the particular digital call resource. The status display values are listed below. N/A — Card is not able to determine the status of the digital call resource. Available — Indicates this resource is available for use as a digital call. In Use — Indicates this resource is currently being used in a digital call. Testing — Indicates this resource is in a test mode and may be unavailable for use. Disabled — Indicates this resource has been disabled for use as a digital call resource.
Bit Rate	Displays the bit rate of the digital resource for a currently active call. If the digital resource is not in use, this field displays **N/A**.

Digital Rscr Connection Stats

Write security: 5; Read security: 5
Displays the connection statistics for the digital resources available on the Modem-16 Option Module.

Submenus	Description
Rsrc	Read security: 5 Indicates the resource number of the digital call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Attempts	Read security: 5 Displays the number of connections attempted for this digital resource since the last reset.
Completed	Read security: 5 Displays the number of successful connections for this digital resource.
Failures	Read security: 5 Displays the number of unsuccessful connections for this digital resource. It is defined as the number of connection attempts minus the number of successful connections.
56K Connects	Read security: 5 Displays the number of successful connections at 56 kbps for this digital resource.
64K Connects	Read security: 5 Displays the number of successful connections at 64 kbps for this digital resource.
Reset Stats	Write security: 5; Read security: 5 Resets the connection statistics for the given digital resource. This option resets the connection attempts, connection completions, and the connections failures fields for the analog resource.

Digital Rsrc I/O Stats

Write security: 5; Read security: 5
Displays the input and output statistics for the digital resource available on the Modem-16 Option Module. All statistics are for the current active call and are reset once the call becomes disconnected.

Submenus	Description
Rsrc	Read security: 5 Indicates the resource number of the digital call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Tx-Frames	Read security: 5 Displays the number of data frames transmitted by the digital resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Frames	Read security: 5 Displays the number of data frames received by the digital resource from the remote client modem during the current call. This parameter is reset once the call is disconnected.
Tx-Bytes	Read security: 5 Displays the number of data bytes transmitted by the digital resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Bytes	Read security: 5 Displays the number of data bytes received by the digital resource from the client modem curing the current call. This parameter is reset once the call is disconnected.
Rx-Ovrns	Read security: 5 Displays the number of receiver overruns which occurred on the digital resource during the current call. A receiver overrun occurs when the client modem transmits data too fast for the digital resource to keep up. This causes data to be lost. This parameter is reset once the call is disconnected.
Rx-CRC Bad	Read security: 5 Displays the number of frames of data received by the digital resource with an invalid CRC. This parameter is reset once the call is disconnected.
Rx-Aborted	Read security: 5 Displays the number of aborted receive frames detected by the digital resource during the current call. This parameter is reset once the call is disconnected.
Reset Stats	Write security: 5; Read security: 5 Resets the input and output statistics for the given analog resource. This option resets the transmit and receive statistics for the analog resource.

Configuration

Write security: 5; Read security: 5

Displays the configuration submenus available for both analog and digital resources available on the option module.

Analog Rsrc

Write security: 5; Read security: 5
Displays the configuration parameters for the available analog resources.

Submenus	Description
RSRC	Read security: 5 Indicates the resource number of the analog call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Status	Read security: 5 Indicates the current status of the particular analog call resource and displays new activity as it occurs. The possible status display values are listed below: n/a — Card is not able to determine the status of the analog call resource. Available — Indicates this resource is available for use as an analog call. In Use — Indicates this resource is currently being used in an analog call. Testing — Indicates this resource is in a test mode and may be unavailable for use. Disabled — Indicates this resource has been disabled for use as an analog call resource. This may be done automatically by the system if a given analog resource does not initialize properly.

Submenus	Description
Operation	Write security: 3; Read security: 5 Selects the mode of operation for the particular analog call resource. The following selections are permissible: Enabled — Indicates the selected analog resource is available for use as an analog call resource in the system. Disabled — Indicates this resource is not available for use as an analog call resource in the system. If a call is active on this resource when changing the operation to **DISABLED**, it will be immediately terminated. Auto Disabled — Indicates this resource will not be available for use as an analog call resource once the current call has been completed. Hardware Reset — Write security: 3; Read security: 5 Reset a specific analog resource on the modem module. Any calls currently active will be dropped.

Digital Rsrc

Write security: 5; Read security: 5
Displays the configuration parameters for the digital resources available on the option module.

Submenus	Description
Rsrc	Read security: 5 Indicates the resource number of the digital call resource. On the Modem-16 Option Module, analog resources are numbered 1-16 and digital ISDN resources are numbered 17-32.
Status	Read security: 5 Indicates the current status of the particular digital call resource. The status display values are listed below. N/A — Card is not able to determine the status of the digital call resource. Available — Indicates this resource is available for use as a digital call. In Use — Indicates this resource is currently being used in a digital call. Testing — Indicates this resource is in a test mode and may be unavailable for use. Disabled — Indicates this resource has been disabled for use as a digital call resource.

Submenus	Description	
Operation	Write security: 3; Read security: 5 Selects the mode of operation for the particular digital call resource. The following selections are permissible.	
	Enabled	Indicates the selected digital resource is available for use as an analog call resource in the system.
	Disabled	Indicates this resource is not available for use as a digital call resource in the system. If a call is active on this resource when changing the operation to **DISABLED**, it will be immediately terminated.
	Auto Disabled	Indicates this resource will not be available for use as a digital call resource once the current call has been completed.

MODEM-24 RESOURCE MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Modem-24 Option Module (P/N 1200782L1) when it is installed in the system (listed as **MODEM-24**). To see the menus for the Modem-24 Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
  - Firmware Revision
- Status
  - Analog Resource (Rscr) Session Status
    - Resource (Rscr)
    - Status
    - Modulation
    - Rx Bit Rate
    - Tx Bit Rate
    - Error Correction
    - Data Compression
    - Last Disconnect Reason
    - Line Parameters
  - Analog Resource (Rscr) Connections Stats
    - Rsrc
    - Attempts
    - Completed
    - Failures
    - Reset Stats
    - Rate Stats
  - Analog Rsrc I/O Stats
    - Rsrc
    - Tx-Bytes
    - Rx-Bytes
    - Tx-Frames
    - Rx-Frames
    - Rx-Ovrns
    - Rx-Prty
    - Rx-Frme
    - Rx-CRC Bad
    - Reset Stats
- Configuration
  - Analog Rscr
    - RSRC
    - Status
    - Operation
    - Hardware Reset

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the firmware revision of the installed module.

Status

Read security: 5

Displays the status submenus for analog resources available on the Modem-24 Option Module.

Analog Resource (Rscr) Session Status This submenu displays the session status information for the analog resources available on the Modem-24 Option Module.

> *System resource usage for analog call resources can be viewed under the* **SYSTEM STATUS** *menu of the ATLAS. This menu provides detailed resource availability information for each resource type, including hourly average available, minimum available, and number of times there were no available resources of a particular type.*

Menu Options	Description
Resource (Rscr)	Indicates the resource number of the analog call resource. On the Modem-24 Option Module, analog resources are numbered 1-24.
Status	Indicates the current status of the particular analog call resource and displays new activity as it occurs. The possible status display values are listed below. n/a — Card is not able to determine the status of the analog call resource. Available — Indicates this resource is available for use as an analog call. In Use — Indicates this resource is currently being used in an analog call. Testing — Indicates this resource is in a test mode and may be unavailable for use. Disabled — Indicates this resource has been disabled for use as an analog call resource. This may be done automatically by the system if a given analog resource does not initialize properly.
Modulation	Displays the modulation scheme being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A.**
Rx Bit Rate	Displays the receive bit rate of the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A.**
Tx Bit Rate	Displays the transmit bit rate of the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.
Error Correction	Displays the error correction mode being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.

Menu Options	Description
Data Compression	Displays the data compression mode being used by the analog resource for a currently active call. If the analog resource is not in use, this field will display **N/A**.
Last Disconnect Reason	Displays the reason for the previous disconnect which occurred on this analog resource. If no disconnect has occurred on this analog resource, this field will display **N/A**.
Line Parameters	Displays technical details about the analog resource for the currently active call. This information may be used when troubleshooting modem connection problems with the Modem-24 Option Module. See Table 7 for a complete listing.

Table 7. Analog Resource Session Status Line Parameters

Submenu	Description	
Resource Status	This field indicates the current status of the analog resource. The following states are valid.	
	n/a	Module is not able to determine the status of the analog resource
	Available	This resource is available for use as an analog call resource
	In Use	This resource is currently being used in an analog call
	Testing	This resource is in a test mode and may be unavailable for use
	Disabled	This resource has been disable for use as an analog call resource
Signal to Noise Ratio (dB)	Signal-to-noise ratio (in decibels) on the modem’s receive signal.	
Rx Mean Square Error	Mean square error of the received signal.	
Round Trip Delay (ms)	Delay between the near and far end modem devices.	
Rx Level (-dBm)	Displays the level of the signal (in -dBm) of the signal received by the resource.	
Tx Level (-dBm)	Displays the level of the signal (in -dBm) of the signal transmitted by the resource.	
Near End Echo (-dBm)	Displays the echo level of the signal (in -dBm) of the signal received by the resource.	
Far End Echo (-dBm)	Displays the echo level of the signal (in -dBm) of the signal transmitted by the resource.	

Table 7. Analog Resource Session Status Line Parameters *(Continued)*

Submenu	Description
Retrains Requested by Remote	Number of Retrain Requests sent to the resource.
Retrains Granted to Remote	Number of Retrain Requests granted by the resource.
Retrains Granted to Local	Number of Retrains granted to the resource.
Renegotiations Requested by Remote	Number of Renegotiation Requests sent to the resource.
Renegotiations Granted to Remote	Number of Renegotiation Requests granted by the modem card.
Renegotiations Granted to Local	Number of Renegotiation Requests granted to the modem card

Analog Resource (Rscr) Connections Stats

Write security: 5; Read security: 5
This menu option displays the connection statistics for the analog resources available on the Modem-24 Option Module.

Submenu	Description
Rsrc	Indicates the resource number of the analog call resource. On the Modem-24 Option Module, analog resources are numbered 1-24.
Attempts	Displays the number of connections attempted for this analog resource since the last reset.
Completed	Displays the number of successful connections for this analog resource.
Failures	Displays the number of unsuccessful connections for this analog resource. It is defined as the number of connection attempts minus the number of successful connections.
Reset Stats	Resets the connection statistics for the given analog resource. This option resets the connection attempts, connection completions, and the connections failures fields for the analog resource.
Rate Stats	Displays connection rate statistics for selected data rates for the given analog resource. The number of connections at a rate or range of rates is displayed.

Analog Rsrc I/O Stats

Write security: 5; Read security: 5
Displays the input and output statistics for the analog resources available on the module. All statistics are for the current active call and are reset once the call becomes disconnected.

Analog Rsrc I/O Stats Submenus	Description
Rsrc	Read security: 5 Indicates the resource number of the analog call resource. On the Modem-24 Option Module, analog resources are numbered 1-24.
Tx-Bytes	Read security: 5 Displays the number of data bytes transmitted by the analog resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Bytes	Read security: 5 Displays the number of data bytes received by the analog resource from the client modem during the current call. This parameter is reset once the call is disconnected.
Tx-Frames	Read security: 5 Displays the number of data frames transmitted by the analog resource to the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Frames	Read security: 5 Displays the number of data frames received by the analog resource from the remote client modem during the current call. This parameter is reset once the call is disconnected.
Rx-Ovrns	Read security: 5 Displays the number of receiver overruns which occurred on the analog resource during the current call. A receiver overrun occurs when the client modem transmits data too fast for the analog resource to keep up. This causes data to be lost. This parameter is reset once the call is disconnected.
Rx-Prty	Read security: 5 Displays the number of bytes received by the analog resource from the remote client modem during the current call. This parameter is reset once the call is disconnected.

Analog Rsrc I/O Stats Submenus	**Description** *(Continued)*
Rx-Frme	Read security: 5 Displays the number of framing errors detected by the analog resource during the current call. This parameter is reset once the call is disconnected.
Rx-CRC Bad	Read security: 5 Displays the number of received PPP frames by the analog resource from the remote client modem during the current call. This is used only when the analog resource is performing Sync-to-Async PPP conversion. This parameter is reset once the call is disconnected.
Reset Stats	Write security: 5; Read security: 5 Resets the input and output statistics for the given analog resource. This option resets the transmit and receive statistics for the analog resource.

Configuration

Write security: 5; Read security: 5

Analog Rscr Displays the analog resource configuration submenus available for the option module.

Submenus	Description
RSRC	Read security: 5 Indicates the resource number of the analog call resource. On the Modem-24 Option Module, analog resources are numbered 1-24.
Status	Read security: 5 Indicates the current status of the particular analog call resource and displays new activity as it occurs. The possible status display values are listed below: n/a — Card is not able to determine the status of the analog call resource. Available — Indicates this resource is available for use as an analog call. In Use — Indicates this resource is currently being used in an analog call. Testing — Indicates this resource is in a test mode and may be unavailable for use. Disabled — Indicates this resource has been disabled for use as an analog call resource. This may be done automatically by the system if a given analog resource does not initialize properly.

Submenus	Description *(Continued)*
Operation	Write security: 3; Read security: 5 Selects the mode of operation for the particular analog call resource. The following selections are permissible: Enabled — Indicates the selected analog resource is available for use as an analog call resource in the system. Disabled — Indicates this resource is not available for use as an analog call resource in the system. If a call is active on this resource when changing the operation to **DISABLED**, it will be immediately terminated. Auto Disabled — Indicates this resource will not be available for use as an analog call resource once the current call has been completed.
Hardware Reset	Write security: 3; Read security: 5 Reset a specific analog resource on the modem module. Any calls currently active will be dropped.

ASYNC-232 OPTION MODULE

The ATLAS 800 Series system controller automatically detects the presence of the Async-232 Option Module (P/N 1200182L1) when it is installed in the system (listed as **ASYNC232**). To see the menus for the Async-232 Option Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press <Enter> to access the module choices. The following menu tree shows the hierarchy of the menus discussed in this section.

- Info
  - Part Number
  - Serial Number
  - Board Revision
  - Firmware Revision
  - Firmware Revision
- Signal Status
  - Port
  - DTE Signals
- I/O Status
  - Port
  - Tx Bytes
  - Rx Bytes
  - Overruns
  - PrtyErrs
  - FrmErrs
  - Rst Stats
- Session Status
  - Prt
  - Mode
  - Call Dir
  - Rsc
  - Last Disconnect
  - Hangup
- Configuration
  - Prt
  - Port Name
  - Bit Rate
  - Flow Ctr
  - Fmt
  - Call Dir
  - In Ctrl
  - Dialout
  - Modem
- Test
  - Port
  - DTE Local Loopback

Info

Read security: 5

Provides information about the module part number, serial number and assembly revision.

Part Number Displays the part number of the module.

Serial Number Displays the serial number of the module.

Board Revision Displays the board revision of the installed module.

Firmware Revision Displays the revision of the coprocessor firmware on the installed module.

Processor ID Displays the identification of the processor for the installed module.

Signal Status

Read security: 5

Shows the status of key DTE interface signals. An asterisk (*) indicates the presence of a signal and a hyphen (-) indicates no signal present.

Port Operating port number.

DTE Signals The following signals are monitored (these options are read-only):

Submenu	Description
DTR	Data terminal ready from DTE
DSR	Data set ready to DTE
RTS	Request to send from DTE
DCD	Data carrier detect to DTE
RI	Ring indicate to DTE

I/O Status

Write security: 5; Read security: 5

Displays the input/output statistics for the Async-232 ports.

Port Displays the port number.

Tx Bytes Displays the number of bytes transmitted by the DTE.

Rx Bytes Displays the number of bytes sent to the DTE.

Overruns Displays the received overrun errors from the DTE. A receiver overrun occurs when the DTE performs data transmission too fast for the Async-232 port to keep up, therefore causing data to be lost. An overrun may indicate the need to turn on hardware flow control.

PrtyErrs Displays the number of bytes received from the DTE that contained parity errors.

FrmErrs Displays the number of bytes received from the DTE that contained framing errors.

Rst Stats Clears the current stored I/O statistics for each port.

Session Status

Read security: 5

Shows the status of key DTE interface signals. An asterisk (*) indicates the presence of a signal and a hyphen (-) indicates no signal present.

Prt Displays the port number.

Mode Indicates the session mode for the port. The following modes are available:

Submenu	Description
Unassigned	Port not assigned to a phone number in the Dial Plan.
Idle	Port assigned but no call is active.
Loopback	Loopback is turned on in the test menu.
Modem Ring	Incoming analog modem call is ringing on port. Async-232 port will toggle RI.
Modem Answer	The DTE has answered an incoming analog modem call.
Modem Dial	The DTE is using the Async-232 port to make an outgoing analog modem call.
Modem Connected	An analog modem call has been established.
ISDN PPP Ring	Incoming ISDN PPP call is ringing on the port. Async-232 port will toggle RI.
ISDN PPP Answer	The DTE has answered an incoming ISDN PPP call.
ISDN PPP Dial	The DTE is using the Async-232 port to make an outgoing ISDN PPP call.
ISDN PPP Connected	An ISDN PPP call has been established.

Call Dir Read security: 5
Displays the current call direction as **INCOMING** or **OUTGOING**. If there is no active call, **IDLE** will display.

Rsc Read security: 5
This field indicates the slot and device number allocated for a call to or from this port. If no call is active, it will indicate **NONE**. The allocated resource will be either an analog modem, or an ISDN digital call resource.

Last Disconnect Read security: 5
This field indicates the reason for the last call disconnect or dialout failure for this port. If no call has been attempted for the given port, this field will indicate **NONE**. This information is also available in the system log if Async-232 module events are enabled.

Hangup Write security: 3; Read security: 5
Activator used to hangup the current active call on the port.

Configuration

Write security: 5; Read security: 5

All of the following configurable parameters apply to the individual Async-232 ports.

Prt
Read security: 5
Displays the port number.

Port Name
Write security: 3; Read security: 5
Accepts any alpha-numeric name up to 15 characters long, to uniquely identify each port on the Async-232 Option Module.

Bit Rate
Write security: 3; Read security: 5
Configures the fixed DTE port bit rate. Changing this field hangs up an active call and requires confirmation. Options include the following: **300, 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K,** and **115.2K.**

Flow Ctr
Write security: 3; Read security: 5
Configures the flow control for the Async-232 port. Options are:

Submenus	Description
Hardware	Hardware flow control monitors RTS from the DTE and controls CTS to indicate flow control status. Hardware flow control should be used in all cases except when it is not supported by the attached DTE equipment.
Software	Software flow control uses XON and XOFF characters in the data stream to control flow.
None	No flow control selected for this port.

Fmt
Write security: 5; Read security: 5
Configures the asynchronous character format options for the Async-232 port.

Submenus	Description
Data Bits	Number of data bits per character.
Parity	Parity method used for transmit and receive characters.
Stop Bits	Number of stop bits per character.

Call Dir
Write security: 3; Read security: 5
Configures the Async-232 port to answer incoming calls and/or originate outgoing calls. The following options are available: **IN ONLY, OUT ONLY,** and **IN & OUT**.

In Ctrl

Write security: 3; Read security: 5
Selects the method by which incoming calls are indicated to and controlled by the DTE. Options include the following:

Submenus	Description
At Cmds	AT commands and responses indicate and control calls. AT commands also support port and allocated modem or ISDN resource configuration.
DTR-DCD	An activated data carrier detect (DCD) signal indicates that an incoming call is answered from the Async-232 Module port. Upon call hang-up, the DCD becomes inactive. The data terminal ready (DTR) signal must be active from the DTE for an incoming call to be answered. If the port is part of a group assigned in the **DIAL PLAN**, then the first idle port with DTR active will answer the call. If the DTE drives DTR inactive, the Async-232 Module port hangs up an active call.

Dialout

Write security: 5; Read security: 5
Includes all options that affect dialing outgoing calls. The record field indicates the values of the key dialout subfields.

AT/MDM	Indicates that AT dialing of a modem is selected.
DTR/MDM	Indicates that DTR dialing of a modem is selected.
AT/ISDN	Indicates that AT dialing of an ISDN resource is selected.
DTR/ISDN	Indicates that DTR dialing of an ISDN resource is selected.

Submenus	Description
Dialout Method	Write security: 3, Read security: 5 Selects the method by which outgoing calls may be initiated by the DTE. DTR Dial — When DTR is enabled by the DTE and a number has been entered in the **DTR DIAL NUMBER** field, an outgoing call attempt is made. The call is hung up when DTR is dropped. If the call does not connect, the call will continue to be retried as long as DTR remains active. AT Dial — When enabled, AT commands may be used to dial outgoing calls. Port an allocated modem or ISDN resource configuration is also supported via AT commands. The DTR signal must be active from the DTE to dial out. The call is hung up when DTR is dropped or when the escape-to-command mode sequence (+++) and ATH are issued. When the call is connected, the Async-232 port enables DCD.

Submenus	**Description** *(Continued)*
DTR Dial Number	This field is only active when outgoing calls are enabled and **DIALOUT METHOD** is set to **DTR DIAL**. If a phone number is entered here, it will be dialed when DTR goes active.
Callout Protocol	Write security: 3; Read security: 5 This field determines what type or resource will be allocated and the data protocol that will be used for an outgoing call attempt for the port. The following selections are available: Analog ModemAn outgoing call attempts to allocate a modem resource and make an analog call. Asynchronous data is passed unmodified between the Async-232 Module port and the allocated modem. The analog modem resource is freed when the call is hung up. ISDN PPP — An outgoing call attempts to allocate an ISDN resource and make a digital call. Both ends of the call must be using PPP as the protocol to communicate across the link. The Async-232 Module port performs PPP Async-to-Sync conversion between the asynchronous DCE port and the synchronous ISDN link. ADTRAN and other manufacturers use this conversion as the standard method of transporting PPP frames available in ISDN Terminal Adapters. The PPP Async-to-Sync protocol complies with the Internet Engineering Task Force (IETF) RFC 1662. For the ISDN call to be routed outside ATLAS 800 Series, a PRI or BRI interface must be connected to the system and be correctly configured
Out ISDN Call Type	Write security: 3; Read security: 5 When **CALLOUT PROTOCOL** has been set to **ISDN PPP**, this field determines what type of ISDN call will be made when a call is attempted. The value must match the network services provisioned for the PRI or BRI interface that the call will be carried on. This field is not present and ignored when the **CALLOUT PROTOCOL** is **ANALOG MODEM.** Data 64K — Directs the call control software to request an unrestricted 64 kbps circuit. The default call type for ISDN service is Data 64 kbps. Data 56K — Directs the call control software to request a 64 kbps data circuit that is rate-adapted to 56 kbps. It is intended for use in circumstances where interoperability with Switched 56 service is desired.

Submenus	Description *(Continued)*	
Out ISDN Call Type *(continued)*	Audio	Directs the call control software to request a 3.1 kHz audio circuit as the bearer capability for outgoing calls. The Audio option is used with an ISDN line configured for voice service. Selecting an Audio call type guarantees a digital end-to-end ISDN connection.
	Speech	Speech direct the call control software to request a μ-Law speech circuit as the bearer capability for outgoing calls. The Speech option is used with an ISDN line configured for voice service. A Speech call type does not guarantee and end-to-end digital connection with some local and long distance providers.

Modem

Write security: 3; Read security: 5
Configures an allocated modem for incoming and outgoing analog modem calls. Selected options are issued to the modem when it is allocated to answer an incoming call or initiate an outgoing call. Some options imply a negotiation with the remote modem. These modem options may also be specified through the AT command interface if enabled.

Submenus	Description
Highest Tx Bit Rate	Write security: 3; Read security: 5 Selects the highest bit rate the allocated modem will attempt to connect with to the remote modem. Modulation scheme is automatically selected based on the connection speed.
Lowest Bit Rate	Write security: 3; Read security: 5 Selects the lowest bit rate the allocated modem will attempt to connect with to the remote modem. If the lowest bit rate or higher cannot be negotiated with the remote modem, the call is disconnected. Modulation scheme is automatically selected based on the connection speed.

Submenus	Description
Error Correction	Write security: 3; Read security: 5 Configures the error correction for the allocated modem. The following options are available: Disabled — No error correction is requested. If the remote modem refuses to support the option, the call is disconnected. Although no error correction is used, this mode still allows speed matching, data buffering, and flow control. Auto-Reliable Link Mode — Modem will attempt to negotiate LAPM, MNO, or no error correction with the remote modem. This is the default setting. Force LAPM Mode — Modem will attempt to negotiated LAPM error correction with the remote modem. If it cannot, the call is disconnected. Force MNP Mode — Modem will attempt to negotiate MNO error correction with the remote modem. If it cannot, the call is disconnected.
Data Compression	Write security: 3; Read security: 5 Error correction must be enabled to use data compression; data compression is automatically disabled if error correction is disabled. The following data compression options are available: Disabled — Both MNP5 and V.42bis data compression methods are disabled. MNP5 — MNP5 data compression is enabled. V.42bis — V.42bis data compression is enabled. V.42bis and MNP5 — Both MNP5 and V.42 bis data compression are enabled. This is the default setting.

Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results.

Port Read security: 5
Displays the port number.

DTE Local Loopback Loopback can be Enabled or Disabled for a port with this field. When Enabled, all data received from the DTE by the Async-232 Module port is transmitted back to the DTE. Loopback state is not saved in the module configuration; and, if the card is hot swapped or the ATLAS 800 Series system is restarted, loopback is disabled on all ports. It is not necessary to have a Dial Plan entry for a port to enable loopback.

8. PACKET MANAGER

The **PACKET MANAGER** submenus define and configure all Layer 2 connections, including Frame Relay endpoints (see Figure 14). These submenus include **PACKET ENDPNTS, PACKET CNCTS, CNCTS SORT,** and **FRAME RELAY IQ**.

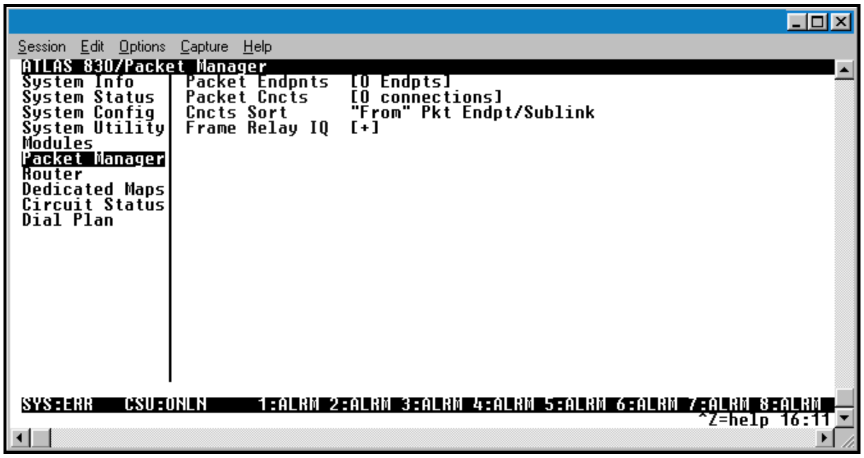


Figure 14. Packet Manager Menu

Packet Endpnts

Read security: 5

Defines, monitors, and tests a packet endpoint. Submenus include **STATUS, PERFORMANCE, CONFIG, TEST, ENDPNT COUNT,** and **ENDPNTS SORT**.

Status Read security: 5
Displays the status of each packet endpoint.

Status Submenus	Description
Endpnt Name	Displays the packet endpoint name as defined in the menu Packet Endpnts/Config.
Protocol	Displays the Layer 2 protocol for this packet endpoint. FR indicates this packet endpoint is configured for Frame Relay, TBOP for Transparent Bit Oriented Protocol (TBOP), and PPP for Point-to-Point Protocol.

Status Submenus	**Description** *(Continued)*	
Sig Role	Displays the Frame Relay signaling role for this packet endpoint. *These settings are not applicable for PPP.*	
	User	Indicates the user side of the User to Network Interface (UNI).
	Network	Indicates the network side of the UNI.
	Both	Indicates the packet endpoint is operating in Network to Network Interface (NNI) mode.
	Off	Indicates no LMI signaling is generated or expected. All DLCI's are considered active.
Sig Type	Displays the Frame Relay signaling type used on this packet endpoint. *These settings are not applicable for PPP.*	
	Annex A	Signaling using ITU-T Q.933-A.
	Annex D	Signaling using ANSI T1.617-D.
	LMI	Signaling using Group of Four.
Sig State - Frame Relay	Indicates the Frame Relay signaling state on this packet endpoint.	
	Up	Indicates that there is active Frame Relay signaling on this endpoint. The packet endpoint must be defined by the Frame Relay configuration settings to show active Frame Relay signaling.
	Down	The packet endpoint stays in this state only when the physical line is down.

Status Submenus	Description *(Continued)*	
Sig State - PPP	Indicates the status of the PPP negotiation.	
	Initial	This is the first state of LCP negotiation. If the packet endpoint is connected to a physical port in the **DEDICATED MAP**, this state will usually transition to the **STARTING** state to begin the PPP negotiation.
	Starting	The packet endpoint stays in this state only when the physical line is down.
	Req - Sent	The packet endpoint has sent an LCP configuration request to the peer and is waiting for an “acknowledge.”
	Ack - Recvd	The packet endpoint has received an “acknowledge” from the peer for the sent configuration request.
	Ack - Sent	The packet endpoint has acknowledged the peer’s configuration request, but the peer has not acknowledged us.
	Opened	LCP negotiation on the packet endpoint has finished; authentication, if enabled, occurs now.
	Closing	The packet endpoint has sent the peer a “terminate” request and is waiting for the peer’s acknowledgement.
	Closed	The packet endpoint has received the peer’s acknowledgement to the sent terminate request; this is followed by the initial state.
	Stopping	The packet endpoint has received a terminate request from the peer.
	Stopped	The packet endpoint has acknowledged the peer’s terminate request.
	Not Connected	The packet endpoint is not connected to the router in the **PACKET CNCTS** menu.
Current Port	Displays the connections for the packet endpoint. The letter **U** in this field indicates that this packet endpoint is used in the **PACKET CNCTS** map. The remainder of the field indicates the physical port this packet endpoint is connected to in the **DEDICATED MAP**. If the port is a channelized interface such as a T1, the DS0 assignment is also provided	

Performance

Write security: 3; Read security: 5
Displays performance information for each packet endpoint including the endpoint name, the protocol used, link stats, and sublink stats.

Performance Submenus	Description
Endpnt Name	Read security: 5 Displays the packet endpoint name as defined in the **PACKET ENDPNTS/CONFIG** menu (see also *Config* on page 213).

Performance Submenus	Description *(Continued)*
Protocol (Prot)	Read security: 5 Displays the Layer 2 protocol for this packet endpoint. FR indicates this packet endpoint is configured for Frame Relay. TBOP indicates this packet endpoint is configured for Transparent Bit Oriented Protocol (TBOP). PPP indicates this packet endpoint is configured for the Point-to-Point Protocol.
Link Stats - Frame Relay	Displays Layer 2 performance statistics. The statistics fields for Frame Relay reflect the total count since last cleared. **Tx Packets** Total number of Frame Relay packets transmitted through this packet endpoint, including both user data (on all PVCs) and signaling. **Rx Packets** Total number of Frame Relay packets received through this packet endpoint on all PVCs. **State Changes** Total number of times that Frame Relay signaling has gone active or inactive. **Signaling Errors** Total number of signaling frames received with PVC signaling protocol violations. **Signaling Timeouts** Number of times signaling polls were not received in the time specified in **T391** in the **PACKET ENDPTS/CONFIG** menu. **Async Status Tx** Full status not transmitted during the normal full status cycle. An asynchronous status message is used to quickly activate a link. **Async Status Rx** Full status not received during the normal full status cycle. An asynchronous status message is used to quickly activate a link. **Full Status Tx** Number of full status polls transmitted by this packet endpoint. **Full Status Rx** Number of full status polls received by this packet endpoint. **Link Integrity Status Tx** Number of link integrity polls transmitted by this packet endpoint. **Link Integrity Status Rx** Number of link integrity polls received by this packet endpoint. **Clear Counters** Clears all values in this submenu.Number of link integrity polls transmitted by this packet endpoint.

Performance Submenus	Description *(Continued)*	
Link Stats - TBOP	Displays Layer 2 performance statistics. The statistics fields for TBOP reflect the total count since last cleared.	
	Tx Packets	Total number of HDLC packets transmitted through this packet endpoint.
	Rx Packets	Total number of HDLC packets received through this packet endpoint.
	Clear Counters	Clears all values in this submenu.
Link Stats - PPP	Displays Layer 2 performance statistics. The statistics fields for PPP reflect the total count since last cleared. The available statistic information is discussed below.	
	LCP State	Displays the current state of the LCP negotiations.
	IPCP	Displays the UP if PPP IP control has successfully negotiated.
	Tx Packets	Number of packets transmitted over this link.
	Rx Packets	Number of packets received over this link.
	Clear Counters	Resets the Tx and Rx packet counts.
Sublink Stats - Frame Relay	Displays Frame Relay performance statistics for supported packet endpoint sublinks. These statistic fields reflect the total count since cleared. *These settings are not applicable for PPP or TBOP.*	
	Name	User-defined name of a sublink (PVC).
	DLCI	Local address for each PVC as assigned by the carrier.
	State	Indicates if this particular sublink (PVC) has been defined as active by a full status poll, and also indicates if the PVC is in backup mode. Possibilities include **Active** PVC is active. **Inactive** PVC is inactive. **Active/BU** PVC is active, but in backup mode. **Inactive/BU** PVC is inactive and in backup mode.

Performance Submenus	Description *(Continued)*	
Sublink Stats - Frame Relay *(continued)*	**Tx Pckts**	Total number of Frame Relay user data packets transmitted over this PVC.
	Rx Pckts	Total number of Frame Relay user data packets received over this PVC.
	Statistics	Provides additional information on the individual sublink. **Reset Counters** Resets all sublink counters. **FECN Count** The total number of FECN bits received on this PVC. **BECN Count** The total number of BECN bits received on this PVC. **DE Discard Count** The total number of discard eligible (DE) bits that have been received on this PVC.
	Active Flag	For ADTRAN use only.

Config

Write security: 3; Read security: 5
Creates and configures packet endpoints.

Config Submenus	Description
Endpnt Name	User-definable name (such as the name of the Frame Relay provider or the circuit ID).
Protocol (Prot)	Defines the protocol operating on this port. Frame Relay configures this packet endpoint for Frame Relay signaling. TBOP configures this endpoint as transparent bit oriented protocol. PPP configures this packet endpoint as point-to-point protocol.

Config Submenus	Description *(Continued)*
Config - Frame Relay	Contains the configuration parameters for this packet endpoint. **Signaling Role** Displays the Frame Relay signaling role for this packet endpoint. The following options indicate the signaling role of this packet endpoint. **Off** The remote device does not support Frame Relay signaling. **Auto** Detects the role of the device on the other end of the circuit and automatically sets this packet endpoint to the appropriate value. **Both** Operates in NNI mode. **Network** Acts as the network side of the UNI interface. **User** Acts as the user side of the UNI interface. **Signaling Type** Displays the Frame Relay signaling type for this packet endpoint. The following options indicate the signaling type for this packet endpoint. **Auto** Detects the signaling type of the device on the other end of the circuit and automatically sets this packet endpoint to the same signaling type. **Annex A** Transmits and responds to ITU-T Q.933-A standards. **Annex D** Transmits and responds to ANSI T1.617-D standards. **LMI** Transmits and responds to Group of Four specifications.

Config Submenus	Description *(Continued)*
Config - Frame Relay *(continued)*	*For most applications, leave the following configuration parameters in the default state. Use caution when changing these parameters: User Poll timer, User Polls Per Status, User Bad Event Threshold, and User Event Window Size.* **User Poll Timer (T391)** Sets the polling interval to the network in seconds. **User Polls Per Status (N391)** Controls how many link integrity polls occur between full status polls. **User Bad Event Threshold (N392)** Sets the number of bad polling events that will cause the link to be declared down in N393 polls. **User Event Window Size (N393)** Defines the number of poll events in each monitored window. *To prevent erratic behavior, ensure that this timer (T392) is greater than the T391 on the user side of the UNI.* *If the number of bad polls reaches N392 in any N393 period, the link will be declared down. When N393 good polls are received, the link will be declared active again.* **Net Poll Response Timeout (T392)** Determines how long this packet endpoint will wait without receiving a poll before declaring the poll bad. **Net Polls Per Status (N391)** Sets the number of link integrity polls before a full status is transmitted. **Net Bad Events Threshold (N392)** Sets the number of bad polling events that will cause the link to be declared down in N393 polls. **Net Event Window Size (N393)** Defines the number of poll events in each monitored window.

Config Submenus	Description *(Continued)*	
Config - PPP	Write security: 3; Read security: 5 Displays the configuration for this packet endpoint.	
	Authentication	Contains the authentication parameters for this endpoint: **Rx Method** These are methods the ATLAS uses to authenticate the peer. None is selected when you do not want to authenticate the peer. PAP, CHAP, or EAP is selected when you will allow the peer to be authenticated with one of the listed authentication protocols. In this case, the most secure method will be used first (EAP, then CHAP, then PAP). CHAP or EAP is selected when you will authenticate the peer only using one of the encrypted authentication protocols. EAP is selected when you will authenticate the peer only using the EAP authentication protocol. **Rx Authentication** Selects the different types of authentication used to authenticate the peer. To use the local username and password for this port, select **LOCAL**. **Rx Username** The username ATLAS uses to authenticate the peer. **Rx Password** The password ATLAS uses to authenticate the peer. **Tx Method** This field displays a list of the methods that we will allow the peer to authenticate us with. This is of use when a peer wants to do PAP just to get your password. None is selected when you do not want to be authenticated by the peer. PAP, CHAP, or EAP is selected when you will let the peer use one or all of the authentication protocols. CHAP or EAP is selected when you will let the peer use only one of the encrypted authentication protocols. EAP is selected when you will let the peer use only the EAP authentication protocol. **Tx Username** The username that the peer will use to authenticate the ATLAS. **Tx Password** The password that the peer will use to authenticate the ATLAS.
	Reset Session	Resets PPP negotiation with the peer.

Config Submenus	**Description** *(Continued)*	
Config - PPP *(continued)*	**Debug Log**	The following events can be viewed in the event log when PPP events have been turned to **INFO**. **LCP Debugging** This turns on LCP negotiation debugging. **IPCP Debugging** This turns on IPCP negotiation debugging. **BCP Debugging** This turns on BCP negotiation debugging. **Authentication Debugging** This turns on authentication debugging. **Unknown Protocol Debugging** This turns on debugging for unknown protocols.
	Max Config	This value is the number of unanswered configuration requests that should be transmitted before giving up on negotiation. The default value is 10.
	Max Timer	This value is the number of seconds to wait between unanswered configuration requests. The default value is 2 seconds.
	Max Failure	Due to the nature of PPP, configuration options may not be agreed upon between two PPP peers. This value is the number of configuration-NAKs that should occur before an option is configuration-rejected. This allows a connection to succeed that might otherwise fail. The default value is 5.
	Keepalive	Configures the ATLAS to send keepalive frames on PPP connections that are not currently in use for data.

Config Submenus	Description *(Continued)*
Sublinks - Frame Relay	Contains the configuration parameters for individual sublinks, or PVCs. The following parameters are available. **Name** User-definable name for the DLCI. **DLCI** Local address for each PVC as assigned by the carrier. **QOS** Quality of service. These values can be used to assign a guaranteed amount of bandwidth available for this connection. The sum of all QOS values for the sublink should not exceed the Committed Information Rate (CIR). **Burst** Sets the burst rate used by this virtual circuit for data traffic. A value of zero means that the burst rate is not limited. The value is in kilobits/second. If voice traffic is flowing on ANY sublink on the port carrying THIS sublink, you should enter a value for this setting. Otherwise, leave this field set to default (zero). If the service provider has supplied a 'Be' value, enter that value in this field. The burst rate defines the amount that this virtual circuit is allowed to exceed the CIR. If the service provider has not supplied an excess burst rate, enter the wire speed in this field. **Config** Allows configuration of parameters for each DLCI. See also Table 8 on page 232.
Usage	Read security: 5 This field displays a 7-character summary of the references to this link. Each position is populated with a dash (-) or a character indicating the resource represented. The characters are as follows: 1 Packet connection in the first dedicated map 2 Packet connection in the second dedicated map 3 Packet connection in the third dedicated map 4 Packet connection in the fourth dedicated map 5 Packet connection in the fifth dedicated map – Reserved and currently not is use s Used as a Packet Endpoint in the switched dial plan u Used by one or more packet switch connections or packet voice entries

Table 8. DLCI Configuration Parameters

Submenu	Description
Fragmentation Threshold	Max packet size allowed on this PVC. A zero value disables fragmentation. Fragmentation is used to improve the quality of voice transmission. A good value is R/300, where R is the smallest of the ATLAS 830 link rates or the far end link rate in bits per second. For example, if a DLCI comes from an FSU 5622 running on a 56K DDS line and is delivered to the ATLAS 830 on a full T1, the lower rate is 56000 and the value is 186 or 187. Entered values between 1 and 127 are adjusted upward.

Table 8. DLCI Configuration Parameters *(Continued)*

Submenu	Description
DLCI State	Controls how the state of this DLCI is reported to any packet connections within ATLAS attempting to send or receive data on this DLCI. **Auto** Passes the state as reported by the frame relay switch. Set DLCI State to Auto for normal operation. **Force Active** This DLCI disregards the status as reported from the switch and reports Active to all packet endpoints within ATLAS 830. **Force Inactive** Reports status as Down to all packet endpoints within ATLAS 830.
Diagnostic Mode	Controls operation of PVC testing options. To allow the far end to measure delay, select Echo Far-End Loopbacks. To continuously measure in-band delay, select In-band delay Measurement. To turn off continuous diagnostic functions, select Pass-through Diagnostic Packets. **Echo Far-End Loopbacks** Generates and transmits a response on this DLCI to the remote equipment if an ADTRAN proprietary diagnostic message is received on this DLCI. **In-Band Delay Measurement** Generates a diagnostic packet to measure delay through the frame relay network. This process requires that the equipment at the remote site be ADTRAN IQ compatible. **Pass-Through Diagnostic Packets** Used when ATLAS is acting as a frame relay switch. Transmits a diagnostic packet out the packet endpoint connected to this DLCI, if a diagnostic packet is received on this packet endpoint.
Primary | Backup Selection	Allows you to define a sublink as a primary or a backup sublink. Primary defines a normal sublink and includes the menus **ENABLE BACKUP SUPPORT**, **BACKUP PACKET ENDPT**, and **BACKUP SUBLINK**. Backup defines a backup sublink and includes the menus **PRIMARY PACKET ENDPT** and **PRIMARY SUBLINK**.
	Enable Backup Support Visible only if the sublink type is **PRIMARY. YES** displays the backup menus. **NO** hides the backup menus.
	Backup Packet Endpt Visible only if **ENABLE BACKUP SUPPORT** is set to **YES**. Selects the **BACKUP PACKET ENDPT** that contains the **BACKUP SUBLINK** to be tied to this sublink.
	Backup Sublink Visible only if **ENABLE BACKUP SUPPORT** is set to **YES**. Selects the **BACKUP SUBLINK** to be tied to this sublink.

Table 8. DLCI Configuration Parameters *(Continued)*

Submenu	Description
Primary | Backup Selection (continued.	**Primary Packet Endpt** Visible only if **BACKUP** is selected. Selects the **PRIMARY PACKET ENDPT** that contains the **PRIMARY SUBLINK** to be tied to this sublink.
	Primary Sublink Visible only if **BACKUP** is selected. Selects the **PRIMARY SUBLINK** to be tied to this sublink.
	Backup Mode Provides the following switching options: **AUTO**, **FORCED**, and **DISABLED**. **AUTO** provides normal operation; **FORCED** forces a switch to backup; and **DISABLED** disables backup switching.
	Switch on Sublink Inactive Provides switching options if the sublink goes down. Select Yes to switch to backup if the primary sublink goes down, otherwise select No.
	Switch on LMI Down Provides switching options for LMI signaling. Select Yes to switch to backup if LMI signaling is inactive on the primary link, otherwise select No.
	Switch on Backup Active Provides switching options if the backup sublink goes active. Select Yes to switch to backup if the backup sublink goes active, otherwise select No.
	Backup Delay in Seconds The amount of time within which any of the enabled switch criteria must be met before service is switched to the backup circuit.
	Restore Delay in Seconds The amount of time within which the criteria for switching to backup are reached before service is returned to the primary circuit.

The following fields display if **PRIMARY** *(with* **BACKUP SUPPORT***) or* **BACKUP** *is enabled:*

Backup Mode
Switch on Sublink Down
Switch on LMI Inactive
Switch on Backup Active
Backup Delay in Seconds
Restore Delay in Seconds.

Test

Write security: 3; Read security: 5
Provides menus for controlling options and setting for packet endpoints.

Submenus	Description	
Endpnt Name	Displays the name of the packet endpoint.	
Protocol	Displays the protocol running on the packet endpoint.	
Sublink - Frame Relay	Displays test menus for the packet endpoint sublinks. The menus vary depending on the protocol. Testing is not supported on TBOP or PPP.	
	Name	Displays the user-defined name for the DLCI.
	DLCI	Displays the local address for each PVC as assigned by the carrier.
	Test	Displays the test mode for the PVC. **Start** The fixed duration that Test is not running and the DLCI is not configured for continuous in-band delay measurement. To change this option, set **DIAGNOSTIC MODE** to **IN-BAND DELAY MEASUREMENT** (also see *In-Band Delay Measurement* on page 218). **ContDly** The fixed duration **TEST** is not running and the DLCI is configured for continuous in-band delay measurement. The following **RESULTS** menu accumulates these measurements. **Stop** The fixed duration **TEST** is running. The following **DURATION** field shows the time remaining in the current test.
	Duration	Shows the duration in seconds for the fixed-duration test.

Submenus	**Description** *(Continued)*
Sublink - Frame Relay *(continued)*	**Results [MN/AV/MX Dly]** Displays the minimum, average, and maximum delay for the delay-measurement test. To display the additional test results, place the cursor over this field and press <Enter> on the keyboard. The displayed times are in milliseconds. **Echo Pkt Tx** Displays the total number of test packets that have been transmitted. **Echo Pkt Rx** Displays the total number of test packets that have been received. **Echo Pkt Dropped** Displays the total number of packets lost in the receiving direction (traveling from the remote ADTRAN Frame Relay device to the ATLAS). **Rmt Pkt Dropped** Displays the total number of packets lost in the transmit direction (traveling from the ATLAS to the remote ADTRAN Frame Relay device). **Min Delay** Displays the minimum round trip delay for the current test period. **Max Delay** Displays the maximum round trip delay for the current test period. **Avg Delay** Displays the average round trip delay for the current test. **Reset Counters** Resets the counters.

Endpt Count Read security: 5
Displays the total number of packet endpoints configured.

Endpts Sort Provides sorting options for the packet endpoints. Sorting By Name sorts packet endpoints alphabetically by name. If you do not want to sort packet endpoints, set this option to Off.

Packet Cncts

Write security: 3; Read security: 5

After packet endpoints are defined, they are connected in the packet connects (**PACKET CNCTS**) map. **PACKET CNCTS** connects upper layer protocols from packet endpoint to packet endpoint. You can think of it as a dedicated map for virtual ports rather than physical ports.

From: PEP Selects one packet endpoint for the packet connection. Packet endpoints created in the packet endpoint configuration are visible on a pull-down menu which includes the **ROUTER** option. This router is the internal ATLAS 800 Series router and can be used multiple times within the **PACKET CNCTS** menu.

Sublink If the packet endpoint selected in **FROM: PEP** supports sublinks, they are available in this menu. In Frame Relay, this is the PVC from which you are selecting to groom data.

To: PEP Selects the other packet endpoint for the packet connection. Refer to **FROM: PEP** above for more detail.

Sublink If the **TO: PEP** packet endpoint supports sublinks, the available sublinks are shown within this menu, which includes the **ROUTER** option.

Protocol Selects the protocols for this packet connection. Selecting the protocols on each individual connection allows the mixing of data from multiple sources onto a single PVC. Available protocols include the following: **ALL, IP, BRIDGE IP, PACKET VOICE, SNA, SNAP,** and **TRANSPARENT PROTOCOLS** (**TBOP** and **TASYNC**).

If **ALL** *is selected, additional connections from that PVC are not allowed.*

If **ROUTER** *is selected as one packet endpoint,* **IP** *is automatically set as the* **PROTOCOL**.

If a **TBOP** *packet endpoint is selected as one packet endpoint,* **TRANSPARENT** *is automatically set as the* **PROTOCOL**.

Config Determines data source and destination. The protocol selected determines which of the following options are available:

Config Submenus	Description
Conflict	Indicates DLCI mismatch.

Config Submenus	Description
From	Indicates data source.
To	Indicates data destination.

Cncts Sort

Write Security: 3; Read Security: 5

Determines the order in which connections are displayed within **PACKET CNCTS**. Options include **FROM PKT ENDPT/SUBLINK, TO PKT ENDPT/SUBLINK, CONNECTION PROTOCOL,** and **OFF**.

Frame Relay IQ

Write Security: 2; Read Security: 5

Gathers and stores statistical information in the submenus **ENABLE IQ STATS, PORT ENABLES, CONFIG,** and **VIEW IQ STATISTICS**.

Enable IQ Stats Globally enables and disables IQ statistics gathering. IQ statistics are only gathered when this option is enabled. This field defaults to the original setting of [**15 MIN, 7 DAYS, 96 INTS**] when re-enabled.

Port Enables Enables and disables IQ statistics gathering for each port. Use the submenus **NAME, ENABLE, ALL SUBLINKS,** and **SUBLINKS** to configure the individual ports.

Submenus	Description
Name	Displays the port number and name.
Enable	Enables and disables IQ statistics gathering for the port identified in **NAME**.
All Sublinks	Provides an easy way to enable or disable IQ statistics gathering on all sublinks. When this activator reads **DISABLE**, pressing <Enter > disables IQ statistics gathering on all sublinks. When it reads **ENABLE**, pressing <Enter > enables IQ statistics gathering on all sublinks.
Sublinks	Identifies the PVC to be polled. Indicates the number of sublinks that ATLAS 800 Series will collect IQ data for within the given link. **Name** — Displays the user-designated name of the sublink (up to 15 characters). **DLCI** — Displays the Data Link Connection Identifier (circuit number). **Enable** — Indicates collection of IQ data for the target DLCI.

Config Sets the parameters for IQ statistics gathering.

Submenus	Description
Current PIVs	Identifies resources used by IQ statistics storage. A PIV is a port or PVC per interval. ATLAS can track up to 10,000 PIVs. Think of it as a resource meter. The PIV number is derived from the **MAX DAYS** and **MAX INTERVALS** selected by the user. Changing one affects the other.
	Interval Period Sets the period for IQ statistics gathering. Options are 5, 10, 15, 20, and 30 minutes.
	Max Days Defines the number of history day intervals to keep. Maximum entry is dependent on the **MAX INTERVALS** setting.
	Max Intervals Defines the number of history intervals to keep. Maximum entry is dependent on the **MAX DAYS** setting.

View IQ Statistics Displays statistical information gathered for intervals and days on a port and for intervals and days on sublinks (PVCs or DLCIs).

View IQ Statistics Submenus	Description
Interval and Day	Contains the statistics available in the **INTERVAL** or **DAY**:
	Rx Frames The number of frames the port received for the interval or day.
	Rx Bytes The number of bytes the port received for the interval or day.
	Max Rx Thru The maximum throughput the port received for the interval or day.
	Avg Rx Thru The average throughput the port received for the interval or day.
	Max Rx Util% The maximum utilization the port received for the interval or day.
	Avg Rx Util% The average utilization the port received for the interval or day.
	Tx Frames The number of frames the port transmitted for the interval or day.
	Tx Bytes The number of bytes the port transmitted for the interval or day.
	Max Tx Thru The maximum throughput the port transmitted for the interval or day.
	Avg Tx Thru The average throughput the port transmitted for the interval or day.
	Max Tx Util% The maximum utilization the port transmitted for the interval or day.
	Avg Tx Util% The average utilization the port transmitted for the interval or day.

View IQ Statistics Submenus	Description *(Continued)*	
	Port UA Time	Time, in seconds, the port is unavailable due to physical or Frame Relay outage.
	Sig Down Time	Time, in seconds, the signaling state has been down.
	Signal Error	The number of PVC signaling frames received with protocol violations.
	Signal T/O	The number of PVC signal time-outs. Either T391 seconds elapsed without receiving a response to a poll or T392 seconds elapsed without receiving a poll.
	Sig State Chg	The number of state changes for the PVC signaling protocol. This number includes transitions from down state to up state and vice-versa.
	Rx Full Stat	The number of PVC-signaling, full-status frames received.
	Tx Full Stat	The number of PVC-signaling, full-status frames transmitted.
	Rx LI only	The number of PVC-signaling, link integrity only frames received.
	Tx LI only	The number of PVC-signaling, link integrity only frames transmitted.
	Async Status	The number of single PVC status frames received.
	Discard Frame	The number of frames discarded by the IQ unit.
	Aborts	The number of frames received without proper flag termination.
	CRC Error	The number of frames received with CRC errors.
	Octet Align	The number of frames received with a bit count not divisible by eight.
	Length Error	The number of frames received that are less than 5 bytes or greater than 4500 bytes.
	EA Violation	The number of frames received with errors in the EA field of the Frame Relay header.
	Inactive DLCI	The number of frames received while the PVC is in the inactive state.
	Invalid DLCI	The number of frames received with a DLCI value less than 16 or greater than 1007, not including PVC signaling frames.

View IQ Statistics Submenus	Description *(Continued)*	
Sublink	Provides statistics available for a particular DLCI or PVC by Interval or Day.	
	Rx Frames	The number of frames the PVC received for the interval or day.
	Rx Bytes	The number of bytes the PVC received for the interval or day.
	Max Rx Thru	The maximum throughput the PVC received for the interval or day.
	Avg Rx Thru	The average throughput the PVC received for the interval or day.
	Max Rx Util%	The maximum utilization the PVC received for the interval or day.
	Avg Rx Util%	The average utilization the PVC received for the interval or day.
	Tx Frames	The number of frames the PVC transmitted for the interval or day.
	Tx Bytes	The number of bytes the PVC transmitted for the interval or day.
	Max Tx Thru	The maximum throughput the PVC transmitted for the interval or day.
	Avg Tx Thru	The average throughput the PVC transmitted for the interval or day.
	Max Tx Util%	The maximum utilization the PVC transmitted for the interval or day.
	Avg Tx Util%	The average utilization the PVC transmitted for the interval or day.
	PVC IA Time	Time, in seconds, the PVC has been in the inactive state for the interval or day.
	Rx FECN	The number of FECNs the PVC has received for the interval or day.
	Tx FECN	The number of FECNs the PVC has transmitted for the interval or day.
	Rx BECN	The number of BECNs the PVC has received for the interval or day.
	Tx BECN	The number of BECNs the PVC has transmitted for the interval or day.
	Rx DE	The number of DEs the PVC has received for the interval or day.
	Tx DE	The number of DEs the PVC has transmitted for the interval or day.

View IQ Statistics Submenus	Description *(Continued)*	
	Rx CR	Number of CRs the PVC has received for the interval or day.
	Tx CR	Number of CRs the PVC has transmitted for the interval or day.
	Lost Frames	Number of lost frames on the PVC for the interval or day.
	Rmt Lost Frms	Number of remote lost frames on the PVC for the interval. Only applies if **IN-BAND SEQUENCE NUMBER** is **ENABLED** on the PVC.
	Rx Burst Sec	Number of bursty seconds the PVC received for the interval or day.
	Tx Burst Sec	Number of bursty seconds the PVC transmitted for the interval or day.
	Min Rx Frame	Minimum frame size the PVC received for the interval or day.
	Max Rx Frame	Maximum frame size the PVC received for the interval or day.
	Avg Rx Frame	Average frame size the PVC received for the interval or day.
	Min Tx Frame	Minimum frame size the PVC transmitted for the interval or day.
	Max Tx Frame	Maximum frame size the PVC transmitted for the interval or day.
	Avg Tx Frame	Average frame size the PVC transmitted for the interval or day.
	Min Frame Dly	Minimum delay in milliseconds on the **PVC IN-BAND DELAY MEASUREMENT** is **ENABLED** (see *Sublinks - Frame Relay* on page 216, the **IN-BAND DELAY MEASUREMENT** option) for the PVC or if PVC diagnostics are being performed.
	Max Frame Dly	Maximum delay in milliseconds on the PVC for the interval or day. Only applies if **IN-BAND DELAY MEASUREMENT** is **ENABLED** (see *Sublinks - Frame Relay* on page 216, the **IN-BAND DELAY MEASUREMENT** option) for the PVC or if PVC diagnostics are being performed.
	Avg Frame Dly	Average delay in milliseconds on the PVC for the interval or day. Only applies if **IN-BAND DELAY MEASUREMENT** is **ENABLED** (see *Sublinks - Frame Relay* on page 216, the **IN-BAND DELAY MEASUREMENT** option) for the PVC or if PVC diagnostics are being performed.
	PVC State Change	Number of state changes for this PVC for the interval or day.

9. ROUTER (IP)

The ATLAS 800 Series router uses the integral 10/100BaseT Ethernet port to transmit local area network (LAN) traffic over the wide area network (WAN) to a remote LAN. By integrating the router into the network access device, you benefit from the cost savings of not requiring an external router. All routing functions within the ATLAS are configured and monitored from the **ROUTER** menu (see Figure 15).

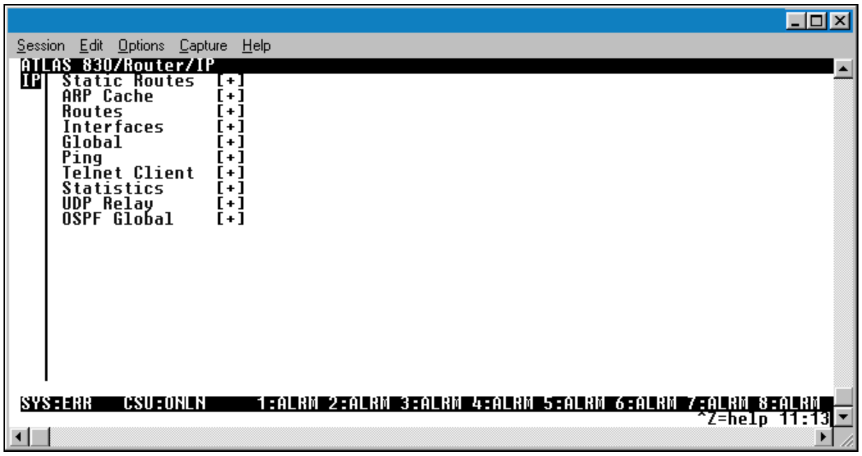


Figure 15. Router Menu (IP Selected)

Static Routes

Write Security: **2; Read Security: 2**

The **STATIC ROUTES** menu manages static IP routes. Use this menu to create, modify, and delete routes.

IP Address — Defines the IP address of the host or network device being routed to.

Netmask — Determines the number of bits used in the above-defined IP address for routing. If a host address is desired for the IP address, this field must be set to 255.255.255.255.

Gateway — Defines the IP address of the router to receive the forwarded IP packet.

Interface — Defines the interface to which IP packets with this address will be routed. These are either Ethernet or frame relay DLCIs.

Hops — Defines the number of router hops required to get to the network or host. Maximum distance is 15 hops.

Enabled — Adds a static route to the router.

Advertise — When set to **YES**, this static route is advertised over all interfaces on which a route advertisement protocol (e.g., RIP) is enabled. When set to **NO**, this is a private route.

ARP Cache

Write Security: **2; Read Security: 2**

The **ARP CACHE** menu displays the contents of the ATLAS Address Resolution Protocol (ARP) cache. All resolved cache entries time out after 20 minutes. Unresolved entries time out in 3 minutes.

IP Address
Read Security: 2
Displays the IP address used for resolving MAC address.

MAC Address
Read Security: 2
Resolves Ethernet address. If set to all zeros, there is no resolution for that address.

Time
Read Security: 2
Displays the minutes since the entry was last referenced.

Type
Read Security: 2
Defines this entry as **DYNAMIC** or **STATIC**.

Interface
Read Security: 2
Displays the interface upon which this entry was found.

Tx Pending
Read Security: 2
Displays the number of transmit packets pending a reply.

Routes

Write Security: **2; Read Security: 2**

The **ROUTES** menu displays the contents of the ATLAS routing table. All static and discovered routes are displayed from this menu.

IP Address
Read Security: 2
Displays the IP address of the destination host or network.

Netmask
Read Security: 2
Displays the subnet mask applied to the destination address.

Gateway
Read Security: 2
Displays the IP address of the next-hop router or host receiving the forwarded IP packet.

Interface

Read Security: 2
Displays the next-hop router or host interface through which IP packets are routed, as defined here:

Submenu	Description
Local	Forwards the packet directly to the ATLAS router.
EN0 IP	Forwards the packet through the ATLAS Ethernet port.
Endpoint Name	Forwards the packet using the DLCI number.

Used

Read Security: 2
Displays the number of times the router has referenced this route.

Clr

Write Security: 2; Read Security: 2
Clears the **USED** menu and resets the value to zero.

Flags

Read Security: 2
Indicates the properties of this routing table entry, composed of the following letters:

Character	Description
H	route is a host route
G	route is a gateway route
DR	route learned dynamically from RIP
I	route learned from an ICMP redirect
A	route learned from IARP
P	route is private and is not advertised with RIP
T	route is to a triggered port (updated only when table changes)

Hops

Read Security: 2
Displays the number of router hops required to get to the network or host. Ranges from 0 to 16. If set to 16, the route is defined as infinite and cannot be used.

TTL

Read Security: 2
Displays the number of seconds until the address is removed from table. A value of 999 means the route is static.

Interfaces

Write Security: 2; Read Security: 2

The **INTERFACES** menu configures and monitors all interfaces connected to the ATLAS router. These include the Ethernet and frame relay DLCIs connected in the **PACKET MANAGER/ PACKET CNCTS**.

Network Name

Read Security: 2
Displays the name of the interface connected to the ATLAS router, as follows:

Interface	Description
EN0 IP	ATLAS Ethernet port
Endpoint Name	DLCI Number

Address

Defines the individual interface IP address. If this field is left as 0.0.0.0, it is treated as an unnumbered interface.

Subnet Mask

Defines the subnet mask applied to the address defined for this link. If the interface IP address is unnumbered, leave as 0.0.0.0.

IARP

(FR NI only)
The Inverse ARP (**IARP**) menu is only present when this interface is a frame-relay network interface. ATLAS sends Inverse ARP packets to determine the IP address on the other end of the virtual circuit. ATLAS always responds to Inverse ARP requests with its IP address for the requested DLCI.

Option	Description
Enable	Causes ATLAS to dynamically send Inverse ARP packets to determine the IP address on the other end of the virtual circuit. When an Inverse ARP packet is not responded to, no route is placed in the IP route table. If the Inverse ARP packet is responded to, a route is placed in the IP route table.
Disable	Instructs ATLAS not to generate Inverse ARP request packets. In this case, the **FAR-END ADDRESS** parameter may be used to statically assign a route address (see the following, Far-End Address).

Far-End Address

(FR NI only)
This menu is only present for frame-relay network interfaces, and it is only selectable when **IARP** is disabled. Use this menu to specify the IP address of the device on the other end of the virtual circuit. If that IP address is non-zero, a static route to the far-end network will be added using the interface **SUBNET-MASK**. If 0.0.0.0 has been specified for the **SUBNET-MASK**, a default subnet mask is used, based on the class of the Far-End Address.

MTU

Defines maximum number of bytes in a datagram transmitted over this interface (Maximum Transmit Unit).

RIP Configures routing information protocol (RIP) on this interface.

Submenu	Description
Mode [1]	Allows RIP to be enabled or disabled on a per-interface basis, as follows: **Tx Only** RIP advertisements are periodically transmitted, but are not listened to on this virtual circuit. **Rx Only** RIP advertisements are not transmitted on this virtual circuit, but they are listened to. **Tx and Rx** RIP advertisements are periodically transmitted and are listened to on this virtual circuit.
Protocol [2]	Sets the version of RIP being used on this interface. The options are **RIP V1** and **RIP V2**. If **RIP V2** is used, a new menu, **AUTHENTICATION**, opens.
Method	Defines the method used to send RIP route advertisements, as follows: **None** All routes in the router table are advertised through this interface with no modification of the routing metric. **Split Horizon** Only advertises routes not learned through this interface. **Poison Reverse** All routes are advertised, but the routes learned through this interface are “poisoned” with an infinite route metric.
Updates	Defines when RIP advertisements are transmitted. **Periodic** RIP advertisements are periodically transmitted. **Triggered** RIP advertisements are transmitted only when new routes are learned, and learned routes do not age.
Authentication	Defines the secret used to advertise routes when using RIP V2.
Redistribute Default Gateway	Enables or disables the transmission of the Default Gateway to be sent with RIP on a per interface basis.

1 If **RIP/MODE** is off, **PROTOCOL, METHOD,** and **UPDATE** will **not** be visible.

2 If **RIP V2** is used, a user-defined secret may have to be created.

Proxy ARP Enables or disables Proxy ARP on this interface. Allows the network portion of a group of addresses to be shared among several physical network segments. When **ENABLED**, and an ARP (address resolution protocol) request is received on the Ethernet port, the address is looked-up in the IP routing table. If the forwarding port is not on the Ethernet port and the route is not the default route, the router answers the request with its own hardware address. When **DISABLED** (default), the router only responds to ARP request received for its own address.

The ARP protocol itself provides a way for devices to create a mapping between physical (i.e., Ethernet) addresses and logical IP addresses. **PROXY ARP** uses the mapping feature by instructing a router to answer ARP requests as a “proxy” for the IP addresses behind one of its ports. The device which sent the ARP request then correctly assumes that it can reach the requested IP address by sending packets to the physical address that was returned. This technique effectively hides the fact that a network has been (further) subnetted.

Global

Write Security: 2; Read security: 2

Provides a way to configure various settings for the Ethernet port. The following menus are available for review and editing:

Default Gateway Defines or changes the default gateway. Enter the default gateway address by entering a decimal number into the appropriate field and then pressing <Enter> to move to the next field. You will need a default gateway if the LAN contains multiple segments. This address is composed of four decimal numbers, each in the range of 0 to 255, separated by periods. This value is set to 0.0.0.0 by default. Contact your LAN administrator for the appropriate address.

Default Metric Defines the default gateway metric. Enter the default gateway metric by pressing <Enter> and entering a decimal number.

Default Gateway Cost Defines the default gateway cost. Enter the default gateway metric by pressing <Enter> and entering a decimal number.

Ping

Write Security: 2; Read Security: 2

Allows you to send pings (ICMP requests) to devices accessible via the network. Only one ping session can be active at a time.

IP Address Specifies the IP address to ping.

Count Specifies the number of pings to send. The maximum value is 99.

Size Specifies the size in bytes of the data portion of the ping request. The default value is 64 bytes, and the maximum size is 1024 bytes.

Timeout Specifies the time in milliseconds to wait for the ping reply before timing out. The default timeout is three seconds, and the maximum timeout value is ten seconds.

Round trip min Displays the minimum round trip time of the ping request/reply of the current set of pings.

Round trip avg Displays the average round trip time of the ping request/reply of the cur-rent set of pings.

Round trip max Displays the maximum round trip time of the ping request/reply of the cur-rent set of pings.

Tx Stats Displays the number of ping requests transmitted (n txed), the number of ping replies received (n rxed) and the number of ping requests that were lost (n lost).

Reset Stats Resets all ping statistics to zero. Stops an active ping client.

Start/Stop If the ping client is currently idle, this menu sends pings to the specified address. If the ping client is active, the menu stops sending pings.

Telnet Client

Write Security: 2; Read security: 2

Allows a user to open a Telnet session to any device listed in the ATLAS 800 Series route table.

Address Defines the IP address assigned to the remote unit you are trying to connect to.

Escape Char Defines the Telnet client escape character. Typing the combination characters will close the active telnet session to the remote unit specified in the **ADDRESS** field.

Option	Keystroke
^]	<Ctrl > +]
^ \	<Ctrl > + \
^ [	<Ctrl > + [
^ ^	<Ctrl > + <Shift > + 6
^ _	<Ctrl > + <Shift > + -

Port Defines the port used in the remote login session. Default (for Telnet) is **23.**

Connect Activator used to start a Telnet session to the remote unit configured in the **ADDRESS** field.

Statistics

Write Security: **2; Read security: 2**

All of these statistics are taken from the MIB-II variables in RFC 1156. To clear the accumulated statistics, press <Enter> on **CLEAR**. See the following tables:

- Table 9., *IP Statistics,* on page 250
- Table 10., *ICMP Statistics,* on page 252
- Table 11., *TCP Statistics,* on page 253
- Table 12., *UDP Statistics,* on page 254
- Table 13., *IP Fast Cache Statistics,* on page 254

Clear

Write Security: 2; Read security: 2

Clears current statistics in the IP, ICMP, TCP, UDP, and IP Fast Cache statistics tables.

Table 9. IP Statistics

Name	Description
Forwarding	The indication of whether this ATLAS 800 Series is acting as an IP gateway in respect to the forwarding of datagrams received by, but not addressed to, this ATLAS 800 Series. IP gateways forward datagrams; hosts do not (except those Source-Routed via the host).
Default TTL	The default value inserted into the Time-To-Live field of the IP header of datagrams originated at this ATLAS 800 Series, whenever a TTL value is not supplied by the transport layer protocol.
InReceives	The total number of input datagrams received from interfaces, including those received in error.
InHdrErrors	The number of input datagrams discarded due to errors in their IP headers, including bad checksums, version number mismatch, other format errors, time-to-live exceeded, errors discovered in processing their IP options, etc.
InAddrErrors	The number of input datagrams discarded because the IP address in their IP header's destination field was not a valid address to be received at this ATLAS 800 Series. This count includes invalid addresses (e.g., 0.0.0.0) and addresses of unsupported Classes (e.g., Class E). For entities which are not IP Gateways and therefore do not forward datagrams, this counter includes datagrams discarded because the destination address was not a local address.

Table 9. IP Statistics *(Continued)*

Name	Description
ForwDatagrams	The number of input datagrams for which this ATLAS 800 Series was not their final IP destination, as a result of which an attempt was made to find a route to forward them to that final destination. In entities which do not act as IP Gateways, this counter will include only those packets which were Source-Routed via this ATLAS 800 Series, and the Source-Route option processing was successful.
InUnknownProtos	The number of locally-addressed datagrams received successfully but discarded because of an unknown or unsupported protocol.
InDiscards	The number of input IP datagrams for which no problems were encountered to prevent their continued processing, but which were discarded (e.g., for lack of buffer space). Note that this counter does not include any datagrams discarded while awaiting re-assembly.
InDelivers	The total number of input datagrams successfully delivered to IP user-protocols (including ICMP).
OutRequests	The total number of IP datagrams which local IP user-protocols (including ICMP) supplied to IP in requests for transmission. Note that this counter does not include any datagrams counted in **FORWDATAGRAMS**.
OutDiscards	The number of output IP datagrams for which no problem was encountered to prevent their transmission to their destination, but which were discarded (e.g., for lack of buffer space). Note that this counter would include datagrams counted in **FORWDATAGRAMS** if any such packets met this (discretionary) discard criterion.
OutNoRoutes	The number of IP datagrams discarded because no route could be found to transmit them to their destination. This counter includes any packets counted in **FORWDATAGRAMS** which meet this “no-route” criterion, as well as any datagrams which a host cannot route because all of its default gateways are down.
ReasmTimeout	The maximum number of seconds which received fragments are held while they are awaiting reassembly at this ATLAS 800 Series.
ReasmReqds	The number of IP fragments received which needed to be reassembled at this ATLAS 800 Series.
ReasmOKs	The number of IP datagrams successfully reassembled.
ReasmFails	The number of failures detected by the IP reassembly algorithm (for whatever reason: timed out, errors, etc.). Note that this is not necessarily a count of discarded IP fragments since some algorithms (notably RFC 815s) can lose track of the number of fragments by combining them as they are received.
FragOKs	The number of IP datagrams that have been successfully fragmented at this ATLAS 800 Series.
FragFails	The number of IP datagrams that have been discarded because they needed to be fragmented at this ATLAS 800 Series but could not be, e.g., because their “Don't Fragment” flag was set.
FragCreates	The number of IP datagram fragments that have been generated as a result of fragmentation at this ATLAS 800 Series.

Table 9. IP Statistics *(Continued)*

Name	Description
Clear	Clears the accumulated statistics.

Table 10. ICMP Statistics

Name	Description
InMsgs	The total number of ICMP messages which the ATLAS 800 Series received. Note that this counter includes all those counted by **INERRORS**.
InErrors	The number of ICMP messages which the ATLAS 800 Series received but determined as having errors (bad ICMP checksums, bad length, etc.)
InDestUnreachs	The number of ICMP Destination Unreachable messages received.
InTimeExcds	The number of ICMP Time Exceeded messages received.
InParmProbs	The number of ICMP Parameter Problem messages received.
InSrcQuenchs	The number of ICMP Source Quench messages received.
InRedirects	The number of ICMP Redirect messages received.
InEchos	The number of ICMP Echo (request) messages received.
InEchoReps	The number of ICMP Echo Reply messages received.
InTimestamps	The number of ICMP Timestamp (request) messages received.
InTimestampReps	The number of ICMP Timestamp Reply messages received.
InAddrMasks	The number of ICMP Address Mask Request messages received.
InAddrMaskReps	The number of ICMP Address Mask Reply messages received.
OutMsgs	The total number of ICMP messages which this ATLAS 800 Series attempted to send. Note that this counter includes all those counted by **ICMPOUTERRORS.**
OutErrors	The number of ICMP messages which this ATLAS 800 Series did not send due to problems discovered within ICMP such as a lack of buffers. This value should not include errors discovered outside the ICMP layer such as the inability of IP to route the resultant datagram. In some implementations there may be no types of error which contribute to this counter's value.
OutDestUnreachs	The number of ICMP Destination Unreachable messages sent.
OutTimeExcds	The number of ICMP Time Exceeded messages sent.
OutParmProbs	The number of ICMP Parameter Problem messages sent.
OutSrcQuenchs	The number of ICMP Source Quench messages sent.
OutRedirects	The number of ICMP Redirect messages sent.
OutEchos	The number of ICMP Echo (request) messages sent.
OutEchoReps	The number of ICMP Echo Reply messages sent.
OutTimestamps	The number of ICMP Timestamp (request) messages sent.

Table 10. ICMP Statistics *(Continued)*

Name	Description
OutTimestampReps	The number of ICMP Timestamp Reply messages sent.
OutAddrMasks	The number of ICMP Address Mask Request messages sent.
OutAddrMaskReps	The number of ICMP Address Mask Reply messages sent.
Clear	Clears the accumulated statistics.

Table 11. TCP Statistics

Name	Description
RtoAlgorithm	The algorithm used to determine the timeout value used for retransmitting unacknowledged octets.
RtoMin	The minimum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is rsre(3), an object of this type has the semantics of the LBOUND quantity described in RFC 793.
RtoMax	The maximum value permitted by a TCP implementation for the retransmission timeout, measured in milliseconds. More refined semantics for objects of this type depend upon the algorithm used to determine the retransmission timeout. In particular, when the timeout algorithm is rsre(3), an object of this type has the semantics of the UBOUND quantity described in RFC 793.
MaxConn	The limit on the total number of TCP connections the ATLAS 800 Series can support. In entities where the maximum number of connections is dynamic, this object should contain the value -1.
ActiveOpens	The number of times TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.
PassiveOpens	The number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
AttemptFails	The number of times TCP connections have made a direct transition to the CLOSED state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.
EstabResets	The number of times TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.
CurrEstab	The number of TCP connections for which the current state is either ESTABLISHED or CLOSE-WAIT.
InSegs	The total number of segments received, including those received in error. This count includes segments received on currently established connections.
OutSegs	The total number of segments sent, including those on current connections but excluding those containing only retransmitted octets.

Table 11. TCP Statistics *(Continued)*

Name	Description
RetransSegs	The total number of segments retransmitted - that is, the number of TCP segments transmitted containing one or more previously transmitted octets.
Clear	Clears the accumulated statistics.

Table 12. UDP Statistics

Name	Description
InDatagrams	The total number of UDP datagrams delivered to UDP users.
NoPorts	The total number of received UDP datagrams for which there was no application at the destination port.
InErrors	The number of received UDP datagrams that could not be delivered for reasons other than the lack of an application at the destination port.
OutDatagrams	The total number of UDP datagrams sent from this ATLAS 800 Series.
Clear	Clears the accumulated statistics.

Table 13. IP Fast Cache Statistics

Name	Description
Hits	Total number of times the ATLAS 800 Series went into the Fast Cache and successfully retrieved an IP address.
Misses	Total number of times the ATLAS 800 Series went into the Fast Cache and failed to retrieve an IP address.
Clear	Clears the accumulated statistics.

UDP Relay

Write Security: **2; Read security: 2**

Allows the router to act as a relay agent for UDP (User Datagram Protocol) broadcast packets. Normally, a router will not forward UDP broadcast packets. However, many network applications use UDP broadcasts to configure addresses, host names, and other information. If hosts using these protocols are not on the same network segment as the servers providing the information, the client programs will not receive a response without enabling the UDP relay agent.

Enable Enables/disables the router to act as a relay agent.

Relay Table Lists up to four relay destination servers (**RELAY TABLE 0 - 3**). Each server can be configured using the following menus: **ENABLE, IP,** and **UDP**.

Submenu	Description
Enable	Enables this field (select either **STANDARD** or **SPECIFIED**). **DISABLE** is not used. **Standard** (Default) Relays any of the following standard UDP protocols: DHCP, TFTP, DNS, NTP (Network Time Protocol, port 123), NBNS (NetBIOS Name Server, port 137), NBDG (Net BIOS Datagram, port 138), and BootP. **Specified** Specifies the UDP port (1 to 65,535) in the UDP Port columns (maximum of three per server).

IP Defines the IP address of the server that receives the relay packet.

UDP Ports 1 - 3 Specifies the UDP ports to relay. These fields are active only when **ENABLE** is set to **SPECIFIED**.

10. DEDICATED MAPS

The **DEDICATED MAPS** menu assigns dedicated connections between any two ports in the ATLAS 800 Series. This section describes the **DEDICATED MAPS** menu items (see Figure 16). These options are module-dependent; that is, the menu items available depend on the module selected.

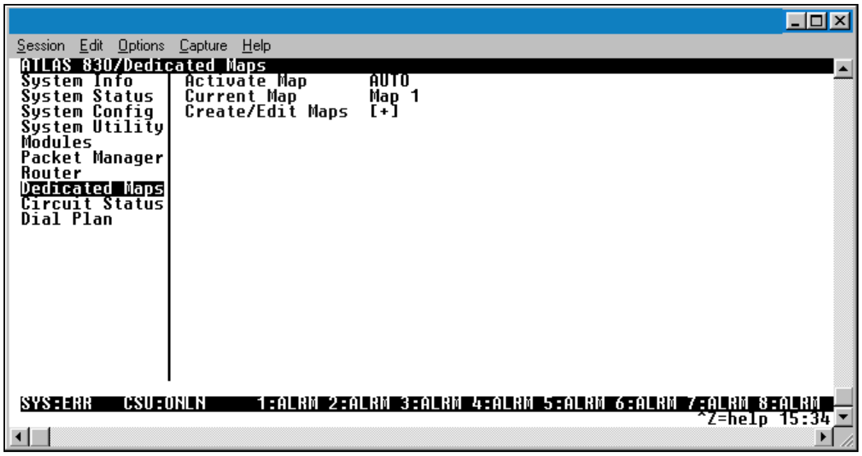


Figure 16. Dedicated Maps Menu

Activate Map

Write security: 3; Read security: 5

Activates a dedicated map—automatically or manually. You can have up to five different dedicated maps, each with an optionally specified name. The configuration choices are:

Auto — Automatically activates a particular dedicated map at the time and day specified in the **ACTIVATE TIME** field.

Maps 1 through 5 — Allows you to manually activate a specific dedicated map. To manually activate a dedicated map, highlight the **ACTIVATE MAP** field and press <Enter>. Choose the desired dedicated map from the popup menu list.

Current Map

Read security: 5

Displays the name of the currently active dedicated map (read-only).

Create/Edit Maps

Write security: 3; Read security: 5

Creates new maps and defines settings, as well as edits existing maps. To add a new map, position the cursor in the index column and press <I>. ATLAS 800 Series automatically names the maps in the sequence in which they are created. You can change the names with **MAP NAME**.

Displays the index number of the available maps.

Map Name Displays the name of the dedicated map. The name can contain up to 57 alpha-numeric characters, including spaces and special characters. To edit the name, press <Enter> and type in the new name.

Sort To/From Specifies sort order based on the end points set in **CONNECTS/FROM CONFIG** and **CONNECTS/TO CONFIG**. You can also turn **OFF** this option. The sort feature is helpful when you are attempting to find a particular connection in a large connection list.

Connects Enters the dedicated map connections. Press <Enter> to activate the submenus. You must return to **DEDICATED MAPS** in the **MAIN MENU** for changes to take effect. Some of the **CONNECTS** options change depending on the type of modules selected in the **FROM** or **TO** fields. For more information on these submenus, refer to the individual module discussions:

- *Create/Edit Maps: T1/PRI Connects Menu - To/From Config* on page 259
- *Create/Edit Maps: E1/PRA Connects Menu -To/From Config* on page 260
- *Create/Edit Maps: V35Nx Connects Menu - To/From Config* on page 261
- *Create/Edit Maps: USSI Connects Menu - To/From Config* on page 261
- *Create/Edit Maps: Octal BRI Connects Menu - To/From Config* on page 261
- *Create/Edit Maps: DS3 and DS3 D&I Connects Menu - To/From Config* on page 262
- *Create/Edit Maps: NxT1 HSSI Connects Menu - To/From Config* on page 262
- *Create/Edit Maps: FXS-8 Connects Menu - To/From Config* on page 263
- *Create/Edit Maps: Connects Menu - Pkt Endpt* on page 265
- *Create/Edit Menus: Connects Menu - Pkt Voice* on page 265

Submenu	Description
From Slt	Specifies the slot to use for the **FROM** connection. When you select this option, a list of all of the slots and the modules installed in the slots displays. Select the appropriate slot and press <Enter>.
Port	Specifies the port to use for the From connection. when you select this option, a list of ports and module types appears. Select the appropriate port and module type, and press <Enter>.
To Slot/Service	Specifies the slot to use for the second end of a connection. Select this option, and a list of all of the slots and the modules installed in the slots displays. Pick the appropriate slot and press <Enter>. A **PKTENDPT** or **PKTVOICE** endpoint may also be selected as the service for the connection.
Port	Specifies the port to use for the second end of a connection. When you select this option, a list of ports and module types appears. Select the appropriate port and module type, and press <Enter>. If a **PKTENDPT** or **PKTVOICE** endpoint is selected for the **TO SLOT/SERVICE** field, the available packet endpoints or packet voice endpoints will display in the drop down menu after pressing <Enter>.
From Config	Specifies the configuration for the **FROM** connection. The selections displayed in this field are based on the type of module selected in the **FROM SLT** option. For detailed information on submenus for a particular module type, please refer to the **DEDICATED MAPS** menu discussion for the appropriate network, option, or resource module.
To Config	Specifies the configuration for the **TO** connection. The selections displayed in this field are based on the type of module selected in the **TO SLT** option. For detailed information on submenus for a particular module type, please refer to the **DEDICATED MAPS** menu discussion for the appropriate network, option, or resource module.
SIG	Specifies whether the ATLAS 800 Series uses active RBS on the connection. Selecting **ON** allows the ATLAS 800 Series to preserve signaling bits between the two endpoints of the connection. Selecting **OFF** ignores the signaling bits of the connection. This selection is automatically set to **OFF** when RBS does not apply. For example, a T1-to-Nx connection is set to **OFF**.

Activate Time	Sets the time when the map becomes active if you have selected **AUTO** in the **ACTIVATE MAP** field. Enter this time in hh:mm:ss 24-hour format.
Enbl Day	Specifies which days of the week the map is active.

Create/Edit Maps: T1/PRI Connects Menu - To/From Config

Write security: 3; Read security: 5

Specifies the configuration for the **TO/FROM** connection. The following selections may apply to the Quad T1/PRI Option Module, depending on the application:

DS0 Selection

Defines DS0s for a T1 port. Use this field to define the DS0s for this connection. You can enter the DS0s in several ways. For example, to enter DS0s one through five, enter **1-5**. For DS0s one and five, enter **1,5**.

DS0 Available

Indicates which DS0s of the T1 are assigned. DS0 assignment is based on the following items.

Item	Description
Digit 0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This DS0 has been requested for this connection, but the DS0 is not yet activated for this port.
!	This DS0 is used by this port in this connection and is currently activated.
s	This DS0 is used in the switched **DIAL PLAN**.
S	This DS0 is used in the switched **DIAL PLAN** and conflicts with this connection.
n	This DS0 is already used in this **DEDICATED MAP.**
N	This DS0 is already used in this **DEDICATED MAP** and conflicts with this connection.

DS0 Rate

Sets the DS0 rate to either 56 or 64 kbps. This field is only valid for T1 ports mapped to a **PKT ENDPNT**.

T1 Trunk Conditioning Service

Sets known values in the signaling bits and the data field for outgoing DS0s which are cross-connected to a T1 port experiencing alarms.

The trunk conditioning process consists of a 2.5 second transmission (indicating call termination), followed by a continuous transmission signaling the final condition as chosen by the user. This selection is only valid for T1 ports having **RBS** set to **ON**.

This option defines to ATLAS 800 Series the type of signaling being used on the trunk: **E&M, LS/GS NETWORK OR USER, SW56,** or **CUSTOM**.

T1 Trunk Conditioning State Defines the final fault signaling state.

Submenu	Description
Idle	Used for one-way trunks; that is, for outgoing or incoming calls only – not both.
Seized	Used for two-way trunks. Prevents connected equipment from attempting to use a failed trunk for an outgoing call.

T1 Fault Signaling Displays the final fault signaling state of the AB bits. This field is read-only unless **CUSTOM** is chosen for the **T1 TRUNK CONDITIONING SERVICE** option.

T1 Trouble Code Value Displays the Hex value of the 2.5 second pre-alarm transmission.

Create/Edit Maps: E1/PRA Connects Menu -To/From Config

Write security: 3; Read security: 5

Specifies the configuration for the **TO/FROM** connection. The following selections may apply to the Quad E1/PRA Option Module, depending on the application:

TS0 Selection Defines TS0s for an E1 port. Use this field to define the TS0s for this connection. You can enter the TS0s in several ways. For example, to enter TS0s one through five, enter **1-5**. For TS0s one and five, enter **1,5**.

TS0 Available Indicates which TS0s of the E1 are assigned. TS0 assignment is based on the following items:

Item	Description
Digit 0-9	This TS0 is available. The digit that displays in this field represents the last digit of the TS0 number.
*	This TS0 has been requested for this connection, but the TS0 is not yet activated for this port.
!	This TS0 is used by this port in this connection and is currently activated.
s	This TS0 is used in the switched **DIAL PLAN**.
S	This TS0 is used in the switched **DIAL PLAN**and conflicts with this connection.
n	This TS0 is already used in this **DEDICATED MAP**.
N	This TS0 is already used in this **DEDICATED MAP** and conflicts with this connection.

TS0 Rate Sets the TS0 rate to either 56 or 64 kbps. This field is only valid for E1 ports mapped to a **PKT ENDPNT**.

E1 Trouble Code Service	Sets known values in the signaling bits and the data field for outgoing TS0s which are cross-connected to a E1 port experiencing alarms. The trunk conditioning process consists of a 2.5 second transmission (indicating call termination), followed by a continuous transmission signaling the final condition as chosen by the user. Set the **E1 TROUBLE CODE SERVICE** field to **OFF** or **VOICE**.
T1 Trouble Code Value	Displays the Hex value of the 2.5 second pre-alarm transmission.

Create/Edit Maps: V35Nx Connects Menu - To/From Config

Write security: 3; Read security: 5

Specifies the configuration for the **FROM** connection. The following selections may apply to the Quad Nx 56/64 Option Module, depending on the application:

DS0 Selection	Defines DS0s for an Nx port. Use this field to define the DS0s for this connection. This field only applies to Nx-to-Nx or Nx-to-Pkt Endpt connections.
DS0 Rate	Sets the DS0 rate to either 56 or 64 kbps.

Create/Edit Maps: USSI Connects Menu - To/From Config

Write security: 3; Read security: 5

Specifies the configuration for the **TO/FROM** connection. The following selections may apply to the Quad USSI Option Module, depending on the application:

DS0 Selection	Defines DS0s for an USSI port. Use this field to define the DS0s for this connection. This field only applies to USSI-to-USSI, USSI-to-Nx or USSI-to-Pkt Endpt connections.
DS0 Rate	Sets the DS0 rate to either 56 or 64 kbps.

Create/Edit Maps: Octal BRI Connects Menu - To/From Config

Write security: 3; Read security: 5

Specifies the configuration for the **TO/FROM** connection. The following selections may apply to the Octal BRI Option Module, depending on the application:

DS0 Selection	Defines DS0s for an BRI port. Use this field to define the DS0s for this connection. This field only applies to BRI-to-BRI, BRI-to-USSI, BRI-to-Nx or BRI-to-Pkt Endpt connections.
DS0 Rate	Sets the DS0 rate to either 56 or 64 kbps.

NT/LT Configures the BRI U interface to be network termination or line termination.

Create/Edit Maps: DS3 and DS3 D&I Connects Menu - To/From Config

Write security: 3; Read security: 5

The following selections apply to the T3 and the T3 with Drop and Insert modules, depending on the application:

DS0 Selection Defines DS0s for a specific T1 in the T3 circuit. Use this field to define the DS0s for this connection. You can enter the DS0s in several ways. For example, to enter DS0s one through five, enter**1,5**. For DS0s one and five, enter **1,5**.

DS0 Available Indicates which DS0s of the T1 are assigned. DS0 assignment is based on the following items:

Item	Description
Digit 0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This DS0 has been requested for this connection, but the DS0 is not yet activated for this port.
!	This DS0 is used by this port in this connection and is currently activated.
s	This DS0 is used in the switched **DIAL PLAN**.
S	This DS0 is used in the switched **DIAL PLAN** and conflicts with this connection.
n	This DS0 is already used in this **DEDICATED MAP.**
N	This DS0 is already used in this **DEDICATED MAP** and conflicts with this connection.

Create/Edit Maps: NxT1 HSSI Connects Menu - To/From Config

Write Security: 3; Read Security: 5

The following selection applies to the NxT1 HSSI Option Module when connected to a port on a T1 Module. This is the only valid application for the NxT1 HSSI Option Module.

DS0 Selection Defines DS0s for the T1 port. Use this field to define the DS0s for this connection.

Any entry in the DS0 selection field that is less than 24 DS0s is disregarded. The NxT1 HSSI Module requires the use of all 24 DS0s on a T1 for proper operation.

DS0s Available Indicates which DS0s of the T1 are assigned. DS0 assignment is based on the following items:

Item	Description
Digit 0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This DS0 has been requested for this connection, but the DS0 is not yet activated for this port.
!	This DS0 is used by this port in this connection and is currently activated.
s	This DS0 is used in the switched **DIAL PLAN**.
S	This DS0 is used in the switched **DIAL PLAN** and conflicts with this connection.
n	This DS0 is already used in this **DEDICATED MAP.**
N	This DS0 is already used in this **DEDICATED MAP** and conflicts with this connection.

Create/Edit Maps: FXS-8 Connects Menu - To/From Config

Write security: 3; Read security: 5

 # Ports Defines ports to be used for this connection.

Ports Available Indicates which ports of the module are assigned. Port assignment is based on the following items:

Item	Description
Digit 0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This DS0 has been requested for this connection, but the DS0 is not yet activated for this port.
!	This DS0 is used by this port in this connection and is currently activated.
s	This DS0 is used in the switched **DIAL PLAN**.
S	This DS0 is used in the switched **DIAL PLAN** and conflicts with this connection.
n	This DS0 is already used in this **DEDICATED MAP**.
N	This DS0 is already used in this **DEDICATED MAP** and conflicts with this connection.

Signaling Method Defines the mode of operation of the selected voice port. The signaling on the T1 mapped to this voice port must match. The options include **LOOPSTART, GROUNDSTART,** and **PLAR**.

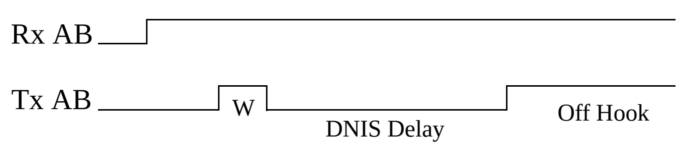
Answer Supervision

Configures answer supervision for the appropriate voice port. Answer supervision (when the far end answers the call) is indicated by using reverse battery polarity. This is valid for an outbound call only. On an FXS interface type we respond to LSAS (Line Side Answer Supervision) signaling on the T1. Our response is to reverse battery polarity on (T-R). Telco must configure their T1 for LSAS if this is not a point-to-point T1.

E&M Conversion

Configures the selected voice port for E&M signaling conversion. By enabling this option, other selections become available that are E&M trunk specific. This option is sometimes referred to as TANDEM conversion. The following submenu items become visible when **E&M CONVERSION** is **ENABLED**:

Submenu	Description
E&M Supervision	Configures the E&M trunk as either Immediate start or Wink start. This configuration is for the Rx and Tx direction. When DNIS delay is set, this option only configures the Rx direction.
Dial Tone	Configures the ATLAS 830 to generate Dial Tone out the selected FXS port in response to the 2W going off hook (outgoing call). Generally, dial tone is provided by the Class 5 switch delivering the T1, but in some instances, the switch cannot provide dial tone.
Ringback	Configures the ATLAS 830 to generate ringback tone to the far end while the selected FXS port is ringing. Generally, ringback is provided by the Class 5 switch delivering the T1, but in some instances, the switch cannot provide ringback tones.
DNIS	DelayDefines the time we delay after transmitting a wink in response to the 2W going off hook (after ringing) before we send off hook in the RBS signaling. This field is only valid for E&M conversion. The timing is as follows:



DNIS Wink Timeout	When **DNIS DELAY** is **ENABLED**, a wink will be returned to the originating switch after 5 seconds if the FXS does not detect an off hook. This option, when **DISABLED**, allows the FXS port to ring without winking until the call is answered.

Trunks can be taken out of service by telco if there is No wink. Use caution when disabling this option.

Create/Edit Maps: Connects Menu - Pkt Endpt

Write security: 3; Read security: 5

To assign a packet endpoint to a physical port, select the port in the **From Slot/Port** field and configure the **To Slot/Port** as follows:

To Slot/Service Select **Pkt Endpnt** to activate a list of available packet endpoints in the **To Port** field.

To Port/PEP Press <Enter > and select the appropriate packet endpoint to assign the endpoint to a physical port.

To/From Config Specifies the configuration for the **To/From** connection. The following selections apply to the packet endpoint:

Submenu	Description
Transmit Idle Code	Configures the ATLAS 800 Series to send idle code on the packet endpoint with marks or flags.
Receive Idle Code	Defines the idle code (either marks or flags) the ATLAS 800 Series should expect on the selected packet endpoint.

Create/Edit Menus: Connects Menu - Pkt Voice

Write security: 3; Read security: 5

To Slot/Service Select Pkt Voice to activate a list of available packet endpoints in the **To Port** field.

To Port/PEP Press <Enter> and select the appropriate packet endpoint from the drop-down list.

To/From Config Specifies the configuration for the **To/From** connection. The following selections apply to the **Pkt Voice** connections:

Submenu	Description
DLCI	Press <Enter> and select the appropriate DLCI from the drop-down list.
Voice Port	Identifies the voice port address of the remote unit. Express units support ports 1 and 2. A remote ATLAS supports ports 1 through 255.
Conflict Report	Describes existing conflicts. Potential problems include DLCI unavailable or Voice port already in use.

Submenu	Description
Voice Compression	Configures the compression algorithm used on the selected packet voice endpoint. Older FSUs use G.723.1 at 6.3kbps, and newer FSUs use 6.4K Netcoder. The compression algorithm must match at both endpoints.
Silence Suppression	Reduces the total system bandwidth load by preventing ATLAS from sending frames containing a special silence code during periods of silence. Both endpoints must agree to use silence suppression. By default, silence suppression is **ENABLED** to prohibit silence frames from transmitting and to decrease the total system bandwidth.
Signaling	Signaling method on the packet voice endpoint. Both endpoints must agree about the compression algorithm choice.

11. CIRCUIT STATUS

The **CIRCUIT STATUS** menu allows the user to view the status of all circuits configured for dedicated circuit backup (see Figure 8).

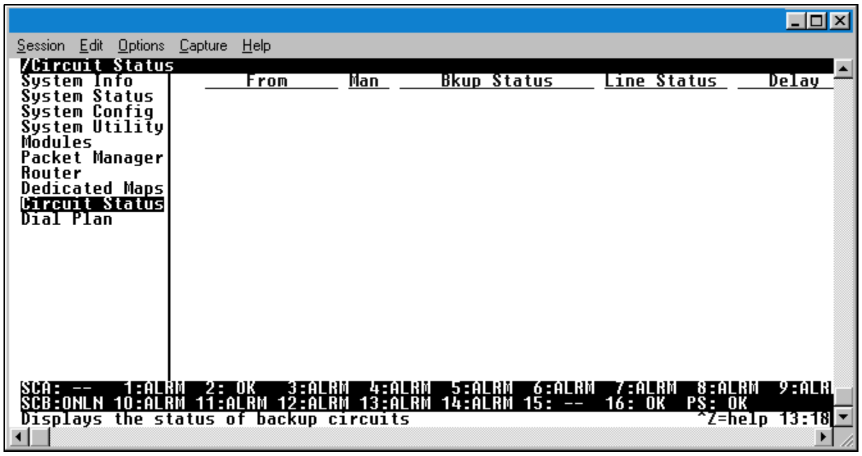


Figure 17. Circuit Status Menu

From

Read security: 5

Indicates the slot, port, and name of the endpoint configured for backup.

MAN (Manual Backup)

Write security: 3; Read security: 5

This activator forces a link in/out of backup. Select FB to force a backup and FR to force a restore.

BKUP Status (Backup Status)

Read security: 5

The displayed string indicates the current status of the dedicated line. The following selections are available for the **BACKUP STATUS** menu item.

FB Backup was forced through the interface menu.

FR Restore was forced through the interface menu.

Primary The link is active.

Dialing Attempting to dial the backup link.

Backup Failed Exceeded **MAX NUM REDIALS.**

Retry Dial [num] Will retry backup dialing in [num] seconds.

Primary Down The link is in error and waiting on backup.

Answering The link is answering a backup endpoint.

Backup The link is in backup.

Line Status

Read security: 5

Displays the overall status of the connection. The following selections are available for the **LINE STATUS** menu item.

Unknown Endpoints do not support (or are not configured) for monitoring.

Active The connection is up and running.

Inactive The connection is down due to configuration (i.e., DTR is down).

Data Alarm The **FROM** endpoint is in data alarm.

Network Alarm The **TO** endpoint is in network alarm.

Net/Data Alarm Both the **FROM** endpoint and the **TO** endpoint are in alarm.

Data Unknown The status of the **FROM** endpoint is unknown.

Delay

When present, this indicates that one ATLAS 800 Series has detected a change in state and is counting down to delay/restore.

Test

Write security: 1; Read security: 5

Contains a test activator and test status displays for dedicated dial backup circuits.

Last Run Time Read security: 5
Displays the date and time of the last test call made through this dedicated dial backup circuit. (Not seen until circuit is tested.)

Next Run Time Read security: 5

Displays the date and time of the next schedule test call to be made through this dedicated dial backup circuit. (Not seen unless **TEST CALL** is configured for something other than manual in the **INTERFACE CONFIG** for the **CIRCUIT BACKUP ENDPOINT**.)

Last Test Status

Read security: 5
Displays the status of the last test call made through this dedicated dial backup circuit. The following status messages may display:

Message	Description
Idle	No current test call on this dedicated dial backup circuit
Passed	Passed last manual or scheduled test
Failed	Failed last manual or scheduled test

Pass: Fail

Read security: 5
Displays the number of successful and unsuccessful test calls made through this dedicated dial backup circuit.

Test Now

Write security: 5; Read security: 5
Press to initiate a test call on the dedicated dial backup circuit.

12. DIAL PLAN

The **DIAL PLAN** submenus set global ATLAS 800 Series switch parameters as well as individual parameters for each ATLAS 800 Series port handling a switched call (see Figure 18). The individual ports are separated into two port types: network and user. Network ports terminate a connection from the network. User ports terminate incoming calls and, in turn, may be connected to user equipment.

In applications where two ATLAS 800 Series units are used in a point-to-point configuration, a port in the ATLAS 800 Series at one end would act as the network (user termination), while the ATLAS 800 Series at the opposite end would be terminating a network connection (network termination).

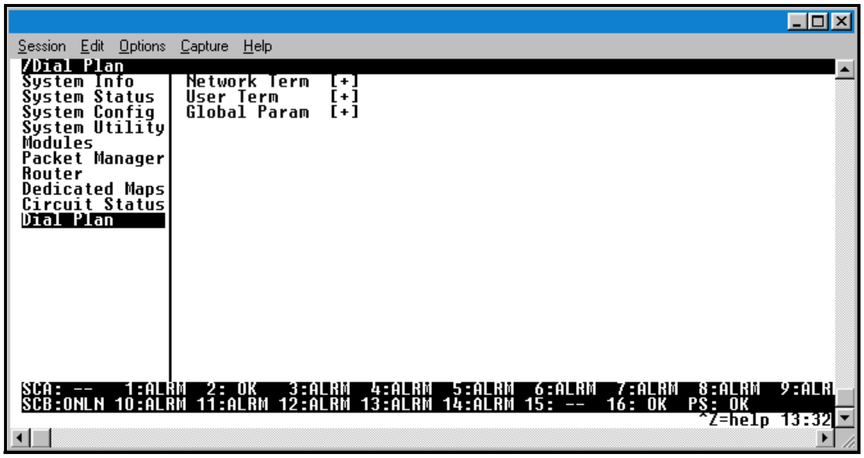


Figure 18. Dial Plan Menu

Network Term
- Slot/Svc
- Port/PEP
- Sig
- Out#Accept
- Ifce Config
- Subst Templ

User Term
- Slot/Svc
- Port/PEP
- Sig
- In#Accept
- Ifce Config
- Subst Templ

Global Param
- End of Number Timeout
- Country Code
- Area or City Code
- Nbr Complete Templates
- Submenus
- Automatic Routeback Rejection
- Collision Response
- Global Tone Type

Ifce Config - Module
- T3 and T3 D&I: Network Term - Ifce Config (PRI)
- T3 and T3 D&I: Network Term- Ifce Config (RBS)
- T3 and T3 D&I: Network Term - Ifce Config (NFAS)
- T3 and T3 D&I: User Term - Ifce Config (PRI)
- T3 and T3 D&I: User Term - Ifce Config (RBS)
- T3 and T3 D&I: User Term - Ifce Config (NFAS)
- E1/PRA: Network Term - Ifce Config (PRA)
- E1/PRA: User Term - Ifce Config (PRA)
- V35Nx: User Term - Ifce Config
- USSI: User Term - Ifce Config
- Octal BRI/U: Network Term - Ifce Config
- Octal BRI/U: User Term - Ifce Config
- Octal BRI S/T: User Termination
- FXS-8: User Term - Ifce Config
- Async232: User Term - Ifce Config
- Pkt Endpt: User Term - Ifce Config
- Ckt Backup: User Term - Ifce Config
- Pkt Voice: Network Term - Ifce Config
- Pkt Voice: User Term - Ifce Config

Figure 19. Hyperlinked Dial Plan Menu Tree (Partial)

Network Term

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which terminate a connection from the network.

Slot/Svc

Selects the ATLAS 800 Series slot or service that terminates a network connection.

Port/PEP

Selects the ATLAS 800 Series port or packet endpoint that terminates a network connection.

More than one “endpoint” can be associated with a particular port. If a T1 is connected to the PSTN, some DS0s may be used for long distance, while others are-mb3 used for local calls. These would constitute two “endpoints” (trunks) over a single physical port.

Sig

Defines the type of signaling being used for this connection (endpoint). Select **RBS** for a T1 using Robbed Bit Signaling or **PRI** for a Primary Rate ISDN interface. Select **NFAS** for a non-facility associated signaling interface or **NONE** for OSC when bonding DS0s. This selection is only necessary if a T1/PRI is selected as the **SLOT/PORT** type.

One HDLC resource is used by each PRI or each Packet Endpoint.

Out#Accept

The following **OUT#ACCEPT** submenus define the parameters for the outgoing calls that the ATLAS 800 Series sends to the network:

Submenus	Description
Src ID	Identifies the call source ID from which this endpoint accepts calls. This field simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call. **SRC ID** may be entered with the usual wild card entries (except $). X = Any digit 0 through 9 [1,3,5] = Any of these digits 0 = Default value The default ID for all source endpoints all accept numbers is 0. This results in all calls being routed based on the dialed number.

Submenus	**Description** *(Continued)*
Accept Number	Designates which numbers this endpoint passes on toward the network. The accept list may consist of multiple entries. The numbers are defined using the following wild cards: X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group For example, 1-800-$ only permits toll-free, long distance calls to 1-800. If this were used, then a second accept number permitting local numbers to be dialed would need to be specified (NXX-XXXX). *Any specific entry takes precedence over a wild card. For example, if endpoint A is designated as $ while endpoint B accepts 963-800X, then an incoming call to 963-800X will only be accepted by endpoint B.*
Search	Instructs ATLAS 800 Series in which order to search for an accept number match. Normally, all searches are set to primary. The secondary search selection forces ATLAS 800 Series to only accept a call at this endpoint if all primary endpoints are unavailable. Primary Search All long distance calls should go out a PRI directly to an IXC (MCI, ATT, etc.). Local calls should go out a T1 to the LEC. It may be desirable to place long distance calls on the local exchange if all of the IXC trunks are unavailable (busy or in alarm). In this case, the primary accept number for the local exchange would be N$, and the secondary accept would be 1$. Secondary Search The same accept rules apply for all secondary number searches as for primary searches.
Data 64K, Data 56K, Audio, Speech	Reflects the bearer capability the network has provisioned for this line. If the ISDN lines were purchased with different services provisioned, then ATLAS 800 Series would send the call out of the port which supports the type of service the call requires. For example, the network termination is on a pair of BRIs (with the same phone number) with one provisioned for data and the other for voice. By enabling data in one and not the other, ATLAS 800 Series ensures that calls bearing data will be sent out the proper BRI interface.
Treat Call As	Allows the incoming call to be treated as the selected call type, regardless of the actual incoming call type. The default selection, As Received, effectively disables the feature by using the actual call type. Other options include **DATA 64K** and **DATA 56K**.

Out#Rej Defines parameters for outgoing calls that ATLAS 800 Series will not send to the network.

Submenus	Description
Reject Number	Identifies which numbers this endpoint will not pass on toward the network. The reject list may consist of multiple entries. The reject list may be used to more easily specify the call filtering desired. The wildcards are identical as in **OUT#ACCEPT** (see *Out#Accept* on page 271). *The reject list takes precedence over the accept list. For example, 1-900-$ rejects all 1-900 long distance calls, and 1-$ rejects all long distance calls.*
Data 64K, Data 56K, Audio, Speech	Rejects outgoing calls based on call type. For example, setting the reject number to **$**, Digital 56/64 to **ENABLED**, and Audio and Speech to **DISABLED** will reject all digital calls, but accept analog calls. *This list may remain blank if the accept list meets desired filtering.*

Ifce Config Specifies the configuration parameters for the endpoint. The selections displayed in this field are based on the type of module selected in the **SLOT/SVC** option. For detailed information on submenus for a particular module type, please refer to the dial plan interface configuration menu discussion for the appropriate network, option, or resource module.

Some of the options available in this submenu change depending on the type of modules selected in the **SLT/SVC** *or* **PRT/PEP** *fields. For more information on these submenus, refer to the individual module interface configuration discussions in this section.*

Subst Templ

The following substitution template submenus allow the ATLAS 800 Series to select calls (based on telephone number) and substitute a user-defined number for the received digits after the call has been processed by the switchboard. Substitution templates are created for each entry in the Dial Plan.

Submenus	Description
Original#	Designates the number(s) to be the search criteria for the substitution template. The pattern can be a specific number, or wildcards can be used as part of the number specification. X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group Example: 963-812[012] would be 963-8120 to 963-8122.
Substituted#	Designates the number to be substituted for the number(s) defined in the **ORIGINAL#** field. The pattern can be a specific number, or wildcards can be used as a part of the number specification. X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group Punctuation characters ( ) - + are ignored and a comma is interpreted as a .5 second pause in the dial string. For example, the **ORIGINAL#** field contains **$** and the **SUBSTITUTED#** field contains **,256$**. All calls routed out this connection will be delayed .5 seconds and contain a 256 prefix.

*Wildcards used in the **SUBSTITUTED#** field are only valid when used in the same position (relative to the end of the digit string) as the **ORIGINAL#** field.*

User Term

Write security: 3; Read security: 5

This menu allows you to define option parameters for ports which terminate a connection from user equipment. In this case, ATLAS 800 Series is acting as the network.

In applications where two ATLAS 800 Series units are used in a point-to-point configuration, a port in the ATLAS 800 Series at one end would act as the network (user termination), while the ATLAS 800 Series at the opposite end would be terminating a network connection (network termination).

Slot/Svc Selects the ATLAS 800 Series slot or service that terminates a user connection.

Port/PEP Selects the ATLAS 800 Series port or packet endpoint that terminates a network connection. More than one "endpoint" can be associated with a particular port. If a T1 is connected to the PSTN, some DS0s may be used for long distance, while others are used for local calls. These would constitute two "endpoints" (trunks) over a single physical port.

Sig Defines the type of signaling being used for this connection (endpoint). Select **RBS** for a T1 using robbed bit signaling or **PRI** for a Primary Rate ISDN interface. Select **NFAS** for a non-facility associated signaling interface or **NONE** for OSC when bonding DS0s. This selection is only necessary if a T1/PRI is selected as the **SLOT/PORT** type.

One HDLC resource is used by each PRI or each Packet Endpoint.

In#Accept The following **IN#ACCEPT** submenus define the parameters for the incoming calls that ATLAS 800 Series accepts from the network.

Submenus	Description
Src ID	Identifies the call source ID from which this endpoint accepts calls. This field simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call. **SRC ID** may be entered with the usual wild card entries (except $). X = Any digit 0 through 9 [1,2,3...] = A single digit in this group 0 = Default value The default ID for all source endpoints all accept numbers is 0. This results in all calls being routed based on the dialed number

Submenus	Description *(Continued)*
Accept Number	Designates which numbers this endpoint will accept (terminate) from the network. The accept list may consist of multiple entries. The numbers are defined using the following wildcards: X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group For example, 963-8000 would be a specific incoming number that would be accepted by this endpoint. If this endpoint consisted of a T1 with multiple DS0s, a “hunt” group for 963-8000 would be formed. The entry $ would accept any call. *Any specific entry will take precedence over a wildcard. For example, if endpoint A was designated as $ while endpoint B accepted 963-800X, then an incoming call to 963-800X would only be accepted by endpoint B.*
Search	Instructs ATLAS 800 Series in which order to search for an accept number match. Normally, all searches are set to primary. The secondary search selection forces ATLAS 800 Series to only accept a call at this endpoint if all primary endpoints are unavailable. Primary Search All long distance calls should go out a PRI directly to an IXC (MCI, ATT, etc.), and local calls should go out a T1 to the LEC. It may be desirable to place long distance calls on the local exchange if all of the IXC trunks are unavailable (busy or in alarm). In this case, the primary accept number for the local exchange would be N$, and the secondary accept would be 1$. Secondary Search The same accept rules apply for all secondary number searches as for primary searches.
Data 64K, Data 56K, Audio, Speech	Reflects the bearer capability of the attached user equipment (typically a TA). If the attached TA can only handle digital calls, then a voice call sent to this endpoint would be rejected.
Treat Call As	Allows the incoming call to be treated as the selected call type, regardless of the actual incoming call type. The default selection, **AS RECEIVED**, effectively disables the feature by using the actual call type. Other options include **DATA 64K** and **DATA 56K**.

Out#Rej

The following **OUT#REJ** submenus define the parameters for the outgoing calls that ATLAS 800 Series will not send to the network.

Submenus	Description
Reject Number	Identifies which numbers this endpoint will not pass on toward the network. Use when the outgoing call filter is different for different users sharing this endpoint. The wildcards are identical as in **OUT#ACCEPT** (see *Out#Accept* on page 271). **[0,1]-$** rejects all long distance calls, but only for this **USER** termination. If permitted in the **NETWORK** termination endpoint, this user could not dial long distance numbers while other users could.
Data 64K, Data 56K, Audio, Speech	Rejects outgoing calls based on call type. For example, setting the reject number to **$,** Digital 56/64 to **ENABLED**, and Audio and Speech to **DISABLED**, rejects all digital calls while not rejecting analog calls. This list may remain blank if the accept list meets desired filtering.

Ifce Config

Specifies the configuration parameters for the endpoint.The selections displayed in this field are based on the type of module selected in the **SLOT/SVC** option. For detailed information on submenus for a particular module type, please refer to the dial plan interface configuration menu discussion for the appropriate network, option, or resource module.

Some of the options available in this submenu change depending on the type of modules selected in the **SLOT/SVC** or **PORT/PEP** fields. For more information on these submenus, refer to the individual module interface configuration menu discussions in this section.

Subst Templ

The following substitution template submenus allow the ATLAS 800 Series to select calls (based on telephone number) and substitute a user-defined number for the received digits after the call has been processed by the switchboard. Substitution templates are created for each entry in the Dial Plan.

Submenu	Descriptions
Original#	Designates the number(s) to be the search criteria for the substitution template. The pattern can be a specific number, or wildcards can be used as part of the number specification. X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group For example, 963-812[012] would be 963-8120 to 963-8122.

Submenu	**Descriptions** *(Continued)*
Substituted#	Designates the number to be substituted for the number(s) defined in the **ORIGINAL#** field. The pattern can be a specific number, or wildcards can be used as a part of the number specification. X = Any single digit N = Any single digit 2 through 9 $ = Any number of digits of any value 9 = This specific number [1,2,3...] = A single digit in this group Punctuation characters ( ) - + are ignored and a comma is interpreted as a .5 second pause in the dial string. For example, the **ORIGINAL#** field contains **$** and the **SUBSTITUTED#** field contains **,256$**. All calls routed out this connection will be delayed .5 seconds and contain a 256 prefix. *Wildcards used in the* ***SUBSTITUTED#*** *field are only valid when used in the same position (relative to the end of the digit string) as the* ***ORIGINAL#*** *field.*

Global Param

Write security: 2; Read security: 5

Sets ATLAS 800 Series options which apply to all switched operations, both incoming and outgoing calls.

End of Number Timeout

Write security: 3; Read security: 5
Sets the length of time ATLAS 800 Series waits before assuming the outgoing dialed number is complete. The default value is six seconds. This timeout will only be invoked if the dialed number does not match one of the patterns set in the **NUMBER COMPLETE TEMPLATE** menu (see *Nbr Complete Templates* below).

Country Code

Write security: 3; Read security: 5
The country code. Enter your international country code using only digits. For the United States, enter 1.

Area or City Code

Write security: 3; Read security: 5
The local area code. Use for sending caller ID to the network.

Nbr Complete Templates

Write security: 3; Read security: 5
Sets completed number patterns for outgoing calls so that ATLAS 800 Series recognizes when the phone number is complete. Fields include the index number (#) and **PATTERN**. For example, a local number will be 7 digits long while a long distance (1+ area code + number) will be 11 digits long. The

ATLAS 800 Series defaults cover almost any installation, and these templates should not require any additional user input – except for unusual circumstances. The template allows the use of the following wildcard inputs to define numbers:

X	=	Any single digit
N	=	Any single digit 2 through 9
911	=	This specific number
[1,2,3...]	=	A single digit in this group

Number Type Templates The following **NUMBER TYPE TEMPLATES** submenus set call-type patterns. ISDN interfaces require that a number type be sent over the D channel when a call is sent or received. A normal RBS trunk does not send a type designator, but uses prefixes instead. For example, "1 +" prefix is a national long distance call type while a "011 +" prefix is an international long distance call type. These templates form a table to permit ATLAS 800 Series to translate the RBS prefix into a call type for ISDN and vice-versa.

The ATLAS 800 Series default templates should cover all applications and should not need to be added to by the user except for very rare circumstances.

Submenus	Description
#	Denotes an entry number. The maximum number of entries is 50. Press <I> to insert a new entry and <D> to delete any entry.
Prefix	Sets the prefix for the number type. Only digits 0 and 1 are allowed (maximum of six characters).
Pattern	Modifies an entry when you press <Enter> (maximum of 40 characters). A pattern for a normal long distance call, for example, would be 1+(NXX) NXX - XXXX. Note that the symbols ( ), +, -, and space are not required and are only used to improve the readability of this example.
Number Type	Lists valid selections when you press <Enter>. Selections include **LOCAL, NATIONAL, INTERNATIONAL, PRIVATE,** and **UNKNOWN**.

Automatic Routeback Rejection

Write security: 1; Read security: 5
When enabled, **AUTOMATIC ROUTEBACK REJECTION** prevents calls entering through network termination interfaces from being forwarded out another network interface. Such an event could happen if an incoming call specifies a number that has no endpoint configured to accept it and another network interface has a call acceptance entry which could accept it (such as $). Without automatic rejection, such a call would be forwarded back to the network. The network would in turn resend the call to the unit until all incoming resources are consumed.

*Use extreme caution when disabling **AUTOMATIC ROUTEBACK REJECTION** or **COLLISION RESPONSE.***

Collision Response

Write security: 0; Read security: 0
When forced, the **COLLISION RESPONSE** will enable the ATLAS to perform AUTOMATIC retransmission of SETUP messages when faced with a collision situation. Forcing this response is not advised.

Global Tone Type

Write security: 1; Read security: 5
Specifies the dialing digit tone encoding to be used throughout the entire system.T he available options include **DTMF** (dual-tone-multi frequency) and **MF** (multi frequency).

T3 and T3 D&I: Network Term - Ifce Config (PRI)

Write security: 3; Read security: 5

These menus allow the user to define option parameters for ports which terminate a PRI connection from the network. Specifies the configuration parameters for the endpoint.

Switch Type

Defines the type of PRI switch to which the port is connected. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **LUCENT 5E**, **NORTHERN DMS 100**, **NATIONAL ISDN**, and **AT&T 4ESS**.

First DS0

Defines the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s

Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Outgoing Number Conversion

The following **OUTGOING NUMBER CONVERSION** submenus convert outgoing (towards the network) numbers to the selected numbering plan and type option.

Submenu	Descriptions
As dialed	Sends the digits provided as an unknown number type.
ISDN-National preferred	Regardless of what type of number is received, the outgoing number is substituted with ISDN-National as the number plan and type. Ten digits are always sent to the network. Leading ones, if present, are stripped out and the area code (provisioned under **DIAL PLAN/GLOBAL PARAMETERS**) is added, if only seven digits are supplied. This action may be required in areas with ten-digit local dialing.
ISDN-Subscriber preferred	Examines the incoming number and if seven digits are received or if a ten-digit number is received with an area code that matches the area code provisioned in the global parameters, the number is forwarded to the network as a seven-digit number defined as ISDN-Subscriber number plan and type. If the incoming number is ten digits, but with a different area code, it is forwarded to the network as ISDN-National preferred.
ISDN-National DMS Reserved Preferred	Ignores the incoming numbering plan and type and substitutes the ISDN/Telephony numbering plan and National number type. Ten digits are sent to the network. Leading ones, if present, are stripped out and the area code set in global parameters is added if only seven digits are supplied. This action may be required in areas with ten-digit local dialing.
ISDN-National As Dialed	Sends the digits provided as National number type.

*When **SWITCH TYPE** is set to **4ESS**, many installations require the National form where possible; this may also be the preferred form in 10-digit calling areas.*

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2, AND 3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
For example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

__STRIP MSD__ does not affect __CALL ACCEPT__ criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.

Network Specific Facility Voice and Data

Enables the sending of appropriate information to the PSTN. The default for this option is **NORMAL**, and in this case no Network Specific Facility Information Element is sent. Unless one of the services listed below is subscribed to, the selection should remain set to **NORMAL**. The list below indicates services that may be subscribed to from the PSTN. These services require that specific information (such as a Network Specific Facility Information Element) be sent to the network during call setup.

- AT&T SDN (Switched Digital Network)
- National ISDN INWATS
- AT&T Megacom 800
- Nortel Private Network
- AT&T Megacom
- Nortel InWats
- AT&T Accunet
- Nortel OutWats
- AT&T Long Distance
- Nortel Foreign Exchange
- AT&T International-800
- Nortel Tie Trunk
- AT&T Dial-It 900/Multiquest

Called Digits Transferred

Some PRI switches may be provisioned to send only a portion of the called number (like DID). This menu item allows the ATLAS 800 Series to know how many digits to expect (choose from **NONE, THREE, FOUR, SEVEN,** and **ALL**). The default is **ALL** and would almost always be correct. If less than **ALL** digits are sent, then the **PREFIX** is defined as follows:

Displays only if **CALLED DIGITS TRANSFERRED** is not set to **ALL**. Enter the prefix for the digits received. For example, if the number of digits is four and the number called is 963-8615, the telco's PRI switch sends only 8615 and the prefix is set to 963. This entire number is then used to determine which ATLAS 800 Series user port endpoint should receive the call.

Outgoing Caller ID

Defines the number to use to provide Caller ID to the network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID.**
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection

The following B Channel Selection submenus determine how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface.

Submenu	Description
Circular	Contiguous channels from last to first.
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).

Busy Option Defines the response propagated to the CPE upon receipt of a **DISCONNECT USER-BUSY** message from the network.

Submenu	Description
Normal	Send a progress message to the CPE and map busy tones.
Pass-Thru	Send a **DISCONNECT USER-BUSY** message to the User Term CPE device.

T3 and T3 D&I: Network Term- Ifce Config (RBS)

Write security: 3; Read security: 5

These menus allow the user to define option parameters for ports which terminate an RBS T1 connection from the network. Specifies the configuration parameters for the endpoint.

First DS0 Defines to the ATLAS 800 Series the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

DS0s Available

Indicates which DS0s of the T1 have been defined in this switched endpoint (indicated by "! "), in another switched endpoint (indicated by "s"), or in a **DEDICATED MAP** (indicated by "n"). This field is read-only. The following characters may display in this field:

Characters	Description
0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This port is requesting this DS0 for this connection, but the DS0 is not yet activated.
!	This DS0 is used by this endpoint.
s	This DS0 is used elsewhere in the switched **DIAL PLAN**.
S	This DS0 is in the switched dial plan and conflicts with this endpoint.
n	This DS0 is used in one or more **DEDICATED MAPS**.
N	This DS0 is in one or more **DEDICATED MAPS,** and conflicts with this endpoint.

Signaling Method

Defines to the ATLAS 800 Series the type of signaling to be used across this trunk. The signaling selected needs to match the signaling being provided by the network (PSTN). The following choices are available: **E&M IMMEDIATE**, **E&M WINK**, **LOOP START**, **GROUND START**, and **FEATURE GROUP D**.

The ATLAS 800 Series converts signaling types between network and user terminations.

FGD Tx Sequence

Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. Defines to the ATLAS 800 Series the format in which to present the outgoing digits. Choices: **NORMAL** if no digits are to be sent; **ANI/DNIS** to send both ANI and DNIS; **DNIS** to send DNIS only; **ANI** to send ANI only.

FGD Rx Sequence

Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. Defines to the ATLAS 800 Series the format in which to receive the incoming digits. Choices: **NORMAL** if no digits are to be received; **ANI/DNIS** to receive both ANI and DNIS; **DNIS** to receive DNIS only; **ANI** to receive ANI only.

Wink after ANI/DNIS

Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. When enabled, the ATLAS 800 Series will transmit a wink after ANI/DNIS digits are transmitted.

Digit Suppression

When enabled, no digits will be sent toward the network/PBX after going off-hook on an outgoing call.

Direct Inward Dialing

Defines to the ATLAS 800 Series whether Direct Inward Dialing (**DID**) is being used by the network. If **DID** is **ENABLED**, then the following information must be defined.

DID Digits Transferred Defines the number of digits sent to ATLAS 800 Series from the network if **DID** is used. This option only displays if **DID** is set to **ENABLED**.

DID Prefix Defines to the ATLAS 800 Series the prefix digits which are not received as a part of the DID number. The ATLAS 800 Series uses the combination of prefix and DID number to determine the user endpoint that should receive the incoming call. This option only displays if **DID** is set to **ENABLED**. If **DID** is **DISABLED**, then you must define the trunk number.

If Feature Group D is used, DID only refers to DNIS digits.

Trunk Number When the network connection does not provide DID digits, the ATLAS 800 Series must be given a number to use to determine which user endpoint should receive the incoming call. **TRUNK NUMBER** displays only when **DID** is set to **DISABLED.**

The trunk number must be specific (i.e., no wildcards).

For example, to connect an incoming DS0 (trunk) to an endpoint with the accept number of 963-8615, set the trunk number to 963-8615.

Strip MSD Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID Simplifies the creation of a **DIAL PLAN** in applications where the criterion for switching calls
to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

DS0 Alignment **DS0 ALIGNMENT** is typically enabled when a user needs the ability to maintain alignment between T1s as if they were in dedicated map mode. This scenario requires **DS0 ALIGNMENT** enabled on both interfaces (usually on User Term and on Net Term). An interface that has **DS0 ALIGNMENT** enabled will only process a call from the switchboard on the same DS0 that the incoming call was received.

For example, the unit receives an incoming call on DS0 17. The switchboard looks for an interface who has matching accept criteria to the number it received. A match is found on interface "Z" that has **DS0 ALIGNMENT** enabled. This causes interface "Z" to only process the call if it has DS0 17 available. If all matching interfaces have **DS0 ALIGNMENT** enabled and none of those interfaces have DS0 17 available, then a busy or fast busy will be returned to the calling party.

T3 and T3 D&I: Network Term - Ifce Config (NFAS)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which terminate a PRI connection from the network. Specifies the configuration parameters for the endpoint.

Secondary Interfaces The following **SECONDARY INTERFACES** submenus allow the user to define the slot and port locations of the secondary interfaces in the NFAS group.

submenu	Descriptions
#	Displays the entry number.
Slot	Configures the slot that the interface is physically connected to.
Port	Configures the port that the interface is physically connected to.
Interface Number	Configures the NFAS Interface ID associated with the interface. The configure ID must match the ID configured by the provider.
Backup D Channel	Disables or enables backup D channel on the interface.

Only one backup D channel is supported in a single chassis.

Switch Type Defines the type of PRI switch to which the port is connected. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **LUCENT 5E**, **NORTHERN DMS 100**, **NATIONAL ISDN**, and **AT&T 4ESS**.

First DS0 Defines the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Outgoing Number Conversion

Converts outgoing (towards the network) numbers to the selected numbering plan and type option.

Submenu	Description
As dialed	Sends the digits provided as an unknown number type.
ISDN-National preferred	Regardless of what type of number is received, the outgoing number is substituted with ISDN-National as the number plan and type. Ten digits are always sent to the network. Leading ones, if present, are stripped out and the area code (provisioned under **DIAL PLAN/GLOBAL PARAMETERS**) is added, if only seven digits are supplied. This action may be required in areas with ten-digit local dialing.
ISDN-Subscriber preferred	Examines the incoming number and if seven digits are received or if a ten-digit number is received with an area code that matches the area code provisioned in the global parameters, the number is forwarded to the network as a seven-digit number defined as ISDN-Subscriber number plan and type. If the incoming number is ten digits, but with a different area code, it is forwarded to the network as ISDN-National preferred.
ISDN-National DMS Reserved preferred	Ignores the incoming numbering plan and type and substitutes the ISDN/Telephony numbering plan and National number type. Ten digits are sent to the network. Leading ones, if present, are stripped out and the area code set in global parameters is added if only seven digits are supplied. This action may be required in areas with ten-digit local dialing.
ISDN-National As Dialed	Sends the digits provided as National number type.

*When **SWITCH TYPE** is set to **4ESS**, many installations require the National form where possible; this may also be the preferred form in 10-digit calling areas.*

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Network Specific Facility Voice and Data

Enables the sending of appropriate information to the PSTN. The default for this option is **NORMAL**, and in this case no Network Specific Facility Information Element is sent. Unless one of the services listed below is subscribed to, the selection should remain set to **NORMAL**.

The list below indicates services that may be subscribed to from the PSTN. These services require that specific information (such as a Network Specific Facility Information Element) be sent to the network during call setup.

- AT&T Accunet
- AT&T Dial-It 900/Multiquest
- AT&T International-800
- AT&T Long Distance
- AT&T Megacom
- AT&T Megacom 800
- AT&T SDN
- National ISDN INWATS
- Nortel Foreign Exchange
- Nortel InWats
- Nortel OutWats
- Nortel Private Network
- Nortel Tie Trunk

Called Digits Transferred

Some PRI switches may be provisioned to send only a portion of the called number (like DID). This menu item allows the ATLAS 800 Series to know how many digits to expect (choose from **NONE, THREE, FOUR, SEVEN,** and **ALL**). The default is **ALL** and would almost always be correct. If less than **ALL** digits are sent, then the **PREFIX** is defined as follows:

PREFIX displays only if **CALLED DIGITS TRANSFERRED** is not set to **ALL**. Enter the prefix for the digits received. For example, if the number of digits is four and the number called is 963-8615, the telco’s PRI switch sends only 8615 and the prefix is set to 963. This entire number is then used to determine which ATLAS 800 Series user port endpoint should receive the call.

Outgoing Caller ID

Defines the number to use to provide Caller ID to the network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection

The following **B CHANNEL SELECTION** submenus determine how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface.

Submenu	Descriptions
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).
Circular	Contiguous channels from last to first

Busy Option

The following **BUSY OPTION** submenus define the response propagated to the CPE upon receipt of a **DISCONNECT USER-BUSY** message from the network.

Submenu	Descriptions
Normal	Send a Progress message to the CPE and map busy tones.
Pass-Thru	Send a **DISCONNECT USER-BUSY** message to the User Term CPE device.

T3 and T3 D&I: User Term - Ifce Config (PRI)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate a PRI connection. Specifies the configuration parameters for the endpoint.

Switch Type

Defines the type of PRI switch that the ATLAS 800 Series emulates. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **AT&T 4ESS**, **LUCENT 5E**, **NORTHERN DMS 100**, and **NATIONAL ISDN**.

First DS0

Defines to the ATLAS 800 Series the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s

Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.

For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Network Specific Facility Voice and Data

Enables the sending of appropriate information to the PSTN. The default for this option is **NORMAL,** and in this case no Network Specific Facility Information Element is sent. Unless one of the services listed below is subscribed to, the selection should remain set to **NORMAL**.

The list below indicates services that may be subscribed to from the PSTN. These services require that specific information (such as a Network Specific Facility Information Element) be sent to the network during call setup.

- AT&T Accunet
- AT&T Dial-It 900/Multiquest
- AT&T International-800
- AT&T SDN
- AT&T Long Distance
- AT&T Megacom 800
- AT&T Megacom
- Nortel Foreign Exchange
- Nortel InWats

- National ISDN INWATS
- Nortel OutWats
- Nortel Private Network
- Nortel Tie Trunk

Called Digits Transferred

Defines the number of digits to forward from the called number. When attached to a PBX, the PBX may be provisioned to expect to receive fewer than all of the called digits of the incoming call; however, this option would normally be set to **ALL**. Choose from **NONE, THREE, FOUR, SEVEN,** or **ALL**.

Outgoing Caller ID

Defines the number to use to provide Caller ID to the Network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. **ANI** (Automatic Number Identification) is the billing number of the calling party, and **DNIS** (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection

The following **B CHANNEL SELECTION** submenus determine how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface.

Submenu	Descriptions
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).
Circular	Contiguous channels from last to first

Busy Option

The following **BUSY OPTION** submenus define the response propagated to the CPE upon receipt of a **DISCONNECT USER-BUSY** message from the network.

Submenu	Descriptions
Normal	Send a Progress message to the CPE and map busy tones.
Pass-Thru	Send a **DISCONNECT USER-BUSY** message to the User Term CPE device.

T3 and T3 D&I: User Term - Ifce Config (RBS)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate an RBS T1 connection from the network. Specifies the configuration parameters for the endpoint.

First DS0

Defines the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see page 181) and **OUT#REJECT** (see page 183).

DS0s

Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

DS0s Available

Indicates which DS0s of the T1 have been defined in this switched endpoint (indicated by “!”), in another switched endpoint (indicated by “s”), or in a **DEDICATED MAP** (indicated by “n”). This field is read-only. The following characters may display in this field:

Character	Description
0-9	This DS0 is available. The digit that displays in this field represents the last digit of the DS0 number.
*	This port is requesting this DS0 for this connection, but the DS0 is not yet activated.
!	This DS0 is used by this endpoint.
s	This DS0 is used elsewhere in the switched **DIAL PLAN**.
S	This DS0 is in the switched dial plan and conflicts with this endpoint.
n	This DS0 is used in one or more **DEDICATED MAPS**.
N	This DS0 is in one or more **DEDICATED MAPS**, and conflicts with this endpoint.

Signaling Method

Defines the type of signaling to be used across this trunk. The signaling selected needs to match the signaling being provided by the network. The following choices are available: **E&M IMMEDIATE**, **E&M WINK**, **LOOP START**, **GROUND START,** and **FEATURE GROUP D.**

The ATLAS 800 Series converts signaling types between network and user terminations.

FGD Tx Sequence Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. Defines the format in which to present the outgoing digits. Choices: **NORMAL** if no digits are to be sent; **ANI/DNIS** to send both ANI and DNIS; **DNIS** to send DNIS only; **ANI** to send ANI only.

FGD Rx Sequence Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. Defines the format in which to receive the incoming digits. Choices: **NORMAL** if no digits are to be received; **ANI/DNIS** to receive both ANI and DNIS; **DNIS** to receive DNIS only; **ANI** to receive ANI only.

Wink after ANI/DNIS Displayed only if **SIGNALING METHOD** is configured for **FEATURE GROUP D**. When enabled, the ATLAS 800 Series will transmit a wink after ANI/DNIS digits are transmitted.

Direct Inward Dialing Defines whether Direct Inward Dialing (**DID**) is being used by the network. If **DID** is **ENABLED**, then the following information must be defined.

DID Digits Transferred Defines the number of digits sent to ATLAS 800 Series from the network if **DID** is used. This option only displays if **DID** is set to **ENABLED**.

DID Prefix Defines the prefix digits which are not received as a part of the DID number. The ATLAS 800 Series uses the combination of prefix and DID number to determine the user endpoint that should receive the incoming call. This option only displays if **DID** is set to **ENABLED**. If **DID** is **DISABLED,** then you must define the trunk number.

*If **FEATURE GROUP D** is used, DID only refers to DNIS digits.*

Caller ID Number Defines the number the ATLAS 800 Series uses to provide caller ID to the network for outgoing calls sent through this endpoint. This item is optional.

The Caller ID number must be specific (i.e., no wildcards).

Strip MSD Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID Simplifies the creation of a **DIAL PLAN** in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0.** Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.

- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Dial on OffHook

Defines a number that is automatically sent to the switchboard when a call on this endpoint is initiated (goes off hook).

*The **DIAL ON OFFHOOK** number must be specific (i.e., no wildcards).*

DS0 Alignment

DS0 ALIGNMENT is typically enabled when a user needs the ability to maintain alignment between T1s as if they were in dedicated map mode. This scenario requires **DS0 ALIGNMENT** enabled on both interfaces (usually on User Term and on Net Term). An interface that has **DS0 ALIGNMENT** enabled will only process a call from the switchboard on the same DS0 that the incoming call was received.

For example, the unit receives an incoming call on DS0 17. The switchboard looks for an interface who has matching accept criteria to the number it received. A match is found on interface “Z” that has **DS0 ALIGNMENT** enabled. This causes interface “Z” to only process the call if it has DS0 17 available. If all matching interfaces have **DS0 ALIGNMENT** enabled and none of those interfaces have DS0 17 available, then a busy or fast busy will be returned to the calling party.

T3 and T3 D&I: User Term - Ifce Config (NFAS)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate an NFAS connection. Specifies the configuration parameters for the endpoint.

Secondary Interfaces

The following **SECONDARY INTERFACES** submenus allow the user to define the slot and port locations of the secondary interfaces in the NFAS group.

Submenu	Description
#	Displays the entry number.
Slot	Configures the slot that the interface is physically connected to.

Submenu	Description *(Continued)*
Port	Configures the port that the interface is physically connected to.
Interface Number	Configures the NFAS Interface ID associated with the interface. The configure ID must match the ID configured by the provider.
Backup D Channel	Backup D channel is not supported on User Term NFAS interfaces.

Only one backup D channel can be configured per NFAS interface group.

Switch Type

Defines the type of PRI switch to which the port is connected. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **AT&T 4ESS**, **LUCENT 5E**, **NORTHERN DMS 100**, and **NATIONAL ISDN.**

First DS0

Defines to the ATLAS 800 Series the first DS0 for this endpoint. The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s

Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
Example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Network Specific Facility Voice and Data

Enables the sending of appropriate information to the PSTN. The default for this option is **NORMAL**, and in this case no Network Specific Facility Information Element is sent. Unless one of the services listed below is subscribed to, the selection should remain set to **NORMAL**.
The list below indicates services that may be subscribed to from the PSTN. These services require that specific information (such as a Network Specific Facility Information Element) be sent to the network during call setup.

- AT&T Accunet
- AT&T Dial-It 900/Multiquest
- AT&T International-800
- AT&T Long Distance
- AT&T Megacom 800
- AT&T Megacom

- Nortel InWats
- AT&T SDN
- Nortel Foreign Exchange
- National ISDN INWATS
- Nortel OutWats
- Nortel Private Network
- Nortel Tie Trunk

Called Digits Transferred Some PRI switches may be provisioned to send only a portion of the called number (like DID). This menu item allows the ATLAS 800 Series to know how many digits to expect (choose from **NONE, THREE, FOUR, SEVEN,** and **ALL**). The default is **ALL** and would almost always be correct. If less than **ALL** digits are sent, then the **PREFIX** is defined as follows.

Outgoing Caller ID Defines the number for the ATLAS 800 Series to use to provide Caller ID to the network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection

The following **B CHANNEL SELECTION** submenus determine how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface.

Submenu	Descriptions
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).
Circular	Contiguous channels from last to first.

Busy Option

The following **BUSY OPTION** submenus define the response propagated to the CPE upon receipt of a **DISCONNECT USER-BUSY** message from the network.

Submenu	Descriptions
Normal	Send a Progress message to the CPE and map busy tones.
Pass-Thru	Send a **DISCONNECT USER-BUSY** message to the User Term CPE device.

E1/PRA: Network Term - Ifce Config (PRA)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which terminate a PRA connection from the network. Specifies the configuration parameters for the endpoint.

Switch Type

Defines the type of PRA switch to which the port is connected. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following option is available: **ETSI/DSS1**.

First DS0

Defines the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network (PSTN). The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s

Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
Example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Network Specific Facility Voice and Data

Enables the sending of appropriate information to the PSTN. Currently not supported for E1/PRA use.

Called Digits Transferred

Some PRI switches may be provisioned to send only a portion of the called number (like DID). This menu item allows the ATLAS 800 Series to know how many digits to expect (choose from **NONE, THREE, FOUR, SEVEN,** and **ALL**). The default is **ALL** and would almost always be correct. If less than **ALL** digits are sent, then the **PREFIX** is defined as follows:

PREFIX displays only if **CALLED DIGITS TRANSFERRED** is not set to **ALL**. Enter the prefix for the digits received. For example, if the number of digits is four and the number called is 963-8615, the telco's PRI switch sends only 8615 and the prefix is set to 963. This entire number is then used to determine which ATLAS 800 Series user port endpoint should receive the call.

Outgoing Caller ID

Defines the number to use to provide Caller ID to the network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection Determines how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface.

Submenu	Descriptions
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).
Circular	Contiguous channels from last to first.

E1/PRA: User Term - Ifce Config (PRA)

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate a PRA connection. Specifies the configuration parameters for the endpoint.

Switch Type Defines the type of PRA switch that the ATLAS 800 Series emulates. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following option is available: **ETSI/DSS1**.

First DS0 Defines the first DS0 for this endpoint.The ATLAS 800 Series uses DS0s, starting with this selection, to send and receive calls to and from the network. The outgoing calls which are allowed or restricted over these DS0s are set by **OUT#ACCEPT** (see *Out#Accept* on page 271) and **OUT#REJECT** (see *Submenus* on page 277).

Number of DS0s Specifies the number of DS0s ATLAS 800 Series uses for this endpoint.

Strip MSD Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Network Specific Facility Voice and Data Enables the sending of appropriate information to the PSTN. Currently not supported for E1/PRA use.

Called Digits Transferred Defines the number of digits to forward from the called number. When attached to a PBX, the PBX may be provisioned to expect to receive fewer than all of the called digits of the incoming call; however, this option would normally be set to **ALL.** Choose from **NONE, THREE, FOUR, SEVEN,** or **ALL**.

Outgoing Caller ID

Defines the number to use to provide Caller ID to the network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

With this swap, the ATLAS 800 Series switchboard uses ANI to route the call. The accept number in the dial plan must use the ANI number, not the DNIS number.

B Channel Selection

Determines how the ATLAS 800 Series switchboard uses B channels for call routing. The Circular method can be used for call load balancing among the available B channels on this interface

Submenu	Description
Normal	Always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available).
Circular	Contiguous channels from last to first.

V35Nx: User Term - IFCE CONFIG

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured for V.35 connections. Specifies the configuration parameters for the endpoint.

Ports Available

Indicates which ports of the selected Quad Nx 56/64 Option Module have been defined in this switched endpoint (indicated by “!”), in another switched endpoint (indicated by “s”), or in a **DEDICATED MAP** (indicated by “n”). This field is read-only. The following characters may display in this field:

Characters	Description
0-4	This port is available.
*	This port is requesting this port for this connection, but the port is not yet activated.
!	This port is used by this endpoint.
s	This port is used elsewhere in the switched **DIAL PLAN**.
S	This port is in the switched dial plan and conflicts with this endpoint.
n	This port is used in one or more **DEDICATED MAPS**.
N	This port is in one or more **DEDICATED MAPS**, and conflicts with this endpoint.

Number of Ports

Specifies the number of V.35 ports ATLAS 800 Series uses for this endpoint.

Number to Dial

Specifies the number to dial on an outgoing call.

Call Type

Configures the call type (either **56K** or **64K**) used for outgoing calls from this endpoint.

Dial Call As

Allows the outgoing call to be treated as the selected call type. Options include **DIGITAL** (for 56K or 64K data calls), **VOICE** (for speech calls), and **AUDIO** (for 3.1kHz audio calls).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoint and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Min DS0's Set this to 1 for typical single-call connections. Setting this greater than 1 will restrict connections to endpoints supporting aggregation (e.g., BONDING) of the specified number of DS0s.

Max DS0's Set this to 1 for typical single-call connections. Setting this greater than 1 will accommodate connections to endpoints supporting aggregation (e.g., BONDING) of up to the specified number of DS0s. This also sets the number of DS0s presented in the negotiation of outgoing aggregate calls.

USSI: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured for USSI interface connections. Specifies the configuration parameters for the endpoint.

Ports Available Indicates which ports of the selected Quad USSI Option Module have been defined in this switched endpoint (indicated by "!"), in another switched endpoint (indicated by "s"), or in a **DEDICATED MAP** (indicated by "n"). This field is read-only. The following characters may display in this field:

Character	Description
0-4	This port is available.
*	This port is requesting this port for this connection, but the port is not yet activated.
!	This port is used by this endpoint.
s	This port is used elsewhere in the switched dial plan.
S	This port is in the switched dial plan and conflicts with this endpoint.
n	This port is used in one or more dedicated maps.
N	This port is in one or more dedicated maps, and conflicts with this endpoint.

Number of Ports Specifies the number of USSI interface ports ATLAS 800 Series uses for this endpoint.

Number to Dial Specifies the number to dial on an outgoing call.

Call Type Configures the call type (either **56K** or **64K**) used for outgoing calls from this endpoint.

Dial Call As Allows the outgoing call to be treated as the selected call type. Options include **DIGITAL** (for 56K or 64K data calls), **VOICE** (for speech calls), and **AUDIO** (for 3.1kHz audio calls).

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Min DS0's

Set this to 1 for typical single-call connections. Setting this greater than 1 will restrict connections to endpoints supporting aggregation (e.g., BONDING) of the specified number of DS0s.

Max DS0's

Set this to 1 for typical single-call connections. Setting this greater than 1 will accommodate connections to endpoints supporting aggregation (e.g., BONDING) of up to the specified number of DS0s. This also sets the number of DS0s presented in the negotiation of outgoing aggregate calls.

Octal BRI/U: Network Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which terminate a BRI connection from the network. Specifies the configuration parameters for the endpoint.

Switch Type

Defines the type of BRI switch to which the port is connected. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **LUCENT 5E**, **NORTHERN DMS 100**, and **NATIONAL ISDN.**

SPID List

To properly operate with a network ISDN switch, the BRI interface must have Service Profile Identifiers (SPIDs) and phone number(s) that match the SPID(s) and phone number(s) programmed into the ISDN switch for this line. Each BRI may have one or more phone numbers and SPIDs. The **SPID LIST** submenus define these parameters to the ATLAS 800 Series.

Submenu	Descriptions
Phone Number	The phone number(s) assigned to this BRI phone line.
SPID Number	This entry must match the SPID number(s) which has been set in the network's ISDN switch (or in the PBX) for this BRI line. A SPID must be entered for each phone number.
Calls	The number of calls (1 or 2) which can be received or sent on this number/SPID.
D64, D56, Audio, Speech	These options reflect the network provisions for this SPID. If the BRI was purchased with different services provisioned for the SPIDs, then the call must match the services supported.

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
Example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

Octal BRI/U: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate a BRI connection. Specifies the configuration parameters for the endpoint.

Switch Type

Defines the type of BRI switch the ATLAS 800 Series emulates. If connected to another ATLAS 800 Series, both need to be set to the same switch type. The following options are available: **LUCENT 5E**, **NORTHERN DMS 100**, and **NATIONAL ISDN**.

SPID List

The port, acting as the network, must use a Service Profile Identifier (SPID) and phone number(s) in order to satisfy the ISDN connection protocol expected by the user's terminal adapter (TA).

Submenu	Descriptions
Phone Number	The phone number(s) assigned to this BRI phone line.
SPID Number	Defines the SPID number(s) used for this BRI line. Although the value of the SPID is not significant, a SPID must be entered for each phone number. For convenience, the SPID can be set to be identical to the phone number. *The ATLAS 800 Series does not support autoSPID detection software which some terminal adapters offer.*
Calls	For user termination, the number of calls which can be received or sent on this number/SPID is fixed at 2.

Submenu	Descriptions *(Continued)*
D64, D56, Audio, Speech	These options reflect the network provisions for this SPID. If the BRI was purchased with different services provisioned for the SPIDs, then the call must match the services supported.

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3)** of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
Example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

STRIP MSD *does not affect* ***CALL ACCEPT*** *criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Swap ANI/DNIS

Swaps the ANI and DNIS numbers received from the network. ANI (Automatic Number Identification) is the billing number of the calling party, and DNIS (Dialed Number Identification Service) is the called party number.

Outgoing Caller ID

Defines the number for the ATLAS 800 Series to use to provide Caller ID to the Network for outgoing calls sent through this endpoint. Choose from **SEND AS PROVIDED, SUBSTITUTE IF NOT PRESENT,** or **SUBSTITUTE ALWAYS.**

The Caller ID number must be specific (i.e., no wildcards).

Octal BRI S/T: User Termination

The Octal BRI S/T Module acts like the network while interfacing to user equipment (terminal adapters). When you are working in the network termination section of the **DIAL PLAN** menu and **SLT** is defined as a S/T BRI module, the following interface configuration options are available:

> NOTE: *To use the Octal BRI S/T Module on a User Term endpoint, use of a straight-through ISDN S/T cable.*

Switch Type

Write security: 2; Read security: 5
Defines the type of ISDN switch that the port will simulate. If connected to another ATLAS, both need to be set to the same type. The following options are available: **LUCENT 5E**, **NORTHERN DMS 100**, **NATIONAL-ISDN**, and **EURO-ISDN.**

SPID List

Write security: 2; Read security: 5

The port, acting as the network, must use a SPID and a phone number in order to satisfy the ISDN connection protocol expected by the user's Terminal Adapter (TA).

Submenu	Descriptions
Phone Number	The phone number(s) assigned to this BRI phone line.
SPID Number	Defines the SPID number(s) used for this BRI line. Although the value of the SPID is not significant, a SPID must be entered for each phone number. For convenience, the SPID can be set to be the same as the phone number. Octal BRI S/T Module does not support autoSPID detection software which some terminal adapters offer. *No SPID Number is needed for the Euro-ISDN Switch Type.*
Calls	For User terminations, the number of calls is fixed at 2.
D64, D56, Audio, Speech	These options reflect what the network has provisioned for this SPID. If the BRI was purchased with different services provisioned for the SPIDs, then the call must match the services supported.

FXS-8: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports which emulate an analog FXS connection from the Network (PSTN). Specifies the configuration parameters for the endpoint.

Ports Available

Indicates which ports of the Octal E&M Option Module have been defined in this switched endpoint (indicated by "! "), in another switched endpoint (indicated by "s"), or in a **DEDICATED MAP** (indicated by "n"). This field is read-only. The following characters may display in this field:

Characters	Description
0-9	This port is available.
*	This port is requesting this port for this connection, but the port is not yet activated.
!	This port is used by this endpoint.
s	This port is used elsewhere in the switched **DIAL PLAN**.
S	This port is in the switched dial plan and conflicts with this endpoint.
n	This port is used in one or more **DEDICATED MAPS.**
N	This port is in one or more **DEDICATED MAPS,** and conflicts with this endpoint.
•	This port is the wrong kind of port for this endpoint.

Number of Ports

Specifies the number of ports ATLAS 800 Series uses for this endpoint.

Signaling Method

Defines to the ATLAS 800 Series the type of signaling to be used across this trunk. The signaling selected needs to match the signaling being provided by the network (PSTN). The choices include **LOOP START** or **GROUND START**.

The ATLAS 800 Series converts signaling types between two endpoints (network or user terms).

Forward Disconnect

In Loop Start applications, **FORWARD DISCONNECT** configures the length of time loop current will stop flowing once the far end has terminated the call. Applications requiring Forward Disconnect are Fax Servers and ACDs.

Direct Inward Dialing

Defines to the ATLAS 800 Series whether Direct Inward Dialing (**DID**) is being used by the network. If **DID** is **ENABLED**, then the following information must be defined:

DID Digits Transferred

Defines the number of digits sent to ATLAS 800 Series from the network if **DID** is used. This option only displays if **DID** is set to **ENABLED**.

Caller ID Number

Defines the number the ATLAS 800 Series uses to provide caller ID to the network for outgoing calls sent through this endpoint. This item is optional.

The Caller ID number must be specific (i.e., no "wild cards").

Strip MSD

Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the Most Significant Digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID

Simplifies the creation of a **DIAL PLAN** in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. The default ID for all endpoints is 0 and all accept numbers is 0. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Dial on OffHook

Defines a number that is automatically sent to the switchboard when a call on this endpoint is initiated (goes off hook).

The Dial on Offhook number must be specific (i.e., no "wild cards").

ANI to Caller ID

Use this option to generate (FSK) Caller ID out the FXS user term port to the subscriber. The ATLAS 800 Series generates Caller ID from the calling party number (typically when the call is terminated from a PRI). The calling party number may also come from a Trunk Number on a network term entry, or from the Caller ID field on a user term entry (if the call comes from one of these sources). Additional CPE equipment is needed to receiver Caller ID, such as a Caller ID box. To receive Calling Name information, this equipment must support Multiple Data Message Format (MDMF).

***CALLING NAME** will only be delivered (with the number) if a call is received from a PRI that has been provisioned to provide **CALLING NAME** information. Otherwise, only the **CALLING PARTY NUMBER** will be generated.*

Async232: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured for Async-232 connections. Specifies the configuration parameters for the endpoint.

Ports Available

Indicates which ports of the selected Async-232 Option Module have been defined in this switched endpoint (indicated by "!") or in another switched endpoint (indicated by "s"). This field is read-only. The following characters may display in this field:

Character	Description
0-9	This port is available. The digit that displays in this field represents the last digit of the port number.
*	This port is requesting this port for this connection, but the port is not yet activated.
!	This port is used by this endpoint.
s	This port is used elsewhere in the switched dial plan.
S	This port is in the switched dial plan and conflicts with this endpoint.

Number of Ports

Specifies the number of Async-232 ports ATLAS 800 Series uses for this endpoint.

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Busy Out

Number of milliseconds that passes before this Async-232 endpoint is set to permanently busy and will no longer be available for use.

Idle Time

Number of seconds that passes before this Async-232 endpoint is set to idle status.

Pkt Endpt: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured as packet endpoints.

Specifies the configuration parameters for the endpoint.

Outdial Number Defines the number dialed to originate a call.

Outgoing Call Type Selects the terminating resource type, either **DIGITAL 64K** or **DIGITAL 56K**.

Redial Timer Selects the time delay in seconds between redial attempts.

Randomize Timer Enables/disables random delay added to the redial timer to avoid glare.

Retry Count Defines the number of redials to attempt.

Outgoing Caller ID Defines the presentation of the calling party number for this endpoint.

Source ID Simplifies the creation of a **DIAL PLAN** in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default value for all endpoints and all accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

For example, an application requires that all calls that originate from Port 1 of the ATLAS 800 Series in Slot 1 be switched to Port 2 of that same module. Assign a unique **SOURCE ID** (e.g., 7) to Port 1 of the module, and then configure Port 2 to only accept calls from that unique **SOURCE ID** (7).

Route Incoming Call Use the three submenus to define a method for associating incoming calls to the packet endpoints.

Submenu	Descriptions
Using Incoming Num	Endpoint selection based on the incoming number.
Using Calling Party Num	Selection based on the Caller ID as presented by the calling party. If this option is selected, the **CALL PARTY NUMBER** field is made available to the interface configuration. This number allows you to configure the calling part number used to select this packet endpoint.
Using DBU Handshake	Selection based on a proprietary protocol. This option is only available to packet endpoints with backup sublinks. **DBU HANDSHAKE** is required to interoperate with ADTRAN IQ and Express family products. It enables the association of incoming calls with packet endpoints in cases where there is a single call-in number (hunt group) and no Caller ID information available.

***DBU HANDSHAKE** must be disabled for DBU between two ATLAS products.*

Support DBU Handshake This option is only available when the packet endpoint selected in the **PORT/PEP** field has backup sublinks. **SUPPORT DBU HANDSHAKE** enables/disables the generation and acceptance of ADTRAN frame relay handshake upon connection. If the endpoint is configured to route incoming calls based on the handshake information, this option is automatically enabled. If another call routing method is in effect, however, this option can be enabled to support the use of handshake information at the far end of the link.

The **SUPPORT DBU HANDSHAKE** submenu, **DLCI TRANSLATION**, controls contents of the ADTRAN frame-relay handshake upon connection of a backup PVC. Normally this field should be set to **AUTO**. The **FORCED** mode is present for compatibility with older IQ units.

Min DS0's Set this to 1 for typical single-call connections. A value greater than **1** will restrict connections to endpoints supporting aggregation (e.g., BONDING) of the specified number of DS0s.

Max DS0's Set this to 1 for typical single-call connections. A value greater than **1** will accommodate connections to endpoints supporting aggregation (e.g., BONDING) of up to the specified number of DS0s. This also sets the number of DS0s presented in the negotiation of outgoing aggregate calls.

Call Routing Table This table is only visible if **GROUP** is selected in the **PRT/PEP** field. The table format changes, based on the selected routing option. For each case, **CALL PARAMS** contain **OUTDIAL#, CALLER ID, SOURCE ID,** and **MIN/MAX DS0S**, as described above.

Ckt Backup: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured as backup endpoints. Specifies the configuration parameters for the endpoint.

Originate/Answer The following submenus are available for the **ORIGINATE/ANSWER** menu item:

Submenus	Description
Originate	The endpoint will originate the backup call.
Answer	The endpoint will answer any incoming calls, but will only go into backup if an error is detected.
Answer Any	The endpoint will answer any incoming calls and go immediately into backup.

Outgoing Call Type This only applies to originating endpoints.

Source ID Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

Outdial Number This only applies to originating endpoints. This is the number dialed when the endpoint goes into backup.

Force Mode This forces the backup state of this endpoint. This is a configuration setting, so it will retain its value until it is changed. To temporarily force an endpoint into backup, or to force a restore, try the Manual activator.

Backup Criteria

Criteria for automatic backup. Note that this setting affects the available options for **RESTORE CRITERIA.**

Submenus	Description
Net/Data Fail	DBU is initiated when either the network fails (possible causes include Red, Yellow, Blue, or LOS alarms) or when the Nx56/64 module detects a loss of data transitions on the V.35 interface. If Net/Data Fail is selected, the V.35 Nx INBAND option must be ON. The remote TSU INBAND option must also be enabled.
	*When **BACKUP CRITERIA** is configured for **NET/DATA FAIL**, the **RESTORE CRITERIA** must be **MANUAL ONLY**.*
Net Fail	DBU is initiated when there is a network failure. Possible causes include LOS, RED, Yellow, or Blue alarms.
Manual	The ATLAS will never initiate DBU until it is manually set to do so.

Restore Criteria

This only applies to originating endpoints. These are criteria for automatically coming out of backup. Note that **NETWORK SUCCESS** (network is out of alarm) is only available when a backup criterion is not **NET/DATA FAIL.** Select **MANUAL ONLY** for manual activator.

Startup Delay

The amount of time to wait after creating or changing the endpoint before allowing backup.

Backup Delay

The amount of time to delay after detecting an alarm before going into backup. This only applies to originating endpoints. If the circuit comes out of alarm before this time has expired, the endpoint will not go into backup.

Restore Delay

The amount of time to delay after clearing an alarm before coming out of backup. This only applies to originating endpoints. If the circuit goes into alarm before this time has expired, the endpoint will remain in backup.

Max Num Redials

The backup endpoint will attempt this many retries before giving up and declaring a backup failure. This only applies to originating endpoints.

Redial Timer

The amount of time delayed between a failed backup call and the redial. This only applies to originating endpoints.

Enable Schedule Use these submenus to schedule the times when backup is enabled. The following selections are available for the **ENABLE SCHEDULE** menu item.

Submenu	Descriptions
Enable Time	This is the time of day to enable dial backup.
Disable Time	This is the time of day to disable dial backup. If the disable time is earlier than the enable time, backup monitoring will be active across midnight.
Days Enabled	Use this record to enable/disable backup monitoring on particular days of the week.

Test Call This only applies to originating endpoints. Use this menu to schedule regularly occurring test calls. The following selections are available for the **TEST CALL** menu item.

Submenu	Descriptions
Period	How often test calls are to be made
Next Test Time	The date of the next scheduled test call

Min Num DS0s This option will specify the number of DS0s to use for this switched call. If this number is **1**, all calls will be directed to the endpoint, and not use a BONDING resource. Any number other than **1** will use BONDING resources to inverse multiplex the multiple switched channels together.

Max Num DS0s This option will specify the number of DS0s to use for this switched call. If this number is **1**, all calls will be directed to the endpoint, and not use a BONDING resource. Any number other than **1** will use BONDING resources to inverse multiplex the multiple switched channels together.

Pkt Voice: Network Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured as network packet voice endpoints. Specifies the configuration parameters for the endpoint.

DLCI Selects the appropriate DLCI for this dial plan entry.

Voice Port Identifies the voice port address of the remote unit. FSU 5622s support ports 1 and 2. A remote ATLAS supports ports 1 through 255.

Conflict Report Describes existing conflicts. Potential problems include DLCI unavailable or Voice port already in use.

Voice Compression	Selects the voice compression algorithm used by this endpoint. ADTRAN FSU 5622 and Express 5200 Series FRADs use CCITT **G.723.1** compression at 6.3 kbps. The Express 5200 Series FRADs also support the proprietary **NETCODER** algorithm at 6.4 kbps. Both endpoints must agree about the compression algorithm choice.
Silence Suppression	Reduces the total system bandwidth load by preventing ATLAS from sending frames containing a special silence code during periods of silence. Both endpoints must agree to use silence suppression. By default, silence suppression is Disabled. To prohibit silence frames from transmitting and to decrease the total system bandwidth, **ENABLE** this feature.
Signaling Method	Selects the type of signaling that the remote port is configured to expect. Available options include **E&M IMMEDIATE, E&M WINK,** and **LOOP START**.
Direct Inward Dialing	Defines whether Direct Inward Dialing (**DID**) is used by the remote equipment. If **DID** is enabled, then the following options must be configured:

Submenu	Descriptions
Caller ID	Defines the number ATLAS uses to provide Caller ID to the network for outgoing calls sent through this endpoint. Setting this menu item is optional.
Source ID	Defines the **SOURCE ID**. Setting this menu item is optional.

DID Digits Transferred	Defines the number of digits sent to ATLAS from the network if **DIRECT INWARD DIALING** is **ENABLED.**
DID Prefix	Defines to ATLAS the prefix digits which are not received as a part of the DID number. ATLAS uses the combination of prefix and DID number to determine the user endpoint that should receive the incoming call.
Trunk Number	Determines which user endpoint should receive the incoming call when the network connection does not provide DID digits. This field only displays if **DIRECT INWARD DIALING** is set to **DISABLED**.
Strip MSD	Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port. For example, a network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9. ***STRIP MSD** does not affect **CALL ACCEPT** criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID

Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. Zero is the default ID for all endpoints and accept numbers. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

Pkt Voice: User Term - Ifce Config

Write security: 3; Read security: 5

This menu allows the user to define option parameters for ports configured as user packet voice endpoints. Specifies the configuration parameters for the endpoint.

DLCI

Selects the appropriate DLCI for this dial plan entry.

Voice Port

Identifies the voice port address of the remote unit. FSU 5622s support ports 1 and 2. A remote ATLAS supports ports 1 through 255.

Conflict Report

Describes existing conflicts. Potential problems include DLCI unavailable or Voice port already in use.

Voice Compression

Selects the voice compression algorithm used by this endpoint. ADTRAN FSU 5622 and Express 5200 Series FRADs use CCITT **G.723.1** compression at 6.3 kbps. The Express 5200 Series FRADs also support the proprietary **NETCODER A**lgorithm at 6.4 kbps. Both endpoints must agree about the compression algorithm choice.

Silence Suppression

Reduces the total system bandwidth load by preventing ATLAS from sending frames containing a special silence code during periods of silence. Both endpoints must agree to use silence suppression. By default, silence suppression is **DISABLED**. To prohibit silence frames from transmitting and to decrease the total system bandwidth, **ENABLE** this feature.

Signaling Method

Selects the type of signaling that the remote port is configured to expect. Available options include the following: **E&M IMMEDIATE, E&M WINK,** and **LOOP START**.

Direct Inward Dialing Defines whether or not Direct Inward Dialing (**DID)** is used by the remote equipment. If **DID** is enabled, then the following options must be configured:

Submenu	Description
Caller ID	Defines the number ATLAS uses to provide Caller ID to the network for outgoing calls sent through this endpoint. Setting this menu item is optional.
Source ID	Defines the **SOURCE ID**. Setting this menu item is optional.

DID Digits Transferred Defines the number of digits ATLAS 800 Series send to the user equipment.This field only displays if **DIRECT INWARD DIALING** is **ENABLED**.

Caller ID Number Defines the number ATLAS uses to provide Caller ID to the network for outgoing calls sent through this endpoint. This field only displays if **DIRECT INWARD DIALING** is set to **DISABLED**, and **USER TERM** is selected. Setting this menu item is optional.

Strip MSD Strips a selected quantity (choose from **NONE, 1, 2,** and **3**) of the most significant digits (MSD) of a dialed number prior to being forwarded out of the port.
Example: A network port could be set to accept all calls beginning with 9 (9$), and then with **STRIP MSD** set to **1**, all digits would be sent toward the network except the leading 9.

STRIP MSD *does not affect* ***CALL ACCEPT*** *criteria. All of the digits (including the MSDs that are subsequently stripped) are used as accept criterion.*

Source ID Simplifies the creation of a dial plan in applications where the criterion for switching calls to a certain endpoint is a function of which endpoint originated the call.

- **DEFAULT VALUE = 0**. The default ID for all endpoints is 0 and all accept numbers is 0. With default values, all calls are routed based only on the dialed number.
- Multiple endpoints can have the same **SOURCE ID**.
- When creating the **CALL ACCEPT** list, specify a **SOURCE ID**(s) as well as a dialed number or range of dialed numbers to accept.

SECTION 5 DETAIL LEVEL PROCEDURES (DLP)

Provides the detailed instruction for performing various unit functions such as upgrading firmware.

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DLP-2 System Login and Menu Access 323

DLP-3 Setting IP Parameters for the ATLAS 800 Series System 326

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DLP-1 Connecting the Terminal or PC to the ADMIN or CRAFT Port

Introduction

This section describes how to connect a VT100 terminal or PC to the ATLAS 800 Series System.

Shelf management and provisioning for the ATLAS 800 Series System is facilitated by a series of intuitive menus that are viewable on a computer screen. To access to the menus and management features of the ATLAS 800 Series System, connect the ATLAS either to a VT100 terminal or to a PC emulating a VT100 terminal. Make the connection using one of the following ports:

ATLAS 830

ADMIN port (DB-9 connector) located on the rear of the unit.

CRAFT interface (DB-9 connector) located on the unit faceplate.

ATLAS 890

ADMIN port (RJ-45 connector) located in the middle of the System Controller module.

Prerequisite Procedures

The ATLAS 800 Series System must be powered up for terminal communication to function.

Tools and Materials Required

- Data cable to connect a VT100 terminal or a PC configured as a VT100 terminal.
- VT100 terminal, or PC configured as a VT100 terminal.

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Connecting a Terminal to the ATLAS

VT100 Terminal

1. Set the VT100 terminal parameters as follows:

    - 9600 baud rate
    - 8 data bits
    - No parity
    - 1 stop bit
    - No flow control

2. If the terminal has a parallel setting, disable it and use serial port.

3. Plug the male end of the DB-9 (or RJ-45) data cable into the ATLAS.

4. Make the connection to the VT100 terminal as appropriate for your equipment.

PC Emulating a VT100 Terminal

Most personal computers or laptops can run communications software that will emulate a VT100 terminal—for example, Terminal© or Hyperterminal©. Many other commercially available software packages will also allow your PC or laptop to emulate a VT100 terminal. However, certain configuration items must be set on a PC or laptop to act as a VT100 terminal for the ATLAS.

1. Set the VT100 terminal parameters as follows:

    - 9600 baud rate
    - 8 data bits
    - No parity
    - 1 stop bit
    - No flow control

2. Set the PC for direct connect on the appropriate COM port (instead of dial-up connection).

3. Plug the DB-9 (or RJ-45) male end of the data cable into the ATLAS.

4. Make connection to the PC or laptop as appropriate for your equipment.

You are now ready to login to ATLAS, as described in *DLP-2, System Login and Menu Access,* on page 323.

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-2 System Login and Menu Access

Introduction

After connecting to the ATLAS via either a VT100 terminal or a PC configured as a VT100 terminal, you must login to the system to gain access to the management and provisioning functions (menus). This DLP provides specific steps for system logon and menu access.

> NOTE: *If the IP has been provisioned (see DLP-3, Setting IP Parameters for the ATLAS 800 Series System, on page 326), you can also login to the unit using Telnet.*

Prerequisite Procedures

Complete DLP-1, *Connecting the Terminal or PC to the ADMIN or CRAFT Port*, before logging in.

Tools and Materials Required

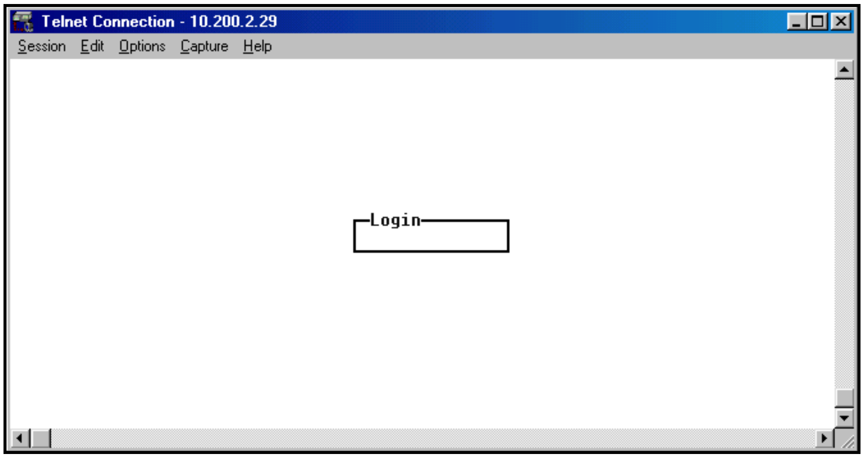
- Data cable to connect to a VT100 terminal or a PC configured as a VT100 terminal.
- VT100 terminal or PC configured as a VT100 terminal.

> WARNING: *To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

> CAUTION: *Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Login to the System

1. After connecting to the ATLAS, a blank screen displays on the computer screen. Press any keyboard key to display the login screen (shown below).

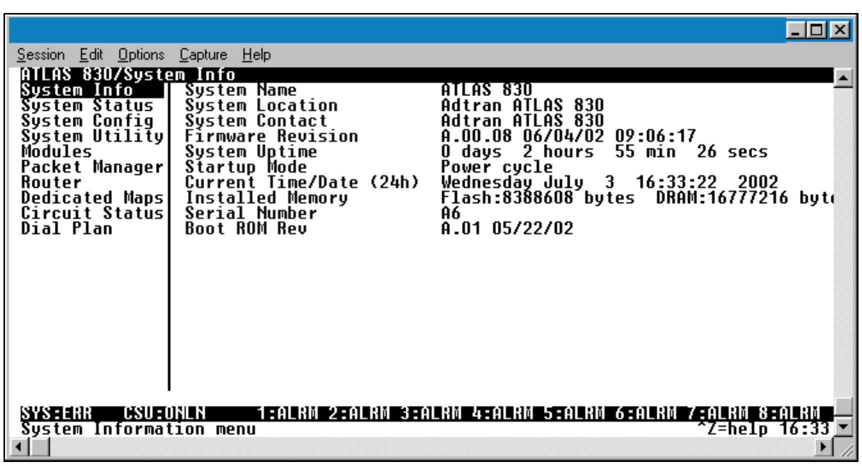


2. From your keyboard, enter the appropriate password at the blinking cursor prompt in the **LOGIN** field and press **ENTER**.

   The manufacturer’s default password for the ATLAS system is “password” in lowercase letters. After initial login, the System Administrator is now able to define levels of access for various users. (See DLP-5, *User Access and Password Security Levels,* on page 331 for more details.)

> **NOTE** *The ATLAS has five levels of access granted to a user. The lowest level of access (Level 5) is read-only, and allows a user to see, but not change, the current configuration of the system. The top level of access (Level 0) is read-write and allows the user to see and change system configuration parameters.*

3. Upon entering the correct password, the ATLAS 800 Series System main menu displays. (For simplicity, only the ATLAS 830 menus are used in this document.)



4. You are now logged in to the ATLAS menu system.

> **NOTE:** *If the IP has been provisioned (see DLP-3, Setting IP Parameters for the ATLAS 800 Series System, on page 326), you can also login to the unit using Telnet.*

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-3 Setting IP Parameters for the ATLAS 800 Series System

Introduction

This section describes using the ATLAS **SYSTEM CONFIG** menu to set IP parameters.

If the ATLAS is connected to an IP network for Telnet, TFTP, or SNMP management, several IP parameters must be set in order for the ATLAS to communicate with the network.

NOTE *Please see your Network Administrator for the proper assignment of the following parameters: IP address, Subnet Mask, and Default Gateway.*

Prerequisite Procedures

This procedure assumes that the ATLAS unit is connected to an IP network and is powered up.

Tools and Materials Required

- Data cable to connect to either a VT100 terminal or a PC configured as a VT100 terminal
- VT100 terminal or PC configured as a VT100 terminal

WARNING *To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION *Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Setting IP Parameters

1. Connect the ATLAS unit to your VT100 system (see DLP-1, *Connecting the Terminal or PC to the ADMIN or CRAFT Port,* on page 321).

2. Login to the system with maximum rights (details for logging in are in DLP-2, *System Login and Menu Access,* on page 323).

3. From the **SYSTEM CONFIG** menu, select the **ETHERNET PORT** option and press <Enter>.

> NOTE *The next three steps require confirmation after each change.*

4. From the **SYSTEM CONFIG/ETHERNET** menu, select the **IP ADDRESS** option and press <Enter>. Enter the appropriate IP address.
5. From the **SYSTEM CONFIG/ETHERNET** menu, select the **SUBNET MASK** option and press <Enter>. Enter the appropriate Subnet Mask.
6. From the **SYSTEM CONFIG/ETHERNET** menu, select the **DEFAULT GATEWAY** option and press <Enter>. Enter the appropriate Default Gateway.
7. Save the changes by pressing the left arrow key to highlight the **ETHERNET** submenu.
8. Escape out to the **SYSTEM CONFIG** menu and logout by pressing **<Ctrl + L>** .

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-4 Verifying Communications Over an IP LAN

Introduction

This procedure outlines the steps for testing the ATLAS, when its Ethernet port is connected to a local area network (LAN). Testing ensures that the unit is communicating properly over the network.

Prerequisite Procedures

Before beginning this procedure, the unit should be physically connected to the LAN and all provisioning tasks should be complete (see DLP-3, *Setting IP Parameters for the ATLAS 800 Series System,* on page 326).

Tools and Materials Required

Access to a PC or other computer connected to the LAN

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Testing the ATLAS for Proper Network Communication

Obtain IP Address

If you do not already have the IP Address for the ATLAS, do one of the following:

- Obtain the ATLAS IP address from your Network Administrator.
- Manually check for the address in the **SYSTEM CONFIG/ETHERNET PORT/IP ADDRESS** menu of the Network Management interface.

> NOTE *You must login with maximum rights to modify the IP parameters on the ATLAS.*

Ping the ATLAS unit from a remote computer on the network.

Refer to the computer system's documentation if you are unsure how to perform a Ping command. Most computers running a networked version of Microsoft Windows™ or UNIX allow a Ping to be performed by simply typing "ping <IP Address >" at a command line prompt. Typically, the Ping program will respond by indicating that the remote IP Address has responded in a certain amount of time or that no response was received.

Some versions of Ping will continue running until you explicitly tell them to stop. If the program does not terminate on its own, type **<Ctrl+C>** to stop the program.

1. Using a remote computer system connected to the LAN, perform an ICMP Ping on the IP Address of the ATLAS. Verify that the unit responds properly; if the ATLAS fails to respond, try the following:

   - Verify that the proper IP Address, Subnet Mask, and Default Gateway are provisioned in the unit (see DLP-3, *Setting IP Parameters for the ATLAS 800 Series System,* on page 326 for details).

   - Verify that the ATLAS is properly cabled into the LAN and that the Ethernet cable is properly seated in the Ethernet port (labeled **ETHERNET** or **10/100BASET** on the back of the unit).

   - If the ATLAS is connected to a hub or other network device that provides a carrier sense light for each port, verify that the carrier sense light for the port to which the ATLAS is connected is lit. If this light is not on, check the cabling between the hub and the shelf.

   - Verify the IP Address, Subnet Mask, and Default Gateway on the remote computer system.

2. If none of these steps are successful, contact the LAN Administrator for assistance.

Telnet to the ATLAS

Telnet is a utility common to many local area networks that allows remote access to another computer or piece of equipment.

Refer to the computer system documentation if you are unsure how to establish a Telnet session. Most computers running a networked version of Microsoft Windows™ or UNIX establish a Telnet session by simply typing “Telnet <IP Address> ” at a command line prompt.

1. From the same computer used in the previous step, Telnet to the ATLAS and verify that the Telnet session is properly opened.

   If necessary, refer to DLP-2, *System Login and Menu Access,* on page 323 and DLP-3, *Setting IP Parameters for the ATLAS 800 Series System,* on page 326 for instructions on logging in to the system and setting IP parameters.

2. Once the Telnet session is established, press **<Ctrl+L >** to logout and close the session.

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-5 User Access and Password Security Levels

Introduction

This procedure details the steps for adding and removing user profiles and for assigning password security levels in the ATLAS.

All menus in the ATLAS are protected by passwords of varying security levels. The ATLAS System Administrator controls which users can access (to view or change) menus. In addition, the System Administrator can assign multiple passwords for the same access level. This way, users with the same access privileges can have individual passwords.

Tools and Materials Required

VT100 terminal or PC with VT100 terminal emulation software

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Modifying User Access and Passwords

Connecting to the ATLAS

If you are not already connected to the ATLAS, follow the procedure in DLP-1, *Connecting the Terminal or PC to the ADMIN or CRAFT Port*.

If the ATLAS is part of a management cluster connected to the local network, you may use a PC connected to the network to Telnet into the unit. Use the procedures in DLP-3, *Setting IP Parameters for the ATLAS 800 Series System,* on page 326 to connect to the **10/100 BASET** interface.

1. Login to the unit using the read-write password (see DLP-2, *System Login and Menu Access,* on page 323 for details).

2. Go to the **SYSTEM CONFIG** menu, select **ACCESS PASSWORDS**, and press <Enter>.

Adding a New User Profile and Password

1. Select the first column (**0**) and press **I** (for insert).

2. To give the new user profile a name, select the **LABEL** field, press <Enter>, and type the user-defined name.

3. To personalize the password for that **LABEL,** select the **PASSWORD** field, press <Enter>, and type the new password.

> NOTE: *Passwords for the ATLAS system are case sensitive. The default password for a new user profile is "password." The current password displays as a series of asterisks (********).*

Setting the Password Security Level

1. Review the six different password security levels and determine which level you want to set (see the following chart).

If you want the user to have...	Select level...
Minimum rights: Read-only permission for all menu items	5
Read permission for all menu items and permission to use test commands	4
Access to all commands except passwords, flash download, authentication methods, and interface configurations	3
Access to all commands except passwords, flash download, and authentication methods	2
Access to all commands except passwords	1
Maximum rights: Permission to edit every menu item, including creating and editing passwords	0

2. Select the **ACCESS RIGHTS** field and choose the appropriate level.

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-6 Updating ATLAS Firmware using TFTP

Introduction

The ATLAS 800 Series supports firmware updates via the **10/100 BASET** Ethernet port using either TFTP from a network server or the **ADMIN** or **CRAFT** interfaces using XMODEM. This DLP provides the steps to follow for a successful firmware upgrade using the **10/100 BASET** Ethernet port and a TFTP Server.

Tools and Materials Required

- A PC with a Telnet client software
- A TFTP Server accessible on the local network (A TFTP server is provided with the unit as part of the ADTRAN Utilities software.)

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

TFTP Instructions for Updating Firmware

1. Connect to the ATLAS using the **10/100 BASET** interface. (If you are not already connected to the unit's **ETHERNET** port using Telnet client software, use the procedure in DLP-4, *Verifying Communications Over an IP LAN*, on page 328 to connect to the unit.)

2. Login to the unit using the read-write password (see DLP-5, *User Access and Password Security Levels,* on page 331 for details).

3. Go to the **SYSTEM UTILITY** menu and select the **UPDATE FIRMWARE** menu; press <Enter>.

4. Select the **MODULE SLOT** menu and press <Enter>. Select the appropriate module slot to update. Select **SLOT 0** to update the System Controller.

5. Go to the **TRANSFER METHOD** menu and select **TFTP**.

6. Enter the IP address of the network TFTP server into the **TFTP SERVER IP ADDRESS** field.

7. Enter the full path name and filename of the update file into the **TFTP SERVER FILENAME** field.

8. From the **RESTART SCHEDULE** menu, select the time for the module to perform a restart after completing the update process:

   - **RESTART IMMEDIATELY AFTER UPDATE** restarts the system immediately after the update is complete.
   - **RESTART AT SPECIFIED DATE AND TIME** allows you to select when the updated system will restart. If you select this option, a new field called **RESTART DATE AND TIME** displays below the current field. To use that option, enter the time in 24-hour format (such as 23:00:00 for 11:00 pm). Enter the date in mm-dd-yyyy format (for example, 09-30-2000).

9. View **CURRENT UPDATE STATUS** to verify the progress of the current firmware update or any errors encountered during the download process. Refer to the table in step 10 for a detailed description of messages found in this field.

10. Select **BEGIN FIRMWARE UPDATE** to start the update process. Enter **Y** to confirm the transfer and to set up the module to receive the TFTP Upload.

    During the TFTP upload process, various status messages display in **CURRENT UPDATE STATUS** to indicate progress. Table 1 describes these messages.

Table 1. Status Messages for TFTP Upload Process

Message	Description
Contacting Server	Indicates communication with the TFTP network server is trying to be established with the specified server address in the **TFTP SERVER IP ADDRESS** field.
Beginning TFTP Transfer	Indicates communication with the TFTP network server has been established and the update file is being transferred between the ATLAS 800 Series and the TFTP network server.
Completed	Indicates the ATLAS 800 Series successfully received the update file.
Error: File Not Found	Indicates the TFTP network server was unable to locate the specified file name or path in the **TFTP SERVER FILENAME** field.
Error: Access Violation	Indicates the TFTP network server denied the ATLAS 800 Series access to the given update filename and path. Please verify appropriate user rights are selected for the specified path.

11. When the update process has successfully completed, **IDLE** displays in the **CURRENT UPDATE STATUS** field and **MODULE UPDATE COMPLETE** displays in the **PREVIOUS UPDATE STATUS** field.

    Depending on your selection in step 8 on page 334, the ATLAS will either restart immediately and resume operation, or will restart at the specified time and day of the week.

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-7 Updating ATLAS Firmware using XMODEM

Introduction

The ATLAS supports firmware updates via the **ETHERNET** port using either TFTP from a network server or the **ADMIN** or **CRAFT** interfaces using XMODEM. This procedure outlines the steps for a successful firmware upgrade using the **ADMIN** or **CRAFT** interfaces and XMODEM software.

Tools and Materials Required

- VT100 terminal or PC with VT100 terminal emulation software
- XMODEM software

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

XMODEM Instructions for Updating Firmware

1. Connect to the ATLAS using the DB-9 **ADMIN** or **CRAFT** interface, or the RJ-45 **ADMIN** port.

   If you are not already connected to the unit's **ADMIN** or **CRAFT** interface (either with a VT100 compatible terminal or with a PC running VT100 emulation software), follow the procedure in DLP-1, *Connecting the Terminal or PC to the ADMIN or CRAFT Port*. Connecting to the **ADMIN** or **CRAFT** interface limits the upgrade procedure to XMODEM Only.

2. Login to the unit using the read-write password (see DLP-5, *User Access and Password Security Levels,* on page 331 for details).

3. Go to the **SYSTEM UTILITY** menu and select the **UPDATE FIRMWARE** menu; press <Enter>.

4. Select the **MODULE SLOT** menu and press <Enter>. Select the appropriate module slot to update. Select **SLOT 0** to update the System Controller.

NOTE	*Selecting **ALL MODULES OF A TYPE** and **SYS CTRL** will force a controller reboot during the update process.*

5. Go to the **TRANSFER METHOD** menu and select **XMODEM**.

6. From the **RESTART SCHEDULE** menu, select the time for the module to perform a restart after completing the update process.

   - **RESTART IMMEDIATELY AFTER UPDATE** restarts the system immediately after the update is complete.
   - **RESTART AT SPECIFIED DATE AND TIME** allows you to select when the updated system will restart. If you select this option, a new field called **RESTART DATE AND TIME** displays below the current field. To use that option, enter the time in 24-hour format (such as 23:00:00 for 11:00 pm). Enter the date in mm-dd-yyyy format (for example, 09-30-2000).

7. View **CURRENT UPDATE STATUS** to verify the progress of the current firmware update or any errors encountered during the download process.

8. Select **BEGIN FIRMWARE UPDATE** to start the update process. Enter **Y** to confirm the transfer and set up the module to receive the XMODEM upload.

   When the ATLAS is ready to receive the XMODEM upload, the menu screen clears and displays **Awaiting XMODEM Upload....<Ctrl-X > to Cancel.** If this does not appear, please review the steps above for possible configuration errors.

9. From the terminal emulation software, begin the XMODEM upload by using the appropriate command sequence. This may take several minutes.

   If necessary, refer to the terminal emulation software documentation for help. Also, when specifying the filename, ensure that the file transferred is the one provided by ADTRAN. Otherwise, the update will not complete successfully.

   During the upload, the ATLAS VT100 menus will be inoperable from the **ADMIN** or **CRAFT** interfaces because XMODEM data is being transferred in-band through the menu interface. You can cancel the update at any time within the terminal emulation software. (Please consult the documentation provided by the terminal emulation software to determine how to do this.)

10. When the update process has successfully completed, **IDLE** displays in the **CURRENT UPDATE STATUS** field and **MODULE UPDATE COMPLETE** displays in the **PREVIOUS UPDATE STATUS** field.

    Depending on your selection in step 6, the ATLAS either restarts immediately and resumes operation or restarts at the specified time and day of the week.

11. Alternatively, if the unit is part of a management cluster connected to the local network, you may use a PC connected to the network to Telnet into the unit. By using the **ETHERNET** port, the ATLAS may be quickly upgraded using TFTP—provided there is a TFTP server on the local network. The ATLAS ships with ADTRAN Utilities software, which includes a TFTP server. (See *DLP-6, Updating ATLAS Firmware using TFTP,* on page 333 for more details.)

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-8 Saving the Current Configuration using TFTP

Introduction

The ATLAS supports configuration transfers from the unit (via the **10/100 BASET** Ethernet port) to a TFTP server located on the network. This DLP provides the steps to follow for a successful configuration transfer using the **10/100 BASET** Ethernet port and a TFTP Server.

Tools and Materials Required

- A PC with a Telnet client software
- A TFTP Server accessible on the local network (A TFTP server is provided with the unit as part of the ADTRAN Utilities software.)

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

TFTP Instruction for Saving a Configuration

1. Connect to the ATLAS using the 10/100 BASET interface. (Telnet to the unit.)

NOTE	*The procedures in DLP-1 through DLP-4 must be completed prior to the Telnet login.*

2. Login to the unit using the read-write password (see DLP-2, *System Login and Menu Access,* on page 323 for details).
3. Go to the **SYSTEM UTILITY** menu and select the **CONFIGURATION TRANSFER** menu; press <Enter>.
4. Set the **TFTP SERVER IP ADDRESS** to the IP address of the machine running the TFTP Server Program.

*If you are using the ADTRAN TFTP server, the IP address displays in the **STATUS** field. For other TFTP servers, please refer to the appropriate documentation.*

5. Change **TFTP SERVER FILENAME** to a unique filename. This will be the name of the configuration file saved to the remote server.

   Some TFTP servers constrain the format of the filename depending on the operating system of the server. For example, a TFTP server running on a PC under Windows 3.1 may only permit 8.3 format filenames (8 characters, period and three extension characters).

6. Select the **SAVE CONFIG REMOTELY** menu field and press <Enter>. Enter **Y** to confirm the request.

7. View **CURRENT TRANSFER STATUS** to verify the progress of the current transfer.

8. When the transfer process has successfully completed, **IDLE** displays in the **CURRENT TRANSFER STATUS** field and **TFTP DOWNLOAD COMPLETE** displays in the **PREVIOUS TRANSFER STATUS** field.

*TFTP is **not** secure. No passwords are required for client access. Anyone can access files through the IP port on the server machine if they know the target filename.*

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-9 Connecting the ATLAS to an External Modem

Introduction

The ATLAS can be accessed and managed via a modem, allowing the same capabilities to the user as if connected to the local **ADMIN** port.

ATLAS 830

Access is provided by a female DB-9 connector, labeled **ADMIN**, located on the back of the unit .

ATLAS 890

Access is provided by an RJ-45 **ADMIN** port on the System Controller card.

Prerequisite Procedures

The ATLAS should be mounted in its permanent location before connecting to an external modem.

Tools and Materials Required

- Modem
- Null Modem, Full Handshake Cable
- Female RJ-45 to Male DB-25 Connector (shipped with ATLAS 890 unit)

WARNING *To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION *Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Instructions for Connecting to an External Modem

1. Mount the modem in its permanent position.

2. Connect power to the modem using manufacturer instructions.

3. Configure the modem as follows:
   - 9600 baud rate
   - 8 data bits
   - No parity
   - 1 stop bit
   - Flow control - Hardware
   - Auto Answer - On
   - DTR - Idle (when Off/normal on the modem with ATLAS in dial mode)

> NOTE: *The unit may be left in direct mode with* **DTR** *set to* **IGNORE***; however, automatic disconnect on logoff and authentication failure will be lost.*

4. ATLAS 830
   Connect the male DB-9 connector of the data cable to the female DB-9 connector, labeled **ADMIN**, located on the back of the unit.

   ATLAS 890
   Connect the male RJ-45 connector of the data cable to the female RJ-45 connector, labeled **ADMIN**, located on the back of the unit in the middle of the **SYSTEM CONTROLLER** module.

5. Route the data cable to the modem.

6. ATLAS 830
   Connect the other end of the cable to the DB-9 end of the connector (DB-9 to male DB-25). Then, connect the DB-25 end of the connector to the modem, configured as described above.

   ATLAS 890
   Connect the other end of the cable to the RJ-45 end of the connector (RJ-45 to male DB-25). Then, connect the DB-25 end of the connector to the modem, configured as described above.

7. Connect the modem to the POTS line as required by the manufacturer.

8. Login to the ATLAS system. (Refer to DLP-2, *System Login and Menu Access,* on page 323 for detailed instructions.)

9. From the **MAIN MENU**, select the **SYSTEM CONFIG** menu and press the right arrow key to enter the right-pane menus.

10. From the **SYSTEM CONFIG** menu, select the **ADMIN PORT** menu and press <Enter>. Once in the **ADMIN PORT** menus, press the right arrow key to enter the right-pane menus.

> NOTE: *The* **ADMIN** *port may be configured via Telnet or the* **CRAFT** *port.*

11. From the **CRAFT** [Chain] **PORT** menus, select the **PORT TYPE** menu and select **DIAL**.

WARNING	*If you are connected to the ATLAS using the* ***ADMIN*** *interface, changing the* ***PORT TYPE*** *mode to* ***DIAL*** *will terminate your session. You MUST have Ethernet access to the ATLAS to change the* ***PORT TYPE*** *back to* ***DIRECT*** *and restore your terminal session.*

NOTE	*To complete the connection to the unit, the ATLAS must now be called from a PC that is configured to emulate a VT100 terminal, with communication software set as in step 3 and configured for dial mode.*

Follow-Up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-10 Using the Event Log (Syslog)

Introduction

The ATLAS Event Log is used to log various message types at settable threshold levels. The Event Log is a useful tool for troubleshooting switchboard (or call connection) activities including the viewing of digits received, digits transferred, and ISDN Messages. The Event Log can maintain the most recent 350 lines of data in a first in/first out buffer. To ensure that important data is not lost, save the Event Log messages to an external Syslog server. The ATLAS ships with an ADTRAN-provided Syslog server.

Prerequisite Procedures

This procedure assumes that the ATLAS unit is connected to an IP network and is powered up.

Tools and Materials Required

Syslog Server (provided on the ATLAS System CD in ADTRAN Utilities)

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Instructions for Using Syslog

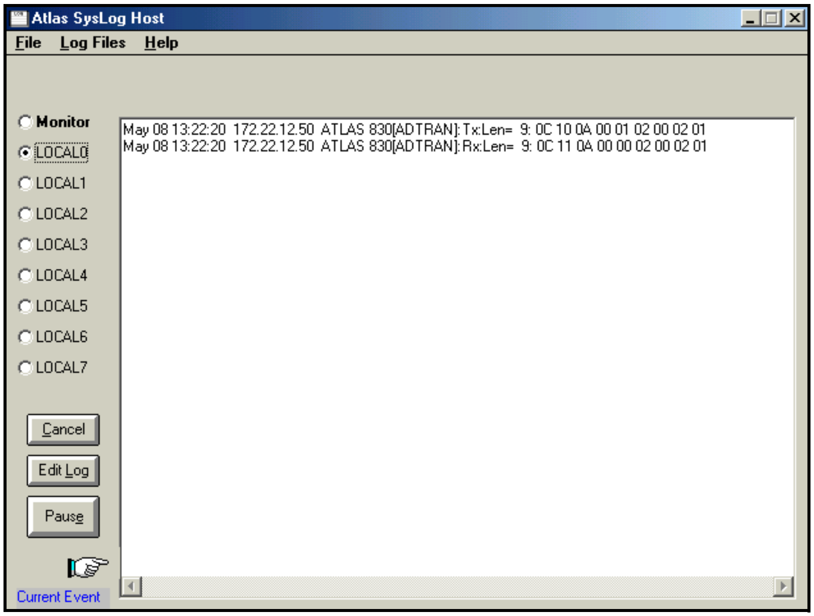
Set Up the ATLAS

1. Login to the system with maximum rights (details for login in are in DLP-5, *User Access and Password Security Levels*, on page 331). Once you have logged in to the ATLAS 800 Series, go to **SYSTEM CONFIG/ SYSLOG SETUP**. Set the options as follows:

   - **TRANSMISSION**: Enabled
   - **HOST IP ADDRESS**: Enter the IP address of the PC where the Syslog host resides
   - **HOST FACILITY**: Specify the facility destination of log events
   - **OPTIONS**:**LOCAL0** to **LOCAL7**

Review the Syslog Host

1. On your PC, go to **START/PROGRAMS/ADTRAN UTILITIES/SYSLOG**. (The Syslog program must be open on your PC to record ATLAS information.)

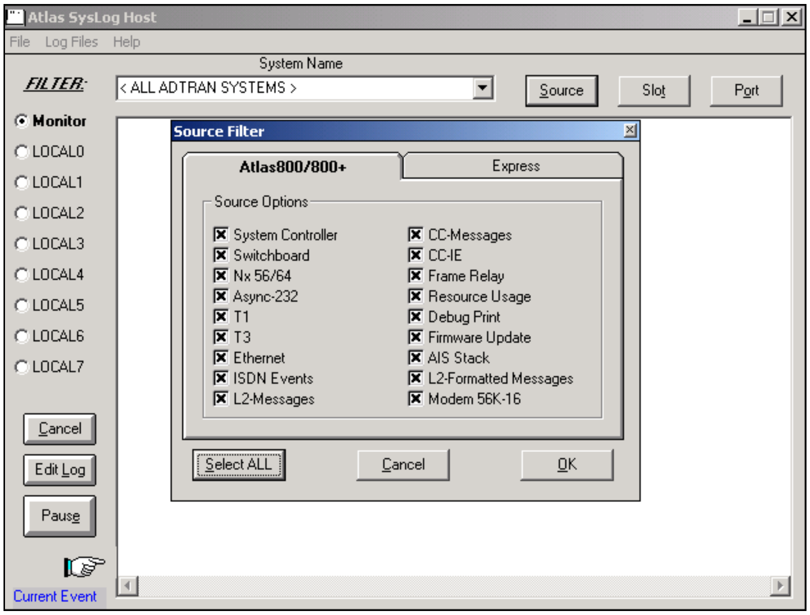


- When the Syslog window opens, you will see **LOCAL0** through **LOCAL7** listed on the left. The selected buttons should correspond with the **HOST FACILITY** specified in the ATLAS.
- The Syslog files can be viewed through the Syslog window or by using the ADTRAN Utilities folder, **LOCALX.TXT**, where X equals 0 through 7. Alternatively, you can view the **LOCALX.TXT** file by clicking on **EDIT LOG**.
- Any event logged in the ATLAS Event Log (**SYSTEM STATUS/EVENT LOG**) should also appear in the Syslog.

Review Additional Syslog Features

1. The **MONITOR** feature allows all Syslog messages to be pre-filtered by **SYSTEM NAME**, **SOURCE**, **SLOT**, and **PORT** before displaying these messages to the user and logging the message to the predesignated monitor log file. Various filter options may be defined by selecting **SOURCE**.

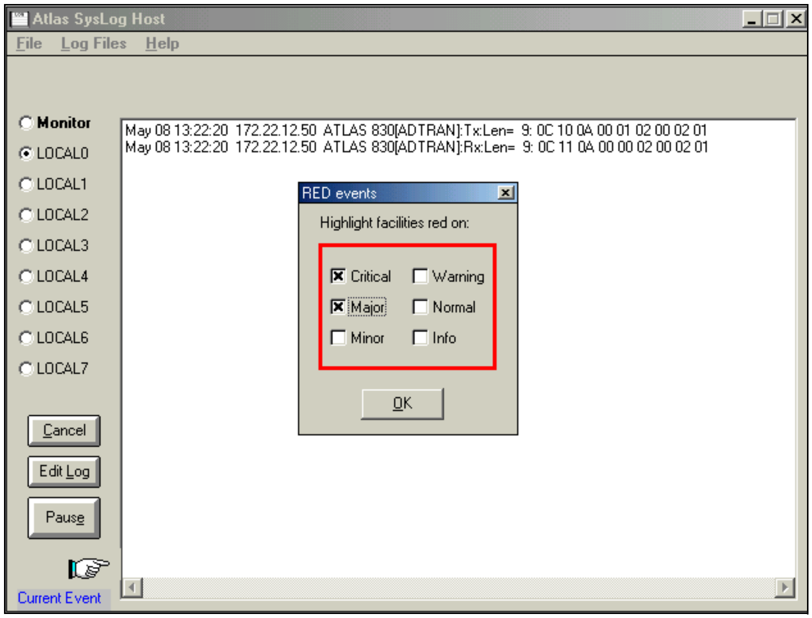
   - The following figure shows the **SOURCE FILTER** window. When the **MONITOR** button is selected, the file will be logged to **LOCAL8.TXT**.



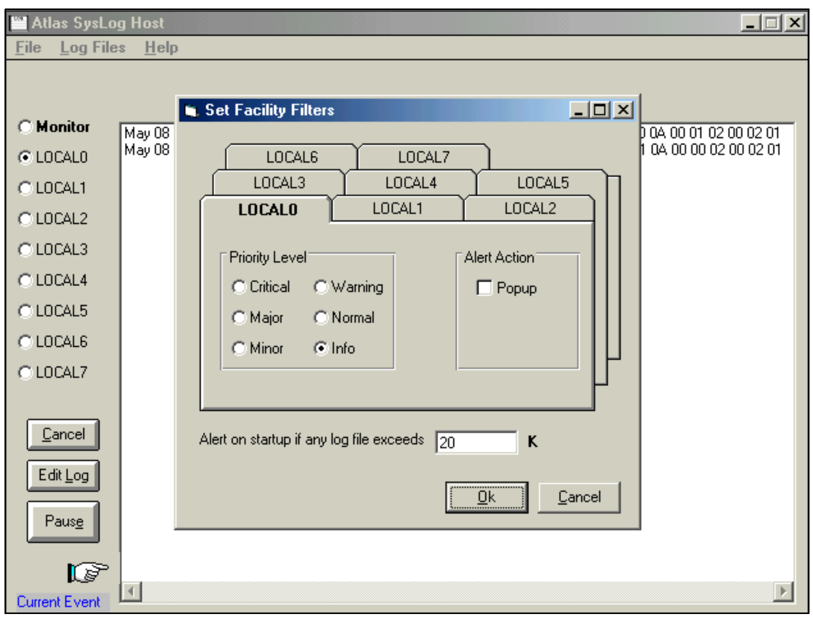
   - To look at the text file, click on the **EDIT LOG** button on the left side of the Syslog screen.
   - Only source options selected with an ‘X’ will be displayed in the Syslog file. In this example, all options will be displayed.

2. Under the **LOG FILES** menu option, the user may erase log files, define Red events, set priorities, and clear Red events.

   - The **ERASE LOG FILES** option will erase the specified text log file.
   - **DEFINE RED EVENTS** allows the user to predefine a message priority condition so that if the condition occurs, the file is highlighted in red.
   - In the following figure, any **CRITICAL** or **MAJOR** conditions will cause any **LOCAL0** through **LOCAL7** facility to become highlighted in red if it receives a critical or major alarm.



3. The **PROPERTIES** menu allows the user to specify the types of messages to be logged to an ASCII text file. Mark the lowest priority Event Log message you want to log to the Syslog server text file. For example, the figure below shows that all messages will be logged to the text file.



4. The **HELP** menu also explains these features. Click on **HELP/CONTENTS/SYSLOG HOST DAEMON** for further explanation of Syslog features.

DLP-11 Connecting the Alarm Contacts

Introduction

This DLP explains how to connect the alarm contacts for the ATLAS.

Prerequisite Procedures

Before making alarm connections, the unit should be mounted in its permanent location.

Tools and Materials Required

- Wire strippers
- Small, straight slot screwdriver
- 22 or 24 AWG 2-conductor twisted pair cross-connect wire

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Instructions for Connecting Alarm Contacts

1. Determine whether the external alarm reporting device uses normally open (NO) or normally closed (NC) relay contacts to sense an alarm condition. (Table 1 on page 349 shows the ATLAS alarm relay pinout.)
2. Figure 1 on page 349 and Figure 2 on page 350 show enlarged drawings of the alarm relay connectors.
3. Using standard Telco cross-connect wire or equivalent, determine and cut the length required to reach from the alarm header to the alarm-reporting device(s).
4. Using wire strippers, strip ¼-inch from both ends of each wire.
5. Remove the alarm relay (4 pin) terminal block by gently prying it loose.
6. Using the small, straight slot screwdriver, loosen the screws in the terminal block.

7. Insert one strand into the COM connection from the ATLAS and tighten the screw.

8. Insert another strand into either the NC or NO connections and tighten the screw. A chassis ground connection is also provided.

9. Replace the terminal block.

Table 1. ATLAS Alarm Relay Connector Pinout

Pin	Name	Description
1	Normally Closed (NC)	Opens when a selected alarm condition is present.
2	Normally Open (NO)	Closes when a selected alarm condition is present.
3	Common (COM)	Common connection between external circuitry and NC or NO terminal.
4	Chassis Ground (GND)	

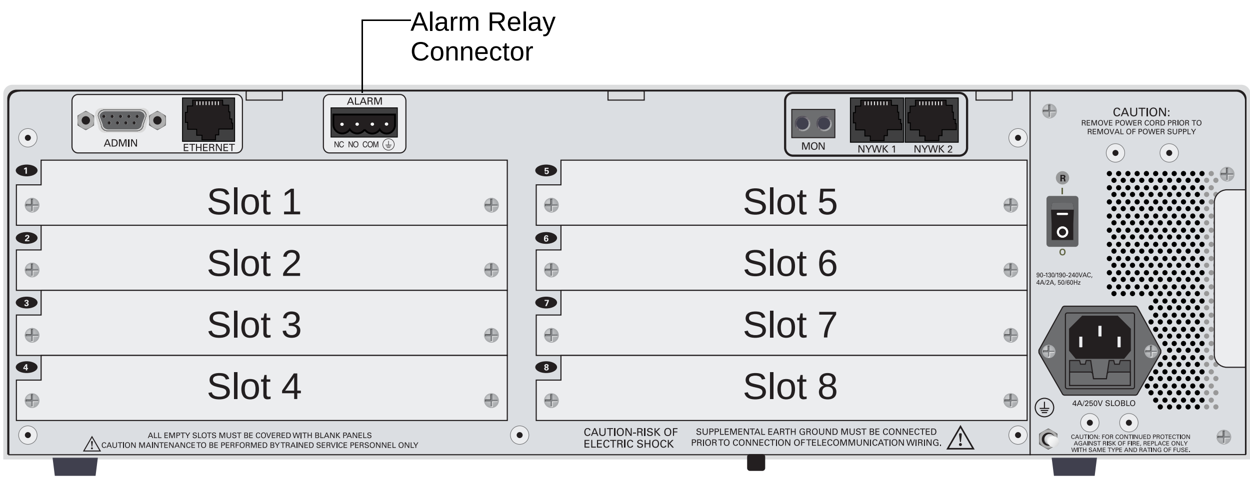


Figure 1. ATLAS 830 Rear View

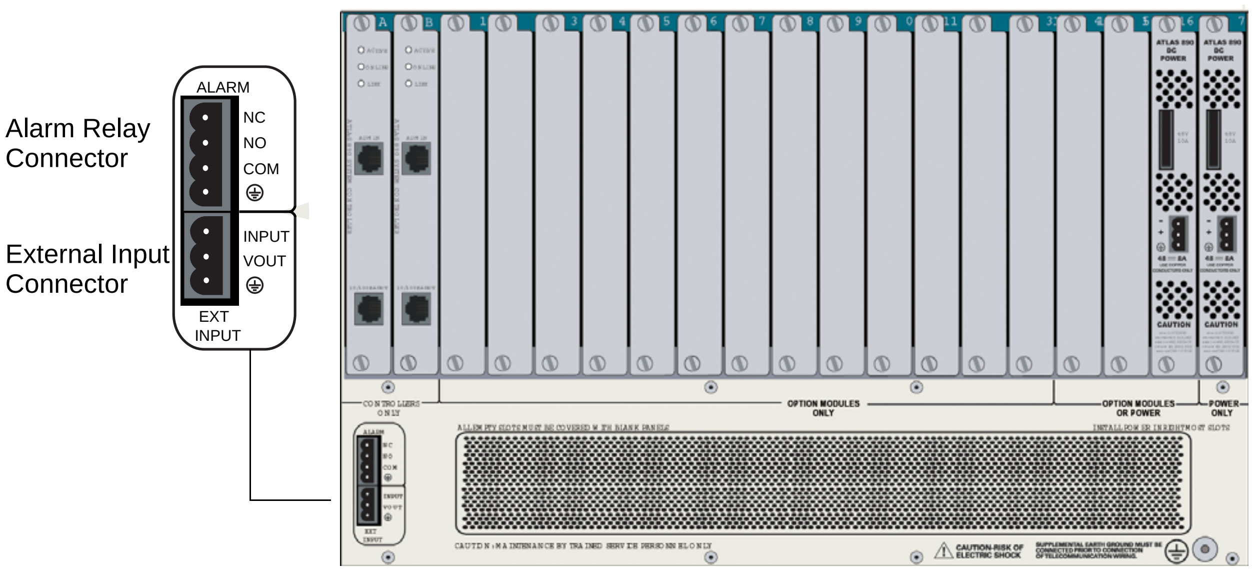


Figure 2. ATLAS 890 Rear View

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

> **NOTE** *To connect the ATLAS 890 External Input Connector, see DLP-12, Connecting to the ATLAS 890 External Input, on page 351.*

DLP-12 Connecting to the ATLAS 890 External Input

Introduction

This DLP explains how to connect other equipment to the external input on the ATLAS 890. The external input connector can sense a relay closure or the presence of -48 VDC.

Prerequisite Procedures

Before making this connection, the unit should be mounted in its permanent location.

Tools and Materials Required

- Wire strippers
- Small, straight slot screwdriver
- 22 or 24 AWG 2-conductor twisted pair cross connect wire

WARNING

To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.

CAUTION

Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.

Connecting the External Input

1. To sense the **relay closure**, connect VOUT (-48VDC limited to 1 mA) to the COM of the relay to be monitored (see Figure 3 on page 352). Connect INPUT to the normally open (NO) contact of the device to detect when the relay is energized or the normally closed (NC) to detect when the relay is de-energized (see Table 2).

2. To sense the **presence of -48 VDC**, connect INPUT to the source to be sensed.

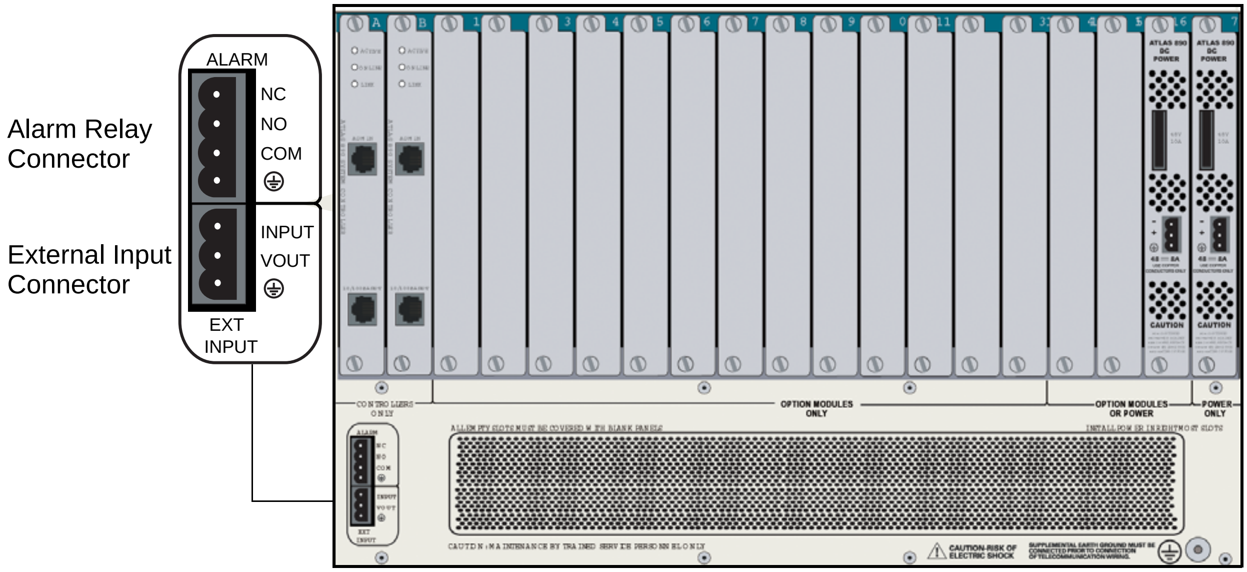


Figure 3. ATLAS 890 Rear View

Instructions

1. Using standard Telco cross-connect wire or equivalent, determine and cut the length required to reach from the external input header to the equipment to be sensed.
2. Using wire strippers, strip ¼-inch from both ends of each wire.
3. Remove the external input (3 pin) terminal block by gently prying it loose.
4. Using the small, straight slot screwdriver, loosen the screws in the terminal block.
5. Insert the wires in the terminal block as determined in steps 1 and 2, and tighten the screws. (A chassis ground connection is also provided.)
6. Replace the terminal block.

Table 2. External Input Connector Pinout

Pin	Name	Description
1	Alarm Out	Outputs EIA-232 level signal for connection to external alarm contacts.
2	Alarm In	Monitors signal coming from external alarm contacts.
3	Chassis Ground	

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

DLP-13 Using the Alarm Connections and ACO Button

Introduction

The alarm connections alert the user when a selected alarm condition exists. The alarm may be cleared by pressing the Alarm Cut-Off (ACO) switch located on the front panel of the ATLAS. This procedure details the steps which must be performed to use the ATLAS alarm connections and ACO switch.

This procedure should be performed at installation on each ATLAS shelf that is wired out to external office alarm equipment.

Prerequisite Procedures

Before beginning this procedure, the ATLAS should be mounted in its permanent location and the alarm contacts should be connected (see DLP-11, *Connecting the Alarm Contacts,* on page 348).

Tools and Materials Required

- VT100 terminal or PC with VT100 terminal emulation software

WARNING	*To prevent electrical shock, do not install equipment in a wet location or during a lightning storm.*

CAUTION	*Electronic modules can be damaged by static electrical discharge. Before handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.*

Connect to the ATLAS

1. If you are not already connected to the unit's **ADMIN** or **CRAFT** interfaces (either with a VT100 compatible terminal or with a PC running VT100 emulation software), use the procedure in DLP-1, *Connecting the Terminal or PC to the ADMIN or CRAFT Port* to connect to the **ADMIN** or **CRAFT** interface.

   Alternatively, if the unit is part of a management cluster connected to the local network, you may use a PC connected to the network to Telnet into the unit. Use the procedures in DLP-4, *Verifying Communications Over an IP LAN* to connect to the **10/100 BASET** interface.

2. Logon to the unit using the read-write password (see DLP-2, *System Login and Menu Access,* on page 323 for details).

Configure the Alarm Relay

1. Go to the **SYSTEM CONFIG** menu and press the right arrow key to access the right-pane menus.

2. Select the **ALARM RELAY THRESHOLD** menu and choose the appropriate threshold level.

   The **ALARM RELAY** will set for this threshold and all other alarms of greater importance. Refer to the section called *System Event Log* in this system manual for a listing of all alarms and levels of importance.

> NOTE: *Setting the threshold to Normal will* ***not*** *set the Alarm Relay for Normal events. No Normal events will set the Alarm Relay.*

Clearing the Alarm Relay Remotely

1. Go to the **SYSTEM CONFIG** menu and press the right arrow key to access the right-pane menus.

2. Select the **ALARM RELAY RESET** field and press <Enter>**.**

> NOTE: *Locally clear the* ***ALARM RELAY*** *by pressing the* **ACO** *switch.*

Configuring the ATLAS 890 Alarm Monitor

NOTE *Complete the following steps only if you wish to monitor for external alarms.*

1. Go to the **SYSTEM CONFIG** menu and press the right arrow key to access the right-pane menus. Then, select the **EVENT LOGGING** menu and press <Enter>. Once in the **EVENT LOGGING** menu, press the right arrow key to access the right-pane menus.

2. From the **EVENT LOGGING** menu, select the **EXTERNAL INPUT** menu and set it to the same value as the **ALARM RELAY THRESHOLD**. Any event on the **ALARM MONITOR** will now be logged in the **EVENT LOG** and set the **ALARM RELAY**.

Follow-up Procedures

Once this procedure is complete, return to the procedure which referred you to this DLP and continue with the tasks indicated there.

SECTION 6 SYSTEM EVENT LOG

Explains System Event Log messages and describes configuration of the Event Log.

You can log various message types at settable threshold levels in the ATLAS 800 Series Event Log. This section describes the entries that may be logged by the system Event Log. The Event Log **CATEGORY** threshold is particularly important – this is the minimum severity level that an event must have associated with it in order that the event be logged.

> *Use caution when changing **CATEGORY** values from their default levels. If too many sources have their **CATEGORY** values set too low, the number of messages being logged in a given period can be very large. If too many messages are being logged too rapidly, system performance can be adversely affected.*

The Event Log is a useful tool for troubleshooting switchboard (or call connection) activities including the viewing of digits received, digits transferred, and ISDN Messages. Since most of the events viewed in the following tables are used primarily during troubleshooting, they should be turned off in normal operation.

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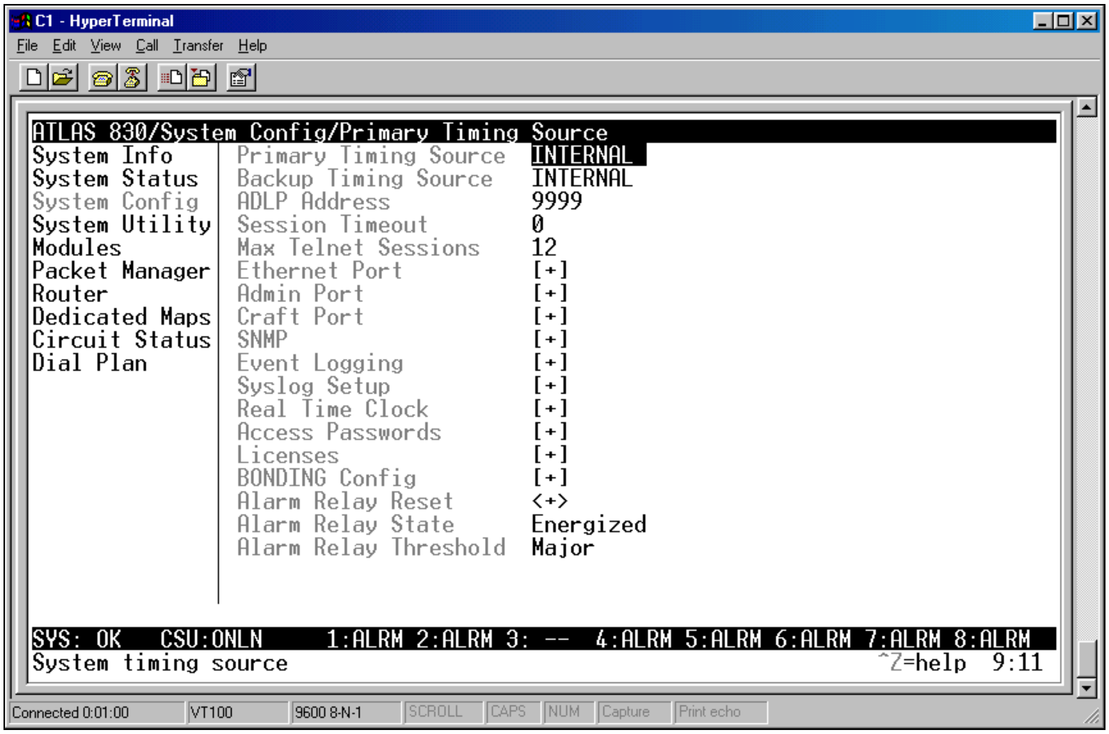
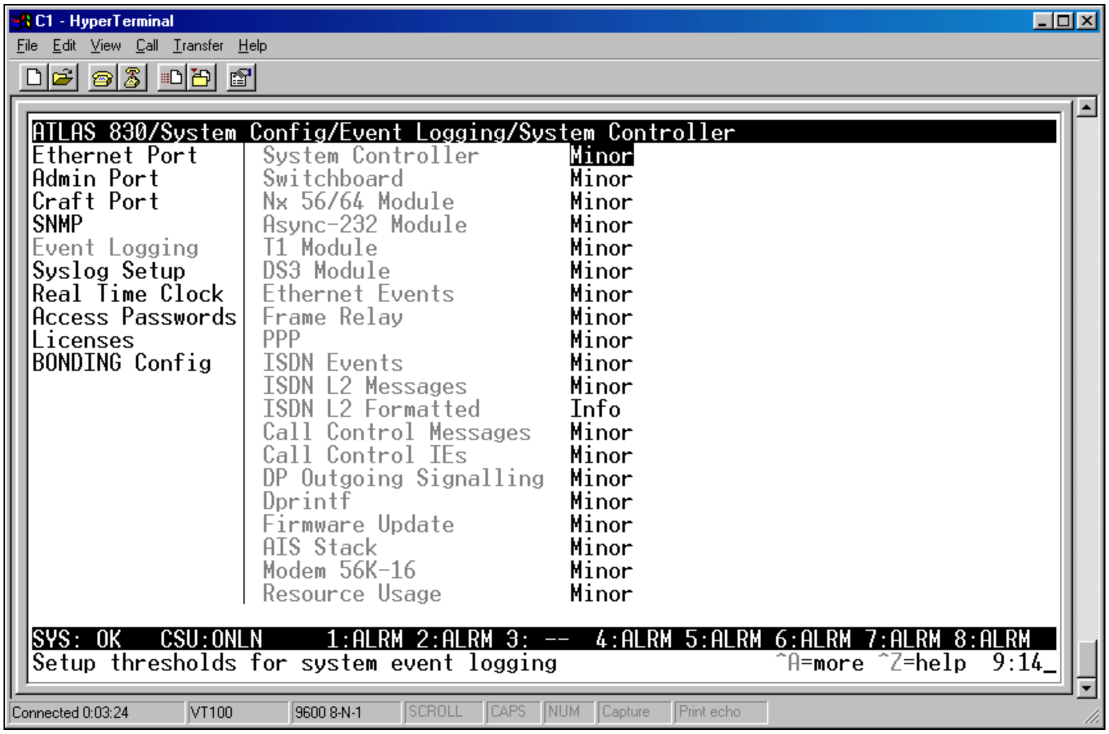
1. SETTING THE EVENT LOG CATEGORY

The following steps outline the procedure for setting up the event **CATEGORY** thresholds for the Event Log.

1. From the **MAIN MENU**, go to the **SYSTEM CONFIG** menu and press the right arrow key to enter the right-pane menus.

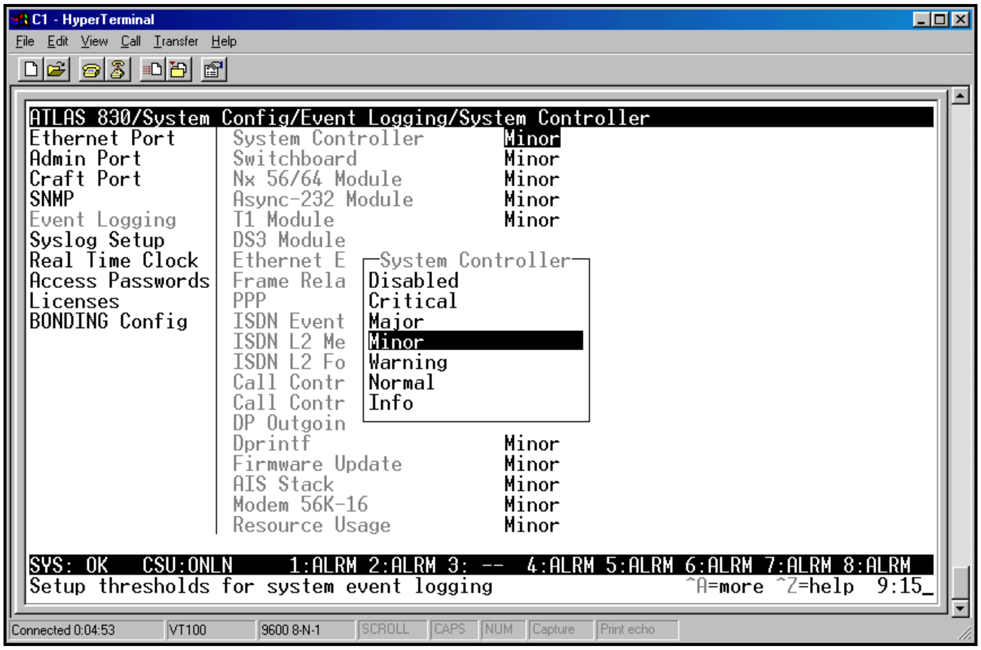


2. Select the **EVENT LOGGING** field and press <Enter>. Once in the **EVENT LOGGING** menus, press the right arrow key to access the right-pane menus.



3. Refer to the tables in this section to determine the desired **CATEGORY** thresholds.

4. To change the **CATEGORY**, select the appropriate field and press <Enter>. This will provide a list of available options. Highlight the desired threshold and press <Enter> to select it.

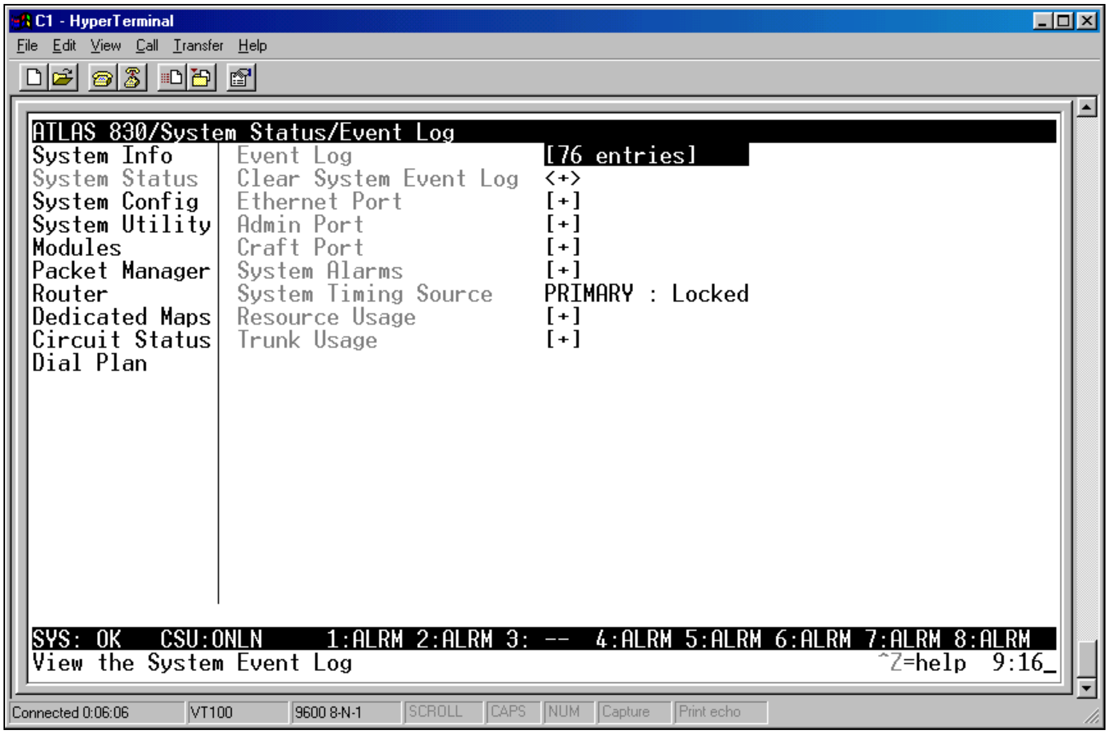


Use caution when changing **CATEGORY** *values from their default levels. If too many sources have their* **CATEGORY** *values set too low, the number of messages being logged in a given period can be very large. If too many messages are being logged too rapidly, system performance can be adversely affected.*

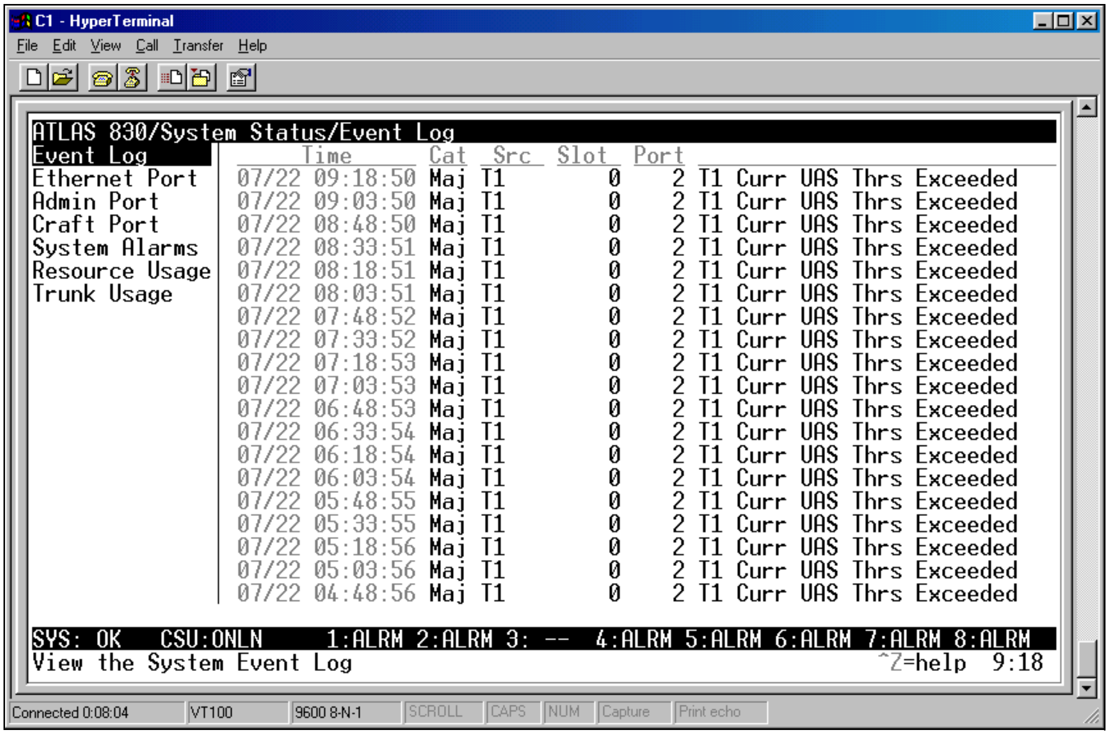
2. VIEWING THE EVENTS

The following steps outline the procedure for viewing **EVENT LOG** messages.

1. From the **MAIN MENU**, go to the **SYSTEM STATUS** menu and press the right arrow key to enter the right-pane menus.



2. Select the **EVENT LOG** field and press <Enter>. Once in the **EVENT LOG**, press the right arrow key to access the actual messages.



NOTE	*The **EVENT LOG** messages are stored in a first-in/first-out table. Therefore, the most recent log entry is found at the top of the log.*

NOTE	***EVENT LOG** messages may be sent to an external Syslog server for storage. Refer to DLP-10, Using the Event Log (Syslog), for more details.*

3. SYSTEM EVENTS

Table 1 through Table 8 provide listings of ATLAS system events, including tables of events for each category, according to the order they appear in the **EVENT LOG** setup screen.

Table 1. System Controller Events

Console Log String	Category	Event
AC Power Supply has Recovered	CRITICAL	AC power supply is functioning normal again
AC Power Supply has Failed	CRITICAL	AC power supply is not operating properly
AC Power Supply has Exceeded Temperature Limit	CRITICAL	Internal system temperature has exceeded safe operating limit
AC Power Supply is Under Temperature Limit	CRITICAL	Internal temperature has cooled to safe operating limit
DC Power Supply has Recovered	CRITICAL	DC power supply is functioning normally again
DC Power Supply has Failed	CRITICAL	DC power supply is not operating properly
DC Power Supply has Exceeded Temperature Limit	CRITICAL	Internal system temperature has exceeded safe operating limit
DC Power Supply is Under Temperature Limit	CRITICAL	Internal temperature has cooled to safe operating limit
Firmware invalid	CRITICAL	Corrupted firmware
Firmware update failed	CRITICAL	Flash download failed
System Configuration Uploaded	CRITICAL	ATLAS configuration file loaded into the system and activated
Module Not Responding	WARNING	Module removed or not responding
ACO Switch pressed	MINOR	ACO switch pressed
Login Failure	MINOR	Console login failure [1]
Timing source changed to Internal	MINOR	Neither the primary nor the backup are valid
Timing source changed to Backup	MINOR	The primary source is invalid; backup source valid and selected.
Timing source changed to Primary	MINOR	The timing source changed to primary
Not responding to programming	MINOR	Unable to program module
Cold	NORMAL	System cold start [2]
Firmware update completed	INFO	Flash download successful
Module Found	INFO	Module found
SNMP Authentication Failure	INFO	SNMP authentication failure [3]

1 Three consecutive logins were attempted and failed.

2 Generated five seconds after the completion of system initialization.

3 Generated if the ATLAS receives an SNMP request from an SNMP manager defined in the ATLAS SNMP communities list but with a community name that does not match the community name defined in the SNMP communities list.

Table 2. Switchboard Events

Console Log String	Category	Event
<number > rejected: No such number	WARNING	Call rejected [1]
<number > rejected: Outgoing reject list	NORMAL	Call rejected [2]
<number > rejected: Busy	NORMAL	Call rejected [3]
<number > accepted: <slot > <port >	NORMAL	Call successfully routed

1 No such number in dial plan.

2 Number is on outgoing reject list.

3 All endpoints busy.

Table 3. Nx 56/64 Events

Console Log String	Category	Event
Nx 56/64 511 Test Pattern Active	WARNING	511 Test Pattern Activated
Nx 56/64 511 Test Pattern Cleared	WARNING	511 Test Pattern Deactivated
Nx 56/64 Bilateral Loopback Active	WARNING	Bilateral Loopback Activated
Nx 56/64 Bilateral Loopback Cleared	WARNING	Bilateral Loopback Deactivated
Nx 56/64 Excessive Zeros Alarm	WARNING	Excessive Zeros from DTE
Nx 56/64 Excessive Zeros Alarm Cleared	WARNING	Excessive Zeros condition cleared
Nx 56/64 Clock Slip Alarm Active	MAJOR	Clock Slip Alarm Active
Nx 56/64 Clock Slip Alarm Cleared	MAJOR	Clock Slip Alarm Cleared
Nx 56/64 External Clock Alarm Active	MAJOR	External Clock Alarm
Nx 56/64 External Clock Alarm Cleared	MAJOR	External Clock Alarm Cleared
Nx 56/64 PLL Alarm Active	MAJOR	PLL Alarm Active
Nx 56/64 PLL Alarm Cleared	MAJOR	PLL Alarm Cleared
Nx 56/64 CTS Asserted	INFO	CTS Asserted
Nx 56/64 CTS Dropped	INFO	CTS Dropped
Nx 56/64 DCD Asserted	INFO	DCD Asserted
Nx 56/64 DCD Dropped	INFO	DCD Dropped
Nx 56/64 DTR Asserted	INFO	DTR Asserted
Nx 56/64 DTR Dropped	INFO	DTR Dropped
Nx 56/64 RTS Asserted	INFO	RTS Asserted
Nx 56/64 RTS Dropped	INFO	RTS Dropped

Table 4. T1 Events

Console Log String	Category	Event
T1 Curr CSS Thrs Exceeded	WARNING	Current T1 Controlled Slip Seconds Threshold Exceeded
T1 Curr ES Thrs Exceeded	WARNING	Current T1 Errored Seconds Threshold Exceeded
T1 Curr LCV Thrs Exceeded	WARNING	Current T1 Line Code Violations Threshold Exceeded
T1 Curr LES Thrs Exceeded	WARNING	Current T1 Line Errored Seconds Threshold Exceeded
T1 Curr PCV Thrs Exceeded	WARNING	Current T1 Path Code Violations Threshold Exceeded
T1 Curr SEFS Thrs Exceeded	WARNING	Current T1 Severely Errored Framing Seconds Threshold Exceeded
T1 Curr SES Thrs Exceeded	WARNING	Current T1 Severely Errored Seconds Threshold Exceeded
T1 Curr UAS Thrs Exceeded	WARNING	Current T1 Unavailable Seconds Threshold Exceeded
T1 Line Loopback Active	WARNING	Line Loopback Active
T1 Loopback Cleared	WARNING	Loopback Cleared
T1 Payload Loopback Active	WARNING	Payload Loopback Active
T1 Total CSS Thrs Exceeded	WARNING	Total T1 Controlled Slip Seconds Threshold Exceeded
T1 Total ES Thrs Exceeded	WARNING	Total T1 Errored Seconds Threshold Exceeded
T1 Total LCV Thrs Exceeded	WARNING	Total T1 Line Code Violations Threshold Exceeded
T1 Total LES Thrs Exceeded	WARNING	Total T1 Line Errored Seconds Threshold Exceeded
T1 Total PCV Thrs Exceeded	WARNING	Total T1 Path Code Violations Threshold Exceeded
T1 Total SEFS Thrs Exceeded	WARNING	Total T1 Severely Errored Framing Seconds Threshold Exceeded
T1 Total SES Thrs Exceeded	WARNING	Total T1 Severely Errored Seconds Threshold Exceeded
T1 Total UAS Thrs Exceeded	WARNING	Total T1 Unavailable Seconds Threshold Exceeded
T1 Blue Alarm Cleared	MAJOR	Blue Alarm Cleared
T1 Blue Alarm Active	MAJOR	Blue Alarm Set
T1 D Channel Alarm Cleared	MAJOR	D Channel Alarm Cleared
T1 D Channel Alarm Active	MAJOR	D Channel Alarm Set
T1 LOS Cleared	MAJOR	LOS Alarm Cleared
T1 LOS Active	MAJOR	LOS Alarm Set
T1 Red Alarm Cleared	MAJOR	Red Alarm Cleared
T1 Red Alarm Active	MAJOR	Red Alarm Set
T1 Tx Blue Alarm Cleared	MAJOR	Tx Blue Alarm Cleared
T1 Tx Blue Alarm Active	MAJOR	Tx Blue Alarm Set
T1 Tx Yellow Alarm Cleared	MAJOR	Tx Yellow Alarm Cleared
T1 Tx Yellow Alarm Active	MAJOR	Tx Yellow Alarm Set
T1 Yellow Alarm Cleared	MAJOR	Yellow Alarm Cleared

Table 4. T1 Events *(Continued)*

Console Log String	Category	Event
T1 Yellow Alarm Active	MAJOR	Yellow Alarm Set

Table 5. Ethernet Events

Console Log String	Category	Event
Out of memory	CRITICAL	Not enough memory for Ethernet driver

Table 6. ISDN Events

Console Log String	Category	Event
BRI configuration failed: No ISDN resources are available	CRITICAL	No BRI resources available
PRI configuration failed: No ISDN resources are available	CRITICAL	No PRI resources available
No SPID matches the call profile: <called number > <call type >	WARNING	No Matching SPID found
No SPID with free B channels matches call type: <call type >	WARNING	No Matching SPID found
LT: Tried to call unregistered SPID <spid >	WARNING	SPID Unregistration attempted
D channel is DOWN	MAJOR	D Channel Down
<message > : Incorrectly formatted cause IE	MAJOR	Incorrectly formatted IE
BRI NT: SPID <spid > was rejected	MAJOR	SPID Failed
BRI NT: SPID Negotiations failed - resetting the link	MAJOR	SPID Negotiation failed
BRI LT: SPID <spid > received - NOT IN LIST	MAJOR	Unknown SPID received
BRI NT: SPID Negotiations failed - Retrying	MINOR	SPID Retry in progress
Configured BRI as LT	NORMAL	BRI LT configuration successful
Configured BRI as NT	NORMAL	BRI NT configuration successful
Rejected an incoming call for an unregistered SPID	NORMAL	Call Rejected
D channel is UP	NORMAL	D Channel Up
Released: No longer an ISDN line	NORMAL	ISDN line released
No outgoing B channel available for call to <number >	NORMAL	No B channels for call
Configured PRI as central office emulator	NORMAL	PRI CO configuration successful

Table 6. ISDN Events *(Continued)*

Console Log String	Category	Event
Configured PRI as CPE	NORMAL	PRI CPE configuration successful
BRI NT: Spid <spid > registered	NORMAL	SPID registered
BRI LT: All SPIDs registered	NORMAL	SPID Registration complete
BRI NT: All SPIDs registered	NORMAL	SPID Registration complete
BRI LT: Registering SPID <spid >	NORMAL	SPID Registration in progress
BRI NT Registering SPID <spid >	NORMAL	SPID Registration in progress
Call to <called number > declared busy after leaving ATLAS	INFO	Call busy
Call to <called number > refused: Busy	INFO	Call busy
Call to <called number > cleared from ATLAS end	INFO	Call cleared
Call to <called number > connected	INFO	Call connected
Call to <called number > disconnected by far end	INFO	Call disconnected
Call not accepted to <called number > : No channel available	INFO	Call not accepted
Call to ATLAS: <called number > received	INFO	Call received
Call to <called number > ringing	INFO	Call ringing
Dialing <called number >	INFO	Dialing number
Incoming call to <called number > accepted	INFO	Incoming call accepted
Incoming call to <called number > refused	INFO	Incoming call refused

Table 7. Circuit Backup Events

Console Log String	Category	Event
Circuit Backup Attempt Failed	MAJOR	Outgoing backup call was unsuccessful
Circuit Backup Test Call Failed	MAJOR	Outgoing backup test call was unsuccessful
Attempting Circuit Backup	MINOR	Circuit Backup call attempted to restore data circuit
Circuit Backup Active	MINOR	Port is currently in backup
Circuit Backup Deactivated, Primary Restored	MINOR	Port was in backup, but primary data function was restored

Table 7. Circuit Backup Events *(Continued)*

Console Log String	Category	Event
Circuit Backup Data Alarm Active	MINOR	Inband keep alive messages were disrupted or corrupted
Circuit Backup Data Alarm Cleared	MINOR	Inband keep alive messages are functioning properly
Circuit Backup Test Call Originated	INFO	Circuit Backup test call was attempted by the unit
Circuit Backup Test Call Connected	INFO	Circuit Backup test call was successfully connected to backup site
Circuit Backup Test Call Passed	INFO	Circuit Backup test call was successfully maintained for test period

Table 8. DP Outgoing Signaling Events

Console Log String	Category	Event
TX Set Rx ABCD < > Tx ABCD < > [1]	INFO	ATLAS changed signal bits on port
RX Change Rx ABCD < > Tx ABCD < >	INFO	Equipment connected to port changed signal bits

1 The ATLAS 800 Series uses only AB signaling bits. The CD signaling bits are a copy of the AB values. These values are shown in hexadecimal notation. For example, if AB signal bits are 01, then the total signal bits would be 01 01. Putting that in hexadecimal notation results in an event of Tx set Rx ABCD 0x 05.

4. ISDN CAUSE CODES

In addition to the above events, certain recognized ISDN cause codes are sent to the Event Log from the ISDN message facility during **ISDN EVENTS**, **L2 MESSAGES**, and **L2 FORMATTED** event categories. Table 9 lists the codes applicable to the ATLAS 800 Series and the minimum category required for logging the cause code event.

Table 9. ISDN Cause Code Events

Cause Code Event	Category	Code
ACCESS_INFO_DISCARDED	WARNING	43
BAD_INFO_ELEM	MAJOR	99
BEAR_CAP_NOT_AVAIL	MINOR	58
CALL_REJECTED	INFO	21
CAP_NOT_IMPLEMENTED	MINOR	65
CHAN_NOT_IMPLEMENTED	MINOR	66
CHANNEL_UNACCEPTABLE	INFO	6
DEST_OUT_OF_ORDER	INFO	27
FACILITY_NOT_IMPLEMENTED	MAJOR	69

Table 9. ISDN Cause Code Events *(Continued)*

Cause Code Event	Category	Code
FACILITY_NOT_SUBSCRIBED	MINOR	50
FACILITY_REJECTED	INFO	29
INCOMING_CALL_BARRED	MINOR	54
INCOMPATIBLE_DEST	MAJOR	88
INTERWORKING_UNSPEC	WARNING	127
INVALID_CALL_REF	MAJOR	81
INVALID_ELEM_CONTENTS	MAJOR	100
INVALID_MSG_UNSPEC	MAJOR	95
INVALID_NUMBER_FORMAT	INFO	28
MANDATORY_IE_LEN_ERR	MAJOR	103
MANDATORY_IE_MISSING	MAJOR	96
NETWORK_CONGESTION	WARNING	42
NETWORK_OUT_OF_ORDER	WARNING	38
NO_CIRCUIT_AVAILABLE	WARNING	34
NO_ROUTE	INFO	2
NO_USER_RESPONDING	INFO	18
NONEXISTENT_MSG	MAJOR	97
NORMAL_CLEARING	INFO	16
NUMBER_CHANGED	INFO	22
OUTGOING_CALL_BARRED	MINOR	52
PRE_EMPTED	WARNING	45
PROTOCOL_ERROR	MAJOR	111
REQ_CHANNEL_NOT_AVAIL	WARNING	44
RESP_TO_STAT_ENQ	INFO	30
SERVICE_NOT_AVAIL	MINOR	63
TEMPORARY_FAILURE	WARNING	41
TIMER_EXPIRY	MAJOR	102
UNASSIGNED_NUMBER	INFO	1
UNSPECIFIED_CAUSE	INFO	31
USER_BUSY	INFO	17
WRONG_MESSAGE	INFO	98
WRONG_MSG_FOR_STATE	MAJOR	101

5. CAUSE CODE LOG ENTRIES

Cause Code IEs that are non-Q.931 (i.e., the Coding Standard field is not 0) are logged with the following format:

<message > : <coding standard > code <cause code >

The coding standard field is one of the following: Reserved, National, or Local. Each Cause Code IE log entry ends with a location designation. Table 10 shows these designations. Table 11 through Table 13 provide listings of system events.

Table 10. Cause Code Log Entry Location Designations

Code	Location
IN0TL	International network
INWK	Network beyond internetworking point
LN	Public network serving the local user
LPN	Private network serving the local user
RLN	Public network serving the remote user
RPN	Private network serving the remote user
TN	Transit network
U	User

Table 11. ISDN L2 Messages

Console Log String	Category	Event
<message contents >	INFO	ISDN Layer 2 (LAPD) Message[1]

1 Provides a hex dump of the entire LAPD frame.

Table 12. ISDN Call Control Messages

Console Log String	Category	Event
Host > > CC <tag > <call ID > <message >	INFO	ISDN Call Control Messages
CC > > Host <tag > <call ID > <message >	INFO	ISDN Call Control Messages

Table 13. Source: ISDN Information Elements

Console Log String	Category	Event
<message contents >	INFO	ISDN Information Element[1]

1 Provides a hex dump of the ISDN IE sent with a call control message.

SECTION 7 ADTRAN UTILITIES

Provides instructions for configuring and using the ADTRAN utilities (Telnet, VT100, Syslog, and TFTP).

ADTRAN delivers several PC software utilities along with the ATLAS 800 Series. These utilities are located on the CD-ROM that came with your shipment. They also include MIB files (located in the MIB directory).

> NOTE: *Review the readme file (Readme.txt) for the latest information about the utilities.*

The utilities make it easier to interface with the terminal menu and transfer configuration files to and from TFTP servers. The utilities all run on Microsoft Windows 3.1 or higher. The following sections describe the Syslog, Telnet, VT100, and TFTP Server utilities.

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Figure 4. TFTP Server Interface 378

1. TELNET UTILITY

The Telnet utility delivered with the ATLAS 800 Series provides enhancements to standard Telnet programs making it easier to work with.

Access the Telnet program remotely through the 10/100BaseT Ethernet port. For a detailed description of how to work with the Telnet program, refer to *Navigating the Terminal Menus* on page 71. If you need help setting up the ATLAS 800 Series for a Telnet session, refer to *Connecting the Terminal or PC to the ADMIN or CRAFT Port* on page 321.

The Telnet menus include **SESSION**, **EDIT**, **OPTIONS**, **CAPTURE**, and **HELP** (see the menu tree in Figure 1).

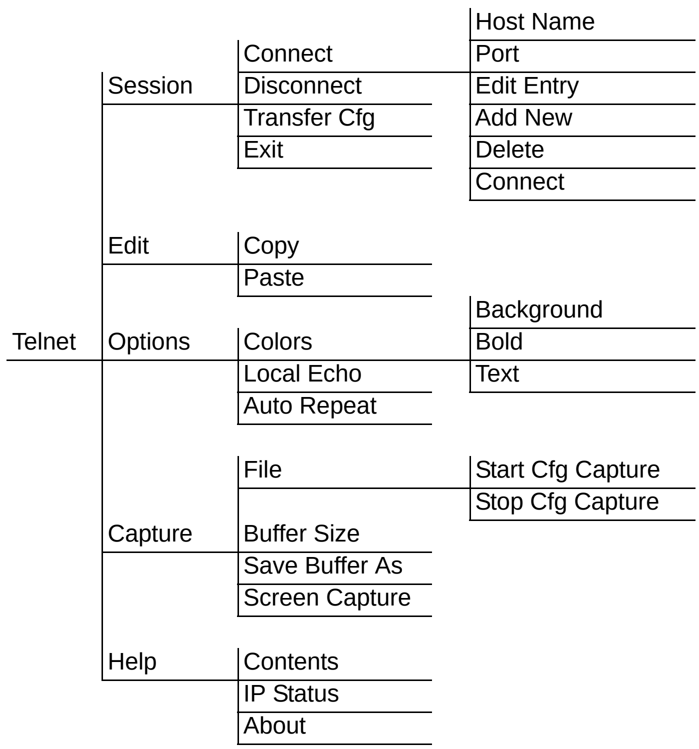
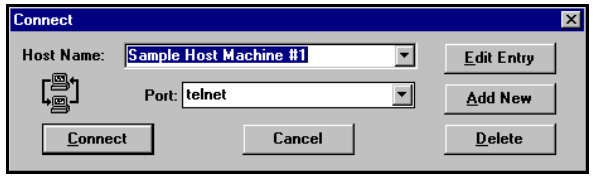


Figure 1. Telnet Menu Tree

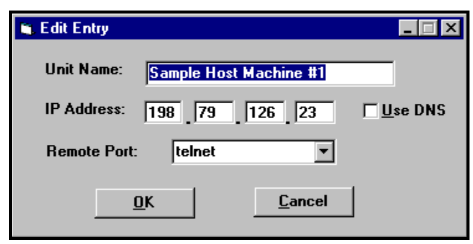
Session Menu

Click on **SESSION** to open the Telnet session.

Connect



Opens dialog box for setting **HOST NAME** and **PORT** parameters for a Telnet session. Also lets you **EDIT ENTRY**, **ADD NEW** entry, and **DELETE** stored entries. When the parameters are set, click **CONNECT** to make the connection. Click **CANCEL** to end the session.

Submenu	Description
Host Name	Accepts and stores host names. You may either enter a descriptive name, an IP address, or a domain name directly from this field. Click on the drop-down arrow to display a complete list of previously stored host names.
Port	Provides several port options. You may enter port numbers directly into this field to connect to non-standard ports or select the drop-down combo-box to display the following options: Telnet — establishes a Telnet session Echo — provides a loopback for troubleshooting Discard — bit bucket; discards data Daytime — returns the time Chargen — displays as a unique character stream; used for self-tests
Edit Entry	Changes either the unit name or the IP address of each host. Press either **Tab, Return,** or a **period (.)** after each number in the IP address to move to the next field. If you press **Return** or **(.)** while the cursor is located in each IP field, the next field is cleared and the cursor advanced into it. 
Add New	Prompts you for the same information as the **EDIT ENTRY** dialog box for new host. When enabled, the **USE DNS** (Domain Name Server) feature allows users to request **DOMAIN LOOK UP** via a DNS server on the network, rather than specifying an IP address. The name then appears in the **HOST NAME** field.
Delete	Removes a host name from the list; simply select the host name you want to remove, and, at the prompt, click **DELETE**.
Connect	Establishes the Telnet session.

Disconnect	Terminates the Telnet session. To re-establish the session, select **CONNECT** from **SESSION MENU** or press **ENTER** three times. This action restores the previous connection.
Transfer Cfg	This feature is used with ADTRAN products primarily for sending configuration files to the unit.
Exit	Ends the Telnet session and closes the Telnet screen.

Edit Menu

Provides **COPY** and **PASTE** commands.

Options Menu

Provides viewing alternatives for the terminal screen.

Colors	Three options change the color of the background window (**BACKGROUND**), bold highlights (**BOLD**), and text (**TEXT**).
Local Echo	Echoes each character that you enter.
Auto Repeat	Repeats characters you select from the keyboard, if you hold down the key.

Capture Menu

Provides options for capturing screen images.

File Sends screen options data to a file in the format options listed below:

Submenu	Description
Start Cfg Capture	Used with the ADTRAN product line to start sending the scrolling screen capture to a file storage location.
Stop Cfg Capture	Used with the ADTRAN product line to stop sending the scrolling screen capture to a file storage location.

Buffer Size	Disables terminal window scroll bars when set to zero. (This is the normal setting for ATLAS 800 Series.) This number represents the number of lines to capture in the memory buffer.
Save Buffer As	Save screen capture to a file.
Screen Capture	Copies the text on the current Telnet screen to the clipboard. You can open any word processor and paste the clipboard contents into the program. This option is helpful when debugging.

Help Menu

Provides on-line help for using the ADTRAN Utilities.

Contents Opens the on-line help.

IP Status Displays the local port address and the status of the connection.

About Displays version and owner information.

2. VT100 UTILITY

Use the VT100 to configure an ATLAS 800 Series which is directly connected to a PC. The VT100 display is almost identical to the Telnet display. For a detailed description of how to work within the terminal menu, refer to *Navigating the Terminal Menus* in the User Interface Guide section of this manual. If you need help setting up the ATLAS 800 Series for a VT100 session, refer to the Detailed Level Procedures section of this manual. VT100 menus include **SESSION**, **EDIT**, **PORT**, **OPTIONS**, **CAPTURE**, and **HELP** (see the menu tree in Figure 2).

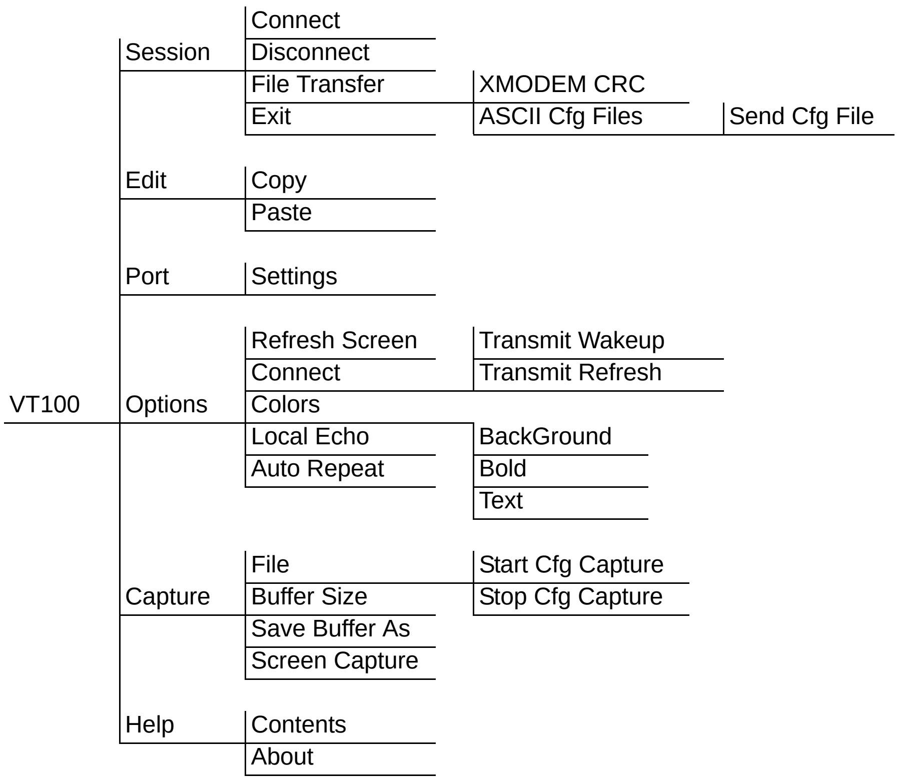


Figure 2. VT100 Menu Tree

Session Menu

Opens VT100 terminal emulation session.

Connect Opens a specified serial port for a VT100 session.

Disconnect Closes a specified serial port at the end of a VT100 session.

File Transfer Uploads and downloads files to and from an ATLAS 800 Series.

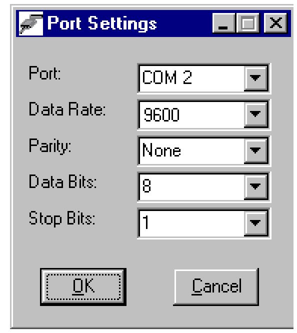
Submenu	Description
XMODEM CRC	Selects the XMODEM file transfer protocol.
ASCII Cfg Files	Selects ASCII transfer mode. Primarily useful for configuration transfers for the ADTRAN products.

Edit Menu

Identical to the Telnet **EDIT MENU** (see *Edit Menu* on page 374).

Port Menu

Changes serial COM port **SETTINGS**. Provides data rate settings from 300—57600 bps.



Options Menu

Provides terminal screen commands.

Refresh Screen Redraws the screen.

Connect Provides the options TRANSMIT WAKEUP and TRANSMIT REFRESH.

Submenu	Description
Transmit Wakeup	Provides a control sequence that puts the ATLAS 800 Series Control Port online in terminal mode.
Transmit Refresh	Provides a control sequence to refresh the screen automatically when connecting. (This is the default setting for the ATLAS 800 Series.)

Colors Identical to Telnet **COLORS MENU** (see *Colors* on page 374).

Local Echo Echoes each character that you enter.

AutoRepeat Repeats characters you select from the keyboard if you hold down the key.

Capture Menu

Identical to the Telnet **CAPTURE MENU** (see *Capture Menu* on page 374).

Help Menu

Provides on-line help and information about the version number.

Contents Opens on-line help.

About Displays version and owner information.

3. TFTP SERVER

The TFTP Server utility transfers ATLAS 800 Series configuration files to and from a TFTP server. You can install this program on a PC running any version of Microsoft Windows. The configuration of an ATLAS 800 Series can be saved offline as a backup file. The saved file may also be used to send the same configuration to multiple ATLAS 800 Series units. Transfer configuration files using the TFTP protocol (a TCP/IP user protocol) via the 10/100BaseT Ethernet port. The ATLAS 800 Series must have a valid IP address, subnet mask, and default gateway (if required), and be connected to an Ethernet network before proceeding. Figure 4 shows the TFTP server interface. For information on transferring and saving configurations using TFTP, refer to the Detailed Level Procedures section of this manual.

> NOTE
> *Files must be placed in the Application directory where you installed the product. Received files are also placed here.*

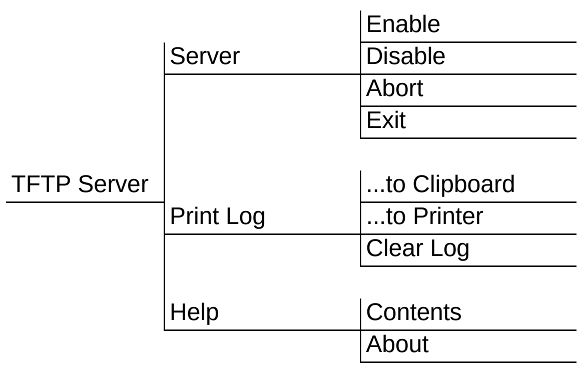


Figure 3. TFTP Server Interface Menu Tree

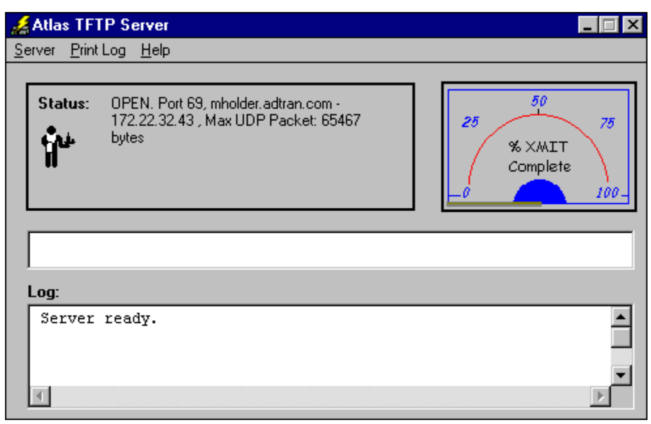


Figure 4. TFTP Server Interface

Only one configuration transfer session (upload or download) may be active at a time. The TCP/IP parameters are not saved or overwritten as part of an ATLAS 800 Series unit's transferred configuration to allow sending identical configurations to multiple units. When you start this program, a port is automatically opened.

Server Menu

Provides enable, disable, abort, and exit options.

Enable Enables the TFTP server. The IP address displays in the Status field and Server Ready displays in the Log field.

Disable Disables the TFTP server. When you select this option, the message PORT CLOSED displays in the Status field and Port Closed displays in the Log field.

Abort Terminates a transfer that is in progress.

Exit Terminates active transfers and closes the TFTP window.

Print Log

Provides print options.

...to Clipboard Copies the information in the Log field to the clipboard. You can then open any word processor and paste the information into the program for review.

...to Printer Sends the information in the Log field to the default printer.

Clear Log Deletes the information stored in the Log field.

Help

Provides on-line help and version information.

Contents Opens on-line help.

About Displays version and owner information.

TFTP Server GUI

Status Field This field displays general information about port and transfer status. This field is read-only. The unlabeled field in the center of the screen displays prompts about the status of active transfers, such as bytes transferred and received.

Meter Field The **XMIT** meter provides a visual record of the transfer process.

Log Field

This field displays a record of all of the events that occur during the time the TFTP Server is enabled. Use the scroll bar to move up and down the list. To clear the information in this field, select **CLEAR LOG** from the **PRINT LOG** menu. Save this information to a file before deleting it with the **...TO CLIPBOARD** command.

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