Quad BRI/U Module

User Manual

Part Number 1200315L1

61200315L1-1B
April 2000

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(256) 963-8000

Affidavit Requirements for 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 signals 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 for filing an affidavit with the local exchange carrier when connecting unprotected customer premise equipment (CPE) to 1.544 Mbps or subrate digital services.
- Until such time as subrate digital terminal equipment is registered for voice applications, the affidavit requirement for subrate services is 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: _____

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

1. This equipment complies with Part 68 of the FCC rules. The required label is affixed to the bottom of the chassis.
2. An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68-compliant. See Chapter 2, Installation, for details.
3. If your telephone equipment (Octal BRI / U Module) causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.
4. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be given advance notice to give you an opportunity to maintain uninterrupted service.
5. If you experience trouble with this equipment (Octal BRI / U Module), please contact ADTRAN at (256) 963-8000 for repair / warranty information. The telephone company may ask you to disconnect this equipment from the network until the problem has been corrected or until you are sure the equipment is not malfunctioning.
6. This unit contains no user-serviceable parts.
7. The following information may be required when applying to your local telephone company for leased line facilities.

Service Type	REN/SOC	FIC	USOC
Basic Rate ISDN	6.0N	02IS5	RJ-48C

Federal Communications Commission (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.

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

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

Canadian Equipment Limitations

The Industry Canada Certification label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department of Commerce does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic waterpipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or an electrician, as appropriate.

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the equipment that the total of the LNs of all devices does not exceed 100.

The ringer equivalence number (REN) assigned to each terminal adapter is used to determine the total number of devices that may be connected to each circuit. The sum of the RENs from all devices in the circuit should not exceed a total of 5.0.

Warranty and Customer Service

ADTRAN will replace or repair this product within five years from the date of shipment if the product does not meet its published specification, or if it fails while in service. For detailed warranty, repair, and return information, refer to the ADTRAN Equipment Warranty and Repair and Return Policy Procedure (see the last page of this manual).

A return material authorization (RMA) is required prior to returning equipment to ADTRAN.

For service, RMA requests, or more information, see the last page of this manual for the toll-free contact number.

Limited Product Warranty

ADTRAN warrants that for five (5) years from the date of shipment to Customer, all products manufactured by ADTRAN will be free from defects in materials and workmanship. ADTRAN also warrants that products will conform to the applicable specifications and drawings for such products, as contained in the Product Manual or in ADTRAN's internal specifications and drawings for such products (which may or may not be reflected in the Product Manual). This warranty only applies if Customer gives ADTRAN written notice of defects during the warranty period. Upon such notice, ADTRAN will, at its option, either repair or replace the defective item. If ADTRAN is unable, in a reasonable time, to repair or replace any equipment to a condition as warranted, Customer is entitled to a full refund of the purchase price upon return of the equipment to ADTRAN. This warranty applies only to the original purchaser and is not transferable without ADTRAN's express written permission. This warranty becomes null and void if Customer modifies or alters the equipment in any way, other than as specifically authorized by ADTRAN.

EXCEPT FOR THE LIMITEDWARRANTY DESCRIBED ABOVE, THE FOREGOING CONSTITUTES THE SOLE AND EXCLUSIVE REMEDY OF THE CUSTOMER AND THE EXCLUSIVE LIABILITY OF ADTRAN AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES (EXPRESSED OR IMPLIED). ADTRAN SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, INCLUDING (WITHOUT LIMITATION), ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIEDWARRANTIES, SO THIS EXCLUSION MAY NOT APPLY TO CUSTOMER.

In no event will ADTRAN or its suppliers be liable to Customer for any incidental, special, punitive, exemplary or consequential damages experienced by either Customer or a third party (including, but not limited to, loss of data or information, loss of profits, or loss of use). ADTRAN is not liable for damages for any cause whatsoever (whether based in contract, tort, or otherwise) in excess of the amount paid for the item. Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to Customer.

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Chapter 1 Introduction

QUAD BRI/U MODULE OVERVIEW

The Quad BRI/U Module is a member of the ATLAS 550 family of integrated access products, providing four Basic Rate ISDN (BRI) U interfaces, each capable of operating in either NT or LT mode. Any port can deliver timing for the system.

The Quad BRI/U Module combines with the ATLAS 550 Base Unit and other ATLAS 550 modules to support requirements calling for multiple BRI circuits. As many Quad BRI/U Modules can be installed in a system as can be physically accommodated in the ATLAS 550 chassis. Figure 1-1 shows a sample application using the Quad BRI/U Module.

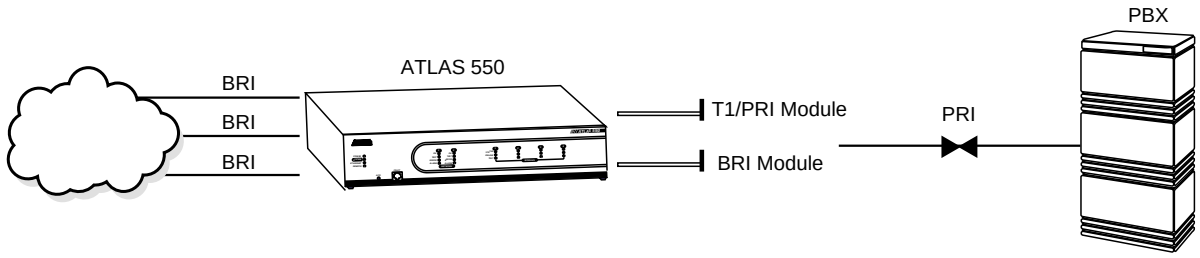

Figure 1-1. Quad BRI/U Module System

When combined with the ATLAS 550 Base Unit and, optionally, one or more Dual T1/PRI Modules (P/N 1200314L1), the Quad BRI/U Module can implement an ISDN access switch, combining multiple BRI circuits into one or more Primary Rate ISDN (PRI) circuits.

Functional Description

The Quad BRI/U Module installs in any available option slot in the ATLAS 550 chassis. You can view the status of the module itself, as well as the circuits to which it interfaces, via the terminal menus, accessible through either a VT-100 terminal connected to the ATLAS 550 control port or via a Telnet session established through the Base Unit's Ethernet port. Use the terminal menu to configure the Quad BRI/U Module and to download application software.

Features

The following list describes the features of the Quad BRI/U Module:

- Four BRI U Interfaces
- Near-end and far-end block error monitoring
- Can use any port as a timing source for the entire system
- Hot swappable
- NT and LT mode support
- Maximum distance of 18,000 feet

QUAD BRI/U MODULE SPECIFICATIONS

Each port of the Quad BRI/U Module conforms to the following specifications:

- **Line rate**

  160 kbps data rate (80 kbaud signaling +/-5 ppm)
- **Line codes**

  2B1Q
- **Framing options**

  Framing per ANSI T1.601-1992
- **Clock source**

  Allows any Quad BRI/U Module port operating in **NETWORK TERM** mode to be the master timing source
- **Tests**

  Circuit self-test loopback (internal toward network or user equipment)
- **BRI switch support**

  Provides support for the following switches:
  - AT&T 5ESS (NT or LT)
  - Nortel DMS-100 (NT or LT)
  - National ISDN-1
- **Line performance data**

  Reported via SNMP in RFC1406 format
- **Connectors**

  RJ-45

PHYSICAL DESCRIPTION

The Quad BRI/U Module (see Figure 1-2) plugs into any available option slot in the rear of the ATLAS chassis.

> **NOTE** *The four Option slots (labeled 1 — 4) only accept Option Modules, and the Network Interface slots (labeled Network 1 and Network 2) only accept Network Interface Modules. (See the ATLAS 550 in Figure 2-1 on page 2-2.)*

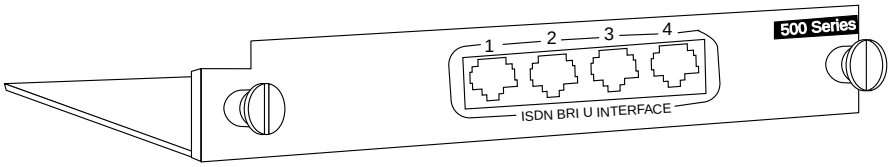

Figure 1-2. Quad BRI/U Module

The label over each RJ-45 connector refers to the port on the Quad BRI/U Module.

Chapter 2 Installation

BEFORE INSTALLING THE QUAD BRI/U MODULE

Carefully unpack and inspect the Quad BRI / U Module for shipping damages. If you suspect damage occurred during shipping, file a claim immediately with the carrier and then contact ADTRAN Technical Support (see the last page of this manual for pertinent information). If possible, keep the original shipping container for returning the Quad BRI / U Module for repair or for verification of shipping damage.

Shipping Contents

The ADTRAN shipment includes the following items:

- Quad BRI / U Module
- Quad BRI / U Module *User Manual* (insert into the *ATLAS User Manual*)
- Four RJ-45-to-RJ-11 cables, ADTRAN P / N: 3125M007

INSTALLING THE QUAD BRI/U MODULE

Figure 2-1 on page 2-2 represents the actions required to properly install the Quad BRI / U Module, as described in the step / action table on page 2-1.

The four Option slots (labeled 1 — 4) only accept Option Modules, and the Network Interface slots (labeled Network 1 and Network 2) only accept Network Interface Modules. (See the ATLAS 550 in Figure 2-1 on page 2-2.)

Instructions for Installing the Quad BRI/U Module	
Step	**Action**
1	Remove the cover plate from the appropriate option slot in the ATLAS rear panel.
2	Slide the Quad BRI/U Module into the option slot until the module is firmly positioned against the front of the chassis.
3	Secure the thumbscrews at both edges of the module. Tighten with a screwdriver.
4	Connect the cables to the associated device(s).
5	Complete installation of remaining modules and Base Unit as specified in the Installation chapter of the ATLAS 550 User Manual.

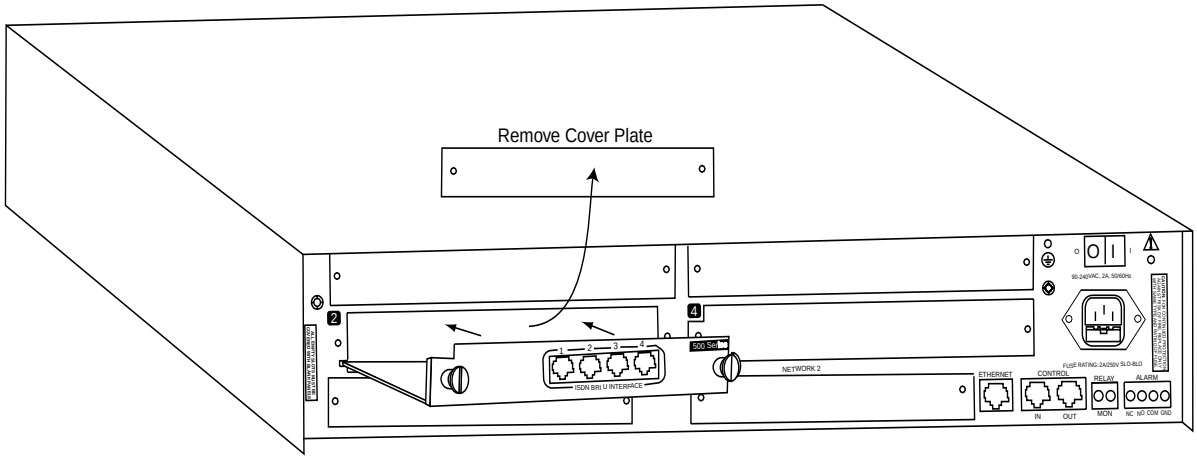

Figure 2-1. Installing the Quad BRI/U Module

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

WIRING

Each module port uses a single RJ-45 jack to connect to a U interface circuit. Table 2-1 shows the network pinout connection. The required wiring connection follows:

Connector Type (USOC) RJ-45

Table 2-1. Network Pinout Connection

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

POWER UP AND INITIALIZATION

The Quad BRI/U Module requires no initialization input during the power-up sequence, as described in the *ATLAS User Manual.* Any previously configured setting for the Quad BRI/U Module is automatically restored upon power-up.

Failed Self-Test

If the Quad BRI/U Module fails self-test, a message will be displayed on the terminal menu self-test log. See the *ATLAS User Manual* for details.

Operation Alarms

The red ALARM LED (located with the Module LEDs on the front panel) illuminates when an alarm condition is detected. An interface alarm is shown for each port in the Alarm Menu of the Quad BRI/U Module.

Chapter 3 Operation

OVERVIEW

You can control and configure the Quad BRI/U Module from a variety of sources, including the following:

- The terminal menus (both VT-100 and Telnet sessions), allowing detailed configuration, status, and diagnostics

The remainder of this section describes the menu items presented when managing the Quad BRI/U Module via the terminal menu.

Access the terminal menu using either a VT-100 terminal attached to the ATLAS Base Unit's control port or a Telnet session established through the Base Unit's Ethernet port. The *ATLAS User Manual* provides detailed instructions on the operation of each of these management approaches.

To edit items in the terminal menu, you must have the appropriate password level. Each menu description in this section indicates the password level required for write and read access. See "Access Passwords" in the ***ATLAS User Manual*** *for detailed information on working with passwords. Security level 0 users can view and edit every available field. Security level 5 users can view any field but cannot edit.*

TERMINAL MENU STRUCTURE

ATLAS uses a hierarchical menu structure to provide access to all of its features. The top-most menu level leads to submenus which are grouped by functionality. All menu items display in the terminal window. To access the Quad BRI/U Module, activate the **MODULES** menu. The following sections describe the menu items for the **MODULES** menu.

Refer to the ***ATLAS User Manual*** *for detailed instructions on navigating through the terminal menu.*

MODULES MENU

The ATLAS system controller automatically detects the presence of the Quad BRI / U Module when it is installed in the system. To see the menus for the Quad BRI / U Module via the terminal menu, use the arrow keys to scroll to the **MODULES** menu and press **Enter** to access the module choices. Figure 3-1 shows the **MODULES** menu (see also the menu tree in Figure 3-2). The following sections describe all of the **MODULES** menu options.

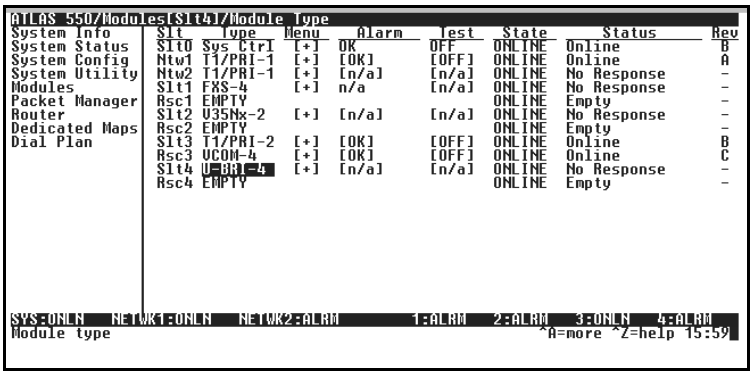

Figure 3-1. Modules Menu

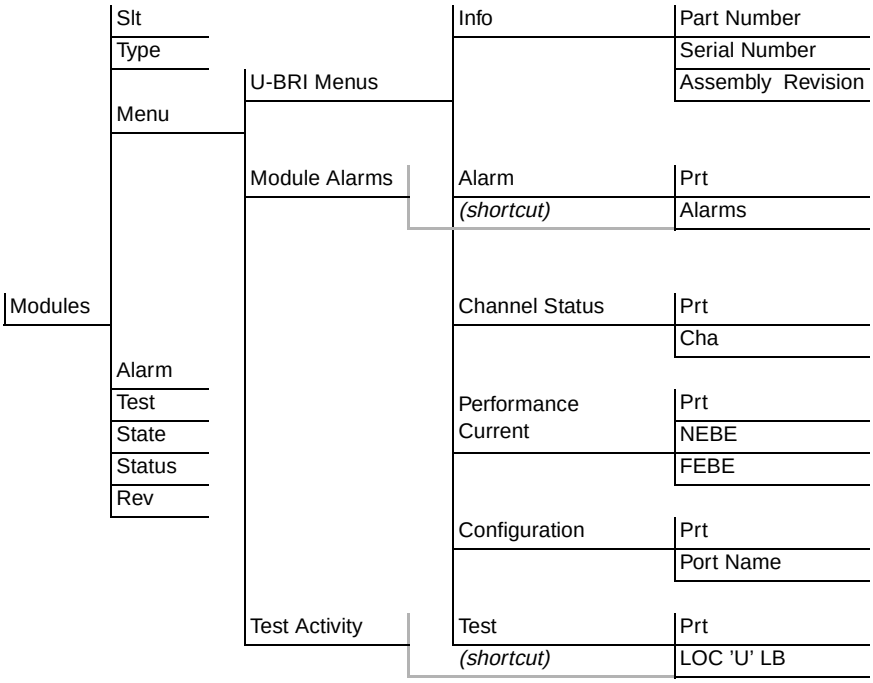

Figure 3-2. Menu Tree for Quad BRI/U Modules Menu

SLT

Read security: 5
Displays the number of the available slots in the ATLAS chassis. Slot 0 refers to the ATLAS unit. This field is read-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. If a Quad BRI/U Module is installed, the Type field automatically defaults to U-BRI (the Quad BRI/U Module). You can use this field to preconfigure a system before actually installing modules by simply specifying the module that you want to install in each slot.

TYPE *automatically displays the name of an installed module. If you want to preconfigure the slot for a different type of module, you must set this field to* **EMPTY** *before selecting another module type.*

MENU

Displays additional status and configuration menus for the 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, see the section *Quad BRI/U Module Menus* on page 3-4.

ALARM

Read security: 5
Displays an alarm condition on the Quad BRI/U Module. Press **Enter** in this field to activate the menu.

TEST

Read security: 5
Displays test name if the Quad BRI/U Module is executing a test. Press **Enter** in this field to activate the menu. This menu can activate a local loopback toward the U-interface (**LOC "U" LB**) for each port (**PRT**). The loopback options include **B1 LOOPBACK**, **B2 LOOPBACK**, or **ALL**.

STATE

Displays module status as either **ONLINE** of **OFFLINE**. Even though a module is physically installed, it must be marked as online for it to be considered an available resource. This parameter allows an installed module to be marked as offline, which may be useful in system troubleshooting. If you choose to mark a module as offline, the module will not be in alarm condition, but will display **OFFLINE**.

Once a module is installed, the state must be set to Online in order for the ATLAS to use the module for any data bandwidth.

STATUS

This read-only field provides status information on the Quad BRI/U Module. The following messages may display:

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 either a problem in the system or that the module is not installed.

EMPTY The system controller has not detected the presence of a module in the slot, 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 polls.

REV This read-only field displays the assembly revision of the Quad BRI / U Module.

QUAD BRI/U MODULE MENUS

Figure 3-3 shows the menu options available for the Quad BRI / U Module (see also the menu tree in Figure 3-2 on page 3-2). The following sections describe these options.

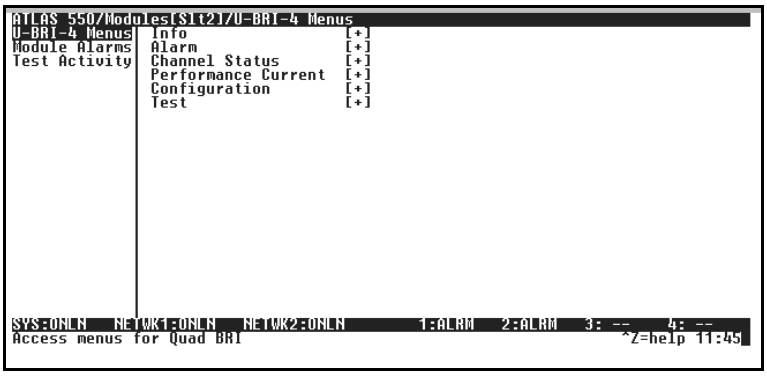

Figure 3-3. Quad BRI/U Module Menu Options

U-BRI MENUS

Accesses additional submenus.

INFO

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

PART NUMBER Displays the part number of the module (read only).

SERIAL NUMBER Displays the serial number of the module (read only).

ASSEMBLY REVISION Displays the assembly revision of the module (read only).

ALARM Displays port number and alarms.

PRT Indicates the port number.

ALARMS Lists the alarms.

CHANNEL STATUS Displays the status of each of the Quad BRI/U Module ports.

PRT Displays the port number.

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

- **-** Unallocated channel
- **.** Inactive channel
- **B** Active B channel
- **D** Active D channel

PERFORMANCE CURRENT The Performance Current field displays a count of Near-End Block Errors (**NEBE**) and Far-End Block Errors (**FEBE**) for each port (**PRT**).

CONFIGURATION Allows the user to personally identify each port (**PRT**) with an appropriate name (**PORT NAME**). The default for all ports is Quad BRI/U Module.

TEST Activates a local loopback toward the U interface (LOC "U" LB) for each port (Prt). The loopback options include **B1 LOOPBACK**, **B2 LOOPBACK**, or **ALL**.

MODULE ALARMS Provides a shortcut to the **ALARM** menu (see *Alarm* on page 3-5).

TEST ACTIVITY Provides a shortcut to the **TEST** menu (see *Test* on page 3-5).

ATLAS FEATURES USED WITH QUAD BRI/U MODULE OPTIONS

Two additional ATLAS menu items can operate in conjunction with the Quad BRI/U Module: **FACTORY RESTORE** and **RUN SELFTEST**.

FACTORY RESTORE

You can restore the factory default settings for an Quad BRI/U Module by pressing **F** either while the cursor is over the **SLT** number (this action restores the factory settings for all of the module options) or while the cursor is over an individual field (this action restores factory settings only for the particular field).

RUN SELFTEST

RUN SELFTEST, a submenu of the ATLAS main menu item **TEST**, executes both the Quad BRI/U Module internal test and the ATLAS internal test. For additional information on **RUN SELFTEST**, see the *ATLAS User Manua*l.

When **RUN SELFTEST** displays, place the cursor on it and press **Enter** to execute the test. The unit continuously changes the display on the self-test log screen until all test results are shown.

Appendix A Dial Plan Configuration

DIAL PLAN OVERVIEW

The **DIAL PLAN** menu (see Figure A-1) sets configuration parameters for each switched endpoint. These parameters vary by the type of port selected. The following sections describe the configuration options available for the Quad BRI/U Module. The **DIAL PLAN** menus are only accessible when using a VT-100 or Telnet session. To access these options, select **DIAL PLAN** from the top level menu.

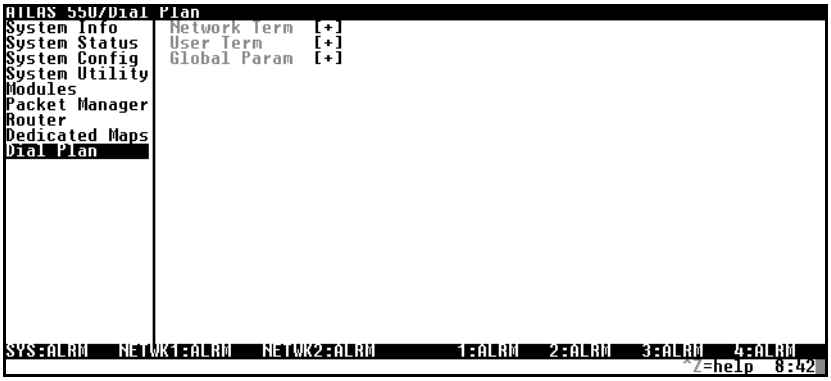

Figure A-1. Dial Plan Menus

QUAD BRI/U MODULE CONFIGURATION

This section describes the **NETWORK TERMINATION** and **USER TERMINATION** configuration settings for the Quad BRI/U Module when using the **DIAL PLAN** menus.

- See *Quad BRI/U Module: Network Termination* on page A-2.
- See *Quad BRI/U Module: User Termination* on page A-3.

Quad BRI/U Module: Network Termination

The Quad BRI/U Module can interface directly with the network (PSTN) and should be configured in the **NETWORK TERM** section of the **DIAL PLAN** accordingly. When you are working in the **NETWORK TERM** section of the **DIAL PLAN** menu, and **SLT** is defined as **U-BRI-4**, the following interface configuration options are available:

SWITCH TYPE

Write security: 3; Read security: 5
Defines the ISDN switch protocol, provided by the PSTN on the connected port.

SPID LIST

Write security: 3; Read security: 5
To properly operate with a network (PSTN) 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** submenu defines these parameters to ATLAS.

PHONE NUMBER The phone number(s) assigned to this BRI phone line.

SPID NUMBER This entry must match the SPID number(s) which have 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

Write security: 3; Read security: 5
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

Write security: 3; Read security: 5
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.

EXAMPLE:
An application requires that all calls that originate from Port 1 of the Quad BRI/U Module 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).

Quad BRI/U Module: User Termination

While interfacing to user equipment (terminal adapters), the Quad BRI/U Module acts like the network and should be configured in the **USER TERM** section of the Dial Plan accordingly. When you are working in the **USER TERM** section of the **DIAL PLAN** menu and **SLT** is defined as **U-BRI-4**, the following interface configuration options are available:

SWITCH TYPE

Write security: 3; Read security: 5
Defines the ISDN switch protocol to be emulated on the selected port. If connected to another ATLAS, both need to be set to the same type. Choices include **LUCENT 5E**, **NORTHERN DMS 100**, and **NATIONAL-ISDN**.

SPID LIST

Write security: 3; 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).

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.

The Quad BRI/U Module does not support autoSPID detection software which some terminal adapters offer.

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 bearer capability provisions for this SPID. If this is changed from default, then the call type must match the services supported.

STRIP MSD

Write security: 3; Read security: 5
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 user equipment 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

Write security: 3; Read security: 5
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 for 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.

EXAMPLE:
An application requires that all calls that originate from Port 1 of the Quad BRI / U Module 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).

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Product Support Information

Pre-sales Inquiries and Applications Support

Please contact your local distributor, ADTRAN Applications Engineering, or ADTRAN Sales:

Applications Engineering	(800) 615-1176
Sales	(800) 827-0807

Post-Sale Support

Please contact your local distributor first. If your local distributor cannot help, please contact ADTRAN Technical Support and have the unit serial number available.

Technical Support	(888) 4ADTRAN

Repair and Return

If ADTRAN Technical Support determines that a repair is needed, Technical Support will coordinate with the Custom and Product Service (CAPS) department to issue an RMA number. For information regarding equipment currently in house or possible fees associated with repair, contact CAPS directly at the following number:

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
6767 Old Madison Pike
Building #6 Suite 690
Huntsville, Alabama 35807

RMA # _____