ADTRAN

Dual T1/PRI Module
User Manual

Part Number 1200314L1

ADTRAN Year 2000 (Y2K) Readiness Disclosure

ADTRAN has established a Year 2000 program to ensure that our products will correctly function in the new millennium. ADTRAN warrants that all products meet Year 2000 specifications regardless of model or revision. Information about ADTRAN's Year 2000 compliance program is available at the following:

Product Matrix	www.adtran.com/y2k/y2kfax.html
E-mail	year2000@adtran.com
Faxback Document Line	(256) 963-8200 *Y2K plans and product certifications are listed in the Product Matrix (see above).*
Y2K Project Line	(256) 963-2200

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 (Dual T1/PRI 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 (Dual T1/PRI 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
1.544 Mbps - SF	6.0N	04DU9-BN	RJ-48C
1.544 Mbps - SF and B8ZS	6.0N	04DU9-DN	RJ-48C
1.544 Mbps - ESF	6.0N	04DU9-1KN	RJ-48C
1.544 Mbps - ESF and B8ZS	6.0N	04DU9-1SN	RJ-48C
ISDN	6.0N	04DU9-ISN	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.

> **CAUTION** *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.*

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:

_____

Canadian Equipment Limitations

> **NOTE**
>
> *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.

> **CAUTION**
>
> *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 LIMITED WARRANTY 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 IMPLIED WARRANTIES, 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

DUAL T1/PRI MODULE OVERVIEW

The Dual T1/PRI Module (P/N 1200314L1) is a member of the ATLAS 550 family of integrated access products and provides two channelized T1 or Primary Rate ISDN (PRI) interfaces. Each interface can operate independently in DS-1 or DSX-1 mode, and any port can serve as the primary or backup timing source for the entire system.

The Dual T1/PRI Module combines with the ATLAS 550 Base Unit and other ATLAS 550 modules to support requirements calling for multiple T1 and/or PRI circuits. You can install into the system as many Dual T1/PRI Modules as can be physically accommodated in the ATLAS 550 chassis.

Typical applications calling for ATLAS 550 and the Dual T1/PRI Module include the following:

- Digital Access Cross Connect System (DACS). Any DS0 on any T1 circuit can be switched to any other DS0 on any other T1 circuit.

- T1 Bandwidth Management. T1 circuits carrying voice, data, video, and other traffic can have their payload groomed and directed to the appropriate interface inside the ATLAS 550 system (see Figure 1-1).

- ISDN Access Switch. When combined with the Quad BRI/U Module P/N 1200315L1), the Dual T1/PRI Module can combine multiple Basic Rate ISDN (BRI) circuits onto one or more Primary Rate ISDN (PRI) circuits.

FUNCTIONAL DESCRIPTION

The Dual T1/PRI Module installs into 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, from the ATLAS 550 terminal menu, accessible through either a VT-100 terminal connected to the ATLAS 550 Base Unit's control port or through a Telnet session established through the Base Unit's Ethernet port. Use the terminal menu to configure the Dual T1/PRI Module.

Features

Features of the Dual T1/PRI Module are listed here:

- Two T1 interfaces
- Each interface configurable for DS-1, DSX-1, or PRI
- AT&T 62411 and ANSI T1.403 compliant
- Diagnostic loopback support
- Various timing options
- T1 ESF diagnostics
- Bantum monitor jacks on each interface
- Performance per ANSI T1.403, AT&T 54016, and ANSI T1.102
- RJ-48C network interface connector
- AMI or B8ZS coding
- ESF or SF(D4) framing
- Line build-out settings:
  DSX-1: 0 to 655 feet in 133-foot increments
  DS-1: -22.5, -15, -7.5, and 0 dB
- Line loopback (VT-100/remote/in-band)
- Payload loopback
- PRI switch support for the following switches:
  - ATT 5ESS NT or LT
  - Nortel DMS-100 NT or LT
  - NI-2 NT (network termination)
- Supports the inherent DACS capability of the ATLAS 550
- Reports line performance data via SNMP in RFC1406 format
- Trunk conditioning

Dual T1/PRI Module Specifications

Each port of the Dual T1/PRI Module conforms to the following specifications:

Line rate	1.544 Mbps, $\pm$ 75 bps
Capacity	T1: 1 to 24 DS0s PRI: 23 B + D
Line Codes	AMI (alternate mark inversion) or B8ZS (bipolar return to zero)
Framing	D4 or ESF
Tests	Self-test, line loopback, port loopback
Connectors	RJ-48C (eight-position modular jack)
Terminating Impedance	100 ohms $\pm$ 5%

PHYSICAL DESCRIPTION

The Dual T1/PRI Module (see Figure 1-1) plugs into any available option slot in the rear of the ATLAS 550 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.)*
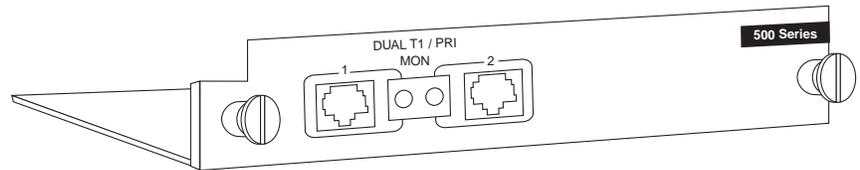
Figure 1-1. Dual T1/PRI Module

The Dual T1/PRI Module design includes a label above each RJ-48C connector identifying the port on the card. Each port comes with an RJ-48C connector for the T1 circuit interface and a single Bantam plug for monitoring received data.

Chapter 2   Installation

BEFORE INSTALLING THE DUAL T1/PRI MODULE

Carefully unpack and inspect the Dual T1/PRI 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 Dual T1/PRI Module for repair or for verification of shipping damage.

Shipping Contents

The ADTRAN shipment includes the following items:

- Dual T1/PRI Module
- *Dual T1/PRI Module User Manual* (insert into the *ATLAS 550 User Manual*)
- Two cables (RJ-48C to RJ-48C), ADTRAN P/N: 3125M008
- One crossover cable (RJ-48C to RJ-48C), ADTRAN P/N: 3125M010

INSTALLING THE DUAL T1/PRI MODULE

Figure 2-1 on page 2-2 represents the action required to properly install the Dual T1/PRI Module, as described in the Step/Action table on page 2-2.

> **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.)*

| Instructions for Installing the Dual T1/PRI Module ||
Step	Action
1	Remove the cover plate from the appropriate option slot of the ATLAS 550 rear panel.
2	Slide the Dual T1/PRI Module into the option slot until the module is firmly seated against the front of the chassis.
3	Secure the thumbscrews at both edges of the module.
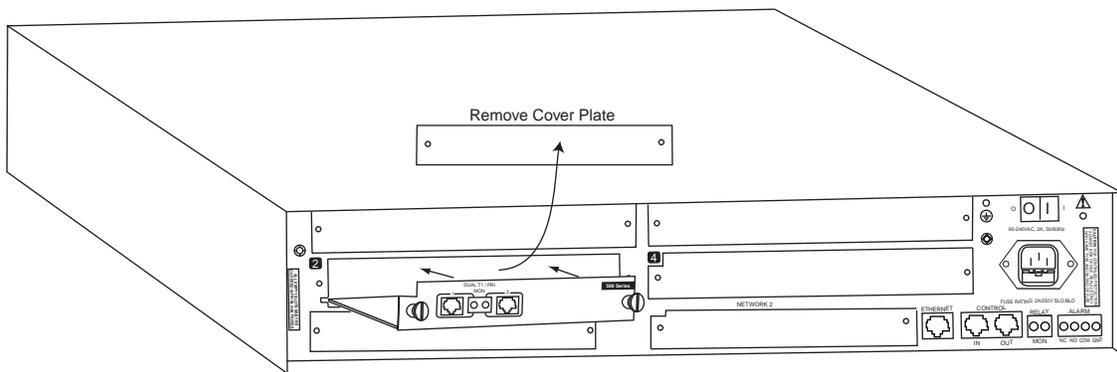
Figure 2-1. Installing the Dual T1/PRI Module

> **NOTE**
>
> *To ensure that the thumbscrews are securely fastened, use a screwdriver to tighten them.*

WIRING

Each port of the Dual T1/PRI Module uses a single, eight-position modular jack to connect to the T1 or PRI circuit. Table 2-1 gives the pinout for this jack. The required wiring connection is described here:

Connector Type   (USOC) RJ-48C

Table 2-1. Network Connection Pinout

PIN	NAME	DESCRIPTION
1	R1 RXDATA	Receive data from the network ring
2	T1 RXDATA	Receive data from the network tip
3	UNUSED	—
4	R TXDATA	Send data towards the network ring
5	T TXDATA	Send data towards the network tip
6,7,8	UNUSED	—

Chapter 3   Operation

OVERVIEW

You can configure and control the Dual T1/PRI Module from a variety of sources, including the following:

- The terminal menu, allowing detailed configuration, status, and diagnostics
- SNMP, primarily for reporting alarm conditions and system status

The remainder of this chapter describes the menu items available when managing the Dual T1/PRI Module via the terminal menu.

Access the terminal menu using either a VT-100 terminal attached to the ATLAS 550 Base Unit's control port or a Telnet session established through the Base Unit's Ethernet port. The *ATLAS 550 User Manual* provides detailed instructions on the operation of each of these management approaches.

> **NOTE**
>
> *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 550 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

The ATLAS 550 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 Dual T1/PRI Module, activate the **MODULES** menu. The following sections describe the menu items for the Dual T1/PRI Module which are located in the **MODULES** menu.

> **NOTE**
>
> *Refer to the **ATLAS 550 User Manual** for detailed instructions on navigating through the terminal menu.*

MODULES The ATLAS 550 system controller automatically detects the presence of the Dual T1/PRI Module when it is installed in the system (listed as **T1/PRI-2**). To see the menus for the Dual T1/PRI 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).

```
ATLAS 550/Modules[Slt1]/Module Type
System Info      Slt   Type      Menu   Alarm    Test     State    Status      Rev
System Status    Slt0  Sys Ctrl  [+]    OK       OFF      ONLINE   Online      A
System Config    Ntw1  T1/PRI-1  [+]    [n/a]    [n/a]    ONLINE   No Response -
System Utility   Ntw2  T1/PRI-1  [+]    [n/a]    [n/a]    ONLINE   No Response -
Modules          Slt1  T1/PRI-2  [+]    [n/a]    [n/a]    ONLINE   No Response -
Packet Manager   Rsc1  EMPTY                              ONLINE   Empty       -
Router           Slt2  U35Nx-2   [+]    [n/a]    [n/a]    ONLINE   No Response -
Dedicated Maps   Rsc2  EMPTY                              ONLINE   Empty       -
Dial Plan        Slt3  EMPTY                              ONLINE   Empty       -
                 Rsc3  EMPTY                              ONLINE   Empty       -
                 Slt4  EMPTY                              ONLINE   Empty       -
                 Rsc4  EMPTY                              ONLINE   Empty       -




SYS:ALRM    NETWK1:ALRM    NETWK2:ALRM        1:ALRM    2:ALRM    3: --    4: --
Module type                                                  ^A=more ^Z=help  9:09
```

Figure 3-1. Modules Menu
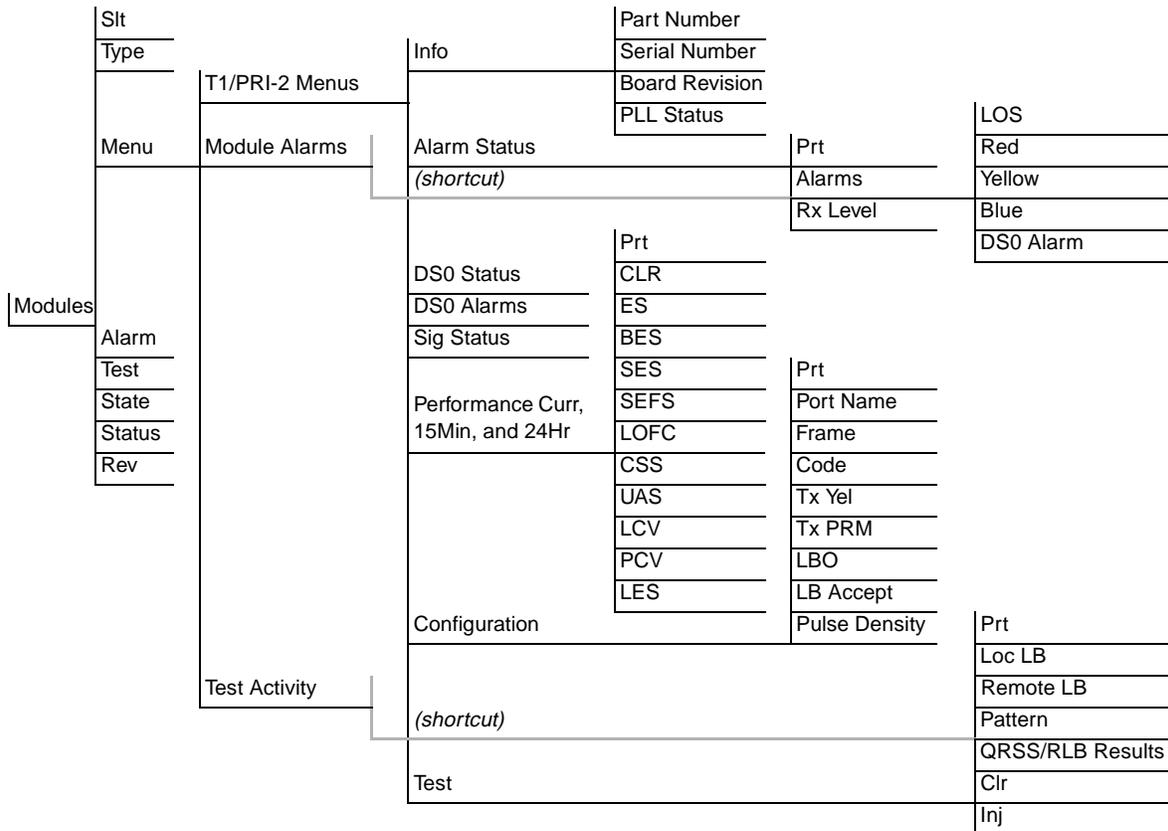

Figure 3-2. Menu Tree for Dual T1/PRI Modules Menu

SLT   Read security: 5
                    Displays the slot number for available option slots in the ATLAS 550 chassis. Slot 0 refers to the ATLAS 550 Base Unit. This field is read-only.

TYPE   Write security: 3; Read security: 5
                    Displays the type of module currently installed in the slot or the type of module you plan to install in the slot. If a Dual T1∕PRI Module is installed, the **T**YPE field automatically defaults to T1∕PRI.

                    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. If you intentionally leave a slot empty, mark it as **E**MPTY to avoid getting a Not Responding message.

> NOTE *T*YPE *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* **E**MPTY *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 **M**ENU column for the module you want to edit, and press **Enter**.) For detailed information on each submenu item, see *Modules∕ T1/PRI Menus* on page 3-4.

ALARM   Read security: 5
                    Displays an alarm condition on the Dual T1∕PRI Module. Press **Enter** in this field to activate the **A**LARM menu.

TEST   Read security: 5
                    Displays tests that the Dual T1∕PRI Module is executing. Press **Enter** in this field to activate the **T**EST menu.

STATE   Write security: 3; Read security: 5
                    Indicates the module status, either **O**NLINE or **O**FFLINE. Even though a module is physically installed, it must be marked **O**NLINE to be considered an available resource. You can mark an installed module **O**FFLINE, which may be useful in system troubleshooting. If you choose **O**FFLINE, the module will not be in alarm condition, but will display **O**FFLINE.

> NOTE *A module must be in the* **O**NLINE *state in order for ATLAS 550 to use the module for any data bandwidth.*

STATUS

Read security: 5
Read-only field that presents status information on the Dual T1/PRI 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 controller polls.

REV

Read security: 5
Read-only field that displays the hardware revision of the Dual T1/PRI Module.

MODULES/ T1/ PRI MENUS

Figure 3-3 shows the **MODULES/T1/PRI MENUS** options. The following sections describe these menu options. (Refer also to the menu tree shown in Figure 3-2.)

Figure 3-3. Dual T1/PRI Module Menu Options

INFO   Read security: 5
              Read-only fields that indicate the module status.

> **PART NUMBER**   Displays the part number of the module.

> **SERIAL NUMBER** Displays the serial number of the module.

> **BOARD**   Displays the PCB revision.
> **REVISION**

> **PLL STATUS**   Indicates whether the clock is locked to its specific source.

ALARM STATUS Read security: 5
              Displays the current T1 alarm status.

> **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.

>> **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 DS0 status indicates usage on a DS0 basis for each port. These options are read-only:

- **-** Unallocated

- ***** 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

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.

- **-** No Alarm DS0

- **D** D Channel Alarm (ISDN)

- **F** Frame Alarm (PACKET)

- **T** TBOP Alarm (PACKET)

SIG STATUS
Read security: 5
Read-only field indicates signaling of all 24 DS0s. The A/B bits for Rx (receive) and Tx (transmit) DS0s are shown for each port. Dashes display for those DS0s where robbed bit signaling (RBS) is not being transferred by the ATLAS 550.

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 each of the two T1/PRI ports. Excepting **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   An Errored Seconds (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   A Bursty Errored Seconds (BES) is a second with more than one, but less than 320 error events.

SES   A 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 Seconds.

LOFC   Loss of Frame Count.

CSS   Controlled Slip Seconds.

UAS   Unavailable Seconds.

LCV   Line Code Violations.

PCV   Path Code Violations.

LES   Line Errored Seconds.

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.

CONFIGURATION   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   Write security: 3; Read security: 5
Accepts any alpha-numeric name up to 16 characters long, to uniquely identify each port on the Dual T1/PRI Module.

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   Write security: 3; Read security: 5
                     Controls the transmitting 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**.

LBO   Write security: 2; Read security: 5
                     Selects the Line Build Out (LBO) for the network interface. When connect-
                     ing a Dual T1/PRI Module port to a DSX-1 interface, this parameter is typi-
                     cally set to match the distance (in feet) between the ATLAS 550 and the
                     device with which it is connecting. When you select this item, a list of
                     choices displays. Select the appropriate option.

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.

PULSE DENSITY   Write security: 3; Read security: 5
                     Choose either **ON** or **OFF**. When **ON**, Pulse Density Enforcer causes the
                     ATLAS 550 to monitor for ones (1s) density violations and insert a one (1)
                     when needed to maintain ones at 12.5% This data insertion will cause data
                     errors.

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

> **CAUTION** *These test commands temporarily disrupt service.*

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 3-4). The following
options are available:

> **Line** Metallic loopback

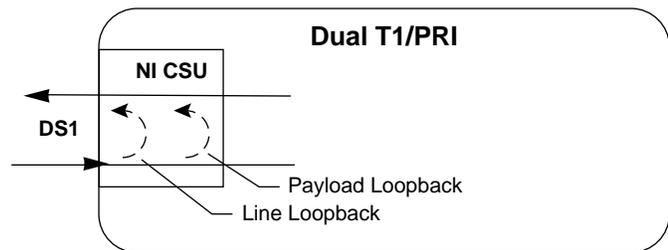> **Payld** Payload loopback - framing and clocking are regenerated

Figure 3-4. Network Loopback Test

REMOTE **LB** Write security: 4; Read security: 5
Sends loopback code to Remote CSU. The following options are available:

> **ANSI FDL Line** Requires ESF mode.

> **ANSI FDL Pyld** Requires ESF mode.

> **AT&T Inband line** 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:

> **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 loop-backs and test patterns. When displaying tests pattern status, the display string is composed of pattern sync status, and errored seconds.

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.

ATLAS 550 FEATURES USED WITH DUAL T1/PRI MODULE

In addition to the Dual T1/PRI Module menu items, two additional ATLAS 550 menu items may be operated in conjunction with the Dual T1/PRI Module. These are **FACTORY RESTORE** and **RUN SELF TEST**.

FACTORY RESTORE

FACTORY RESTORE restores the factory-installed default setting for all Dual T1/PRI Module parameters. When "Factory Restore" displays, place the cursor on it and press **Enter**. The unit is restored to preset factory defaults and returns to the main ATLAS 550 menu.

RUN SELF TEST

RUN SELF TEST, a submenu of the ATLAS 550 main menu item **TEST**, executes the ATLAS 550 internal test for the Dual T1/PRI Module. For additional information on **SELF TEST** see the *ATLAS 550 User Manual.*

MAPPING

DS0s are used as defined in the **DEDICATED MAP** or in the **DIAL PLAN** for switched applications. (See the ATLAS 550 *User Manual* for a description.)

> NOTE
>
> *Defining a port as a T1 or PRI is determined by the way it is assigned in the* **DEDICATED MAP** *or in the* **DIAL PLAN**. *See Appendix A of this manual for more information on setting up the* **DIAL PLAN**.

Appendix A   Dial Plan Interface Configuration

INTERFACE CONFIGURATION

The interface configuration option for the **DIAL PLAN** menu sets configuration parameters for the endpoint. These parameters vary by the type of port selected. This appendix describes the configuration options available for the ATLAS 550. To access these options, select **DIAL PLAN** from the top-level ATLAS 550 menu (see Figure A-1).

Figure A-1. Dial Plan Menus

DUAL T1/PRI MODULE INTERFACE CONFIGURATION

The remainder of this appendix discusses the following network termination and user termination configuration settings for the ATLAS 550 when using the **DIAL PLAN** menus:

- *Dual T1/PRI Module: Network Termination/PRI* on page A-2
- *Dual T1/PRI Module: Network Termination/RBS* on page A-5
- *Dual T1/PRI Module: User Termination/PRI* on page A-8
- *Dual T1/PRI Module: User Termination/RBS* on page A-10

DUAL T1/PRI MODULE: NETWORK TERMINATION/PRI

When you are working in the network termination section of the **DIAL PLAN** menu, when **SLT** is defined as **T1/PRI-2**, and when **SIG** is set to PRI, the following configuration options are available:

SWITCH TYPE

Write security: 3; Read security: 5
Defines the type of PRI switch to which the port is connected. If connected to another ATLAS 550, both need to be set to the same switch type. The following options are available:

*   Lucent 5E
*   National ISDN
*   NET 5

*   Northern DMS 100
*   AT&T 4ESS
*   Q SIG Slave

FIRST DS0

Write security: 3; Read security: 5
Defines to the ATLAS 550 the first DS0 for this endpoint.The ATLAS 550 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 the **OUTGOING CALL ACCEPT** and **REJECT NUMBERS** (discussed in the *ATLAS 550 User Manual).*

NUMBER OF DS0S

Write security: 3; Read security: 5
Specifies the number of DS0s ATLAS 550 uses for this endpoint.

OUTGOING NUMBER CONVERSION

Write security: 3; Read security: 5
Converts outgoing (towards the network) numbers to the selected numbering plan and type option.

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.

> **NOTE**   *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

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.

> **NOTE**   **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

Write security: 3; Read security: 5
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
- AT&T Megacom 800
  - AT&T Megacom
  - AT&T Accunet
- AT&T Long Distance
- AT&T International-800
- AT&T Dial-It 900/Multiquest

- National ISDN INWATS
- Nortel Private Network
- Nortel InWats
- Nortel OutWats
- Nortel Foreign Exchange
- Nortel Tie Trunk

CALLED DIGITS TRANSFERRED

Write security: 3; Read security: 5
Some PRI switches may be provisioned to send only a portion of the called number (like DID). This menu item allows the ATLAS 550 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 shown below.

PREFIX

Write security: 3; Read security: 5
Displays only if **CALLED DIGITS TRANSFERRED** is not set to **ALL**. Enter the prefix for the digits received.

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 550 User port endpoint should receive the call.

OUTGOING CALLER ID

Write security: 3; Read security: 5
Defines the number for the ATLAS 550 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**.

> **NOTE** *The Caller ID number must be specific (i.e., no "wild cards").*

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 Dual T1/PRI 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).

SWAP ANI/DNIS   Write security: 3; Read security: 5
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.

> **NOTE**   *With this swap, the ATLAS 550 switchboard uses ANI to route the call. The accept number in the Dial Plan must use the ANI number, not the DNIS number.*

DUAL T1/PRI MODULE: NETWORK TERMINATION/RBS

When you are working in the network termination section of the **DIAL PLAN** menu, when **SLT** is defined as **T1/PRI-2**, and when **SIG** is set to RBS, the following interface configuration options are available:

FIRST DS0   Write security: 3; Read security: 5
Defines to the ATLAS 550 the first DS0 for this endpoint.The ATLAS 550 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 the **OUTGOING CALL ACCEPT** and **REJECT NUMBERS** (discussed in the *ATLAS 550 User Manual*).

NUMBER OF DS0S   Write security: 3; Read security: 5
Specifies the number of DS0s the ATLAS 550 uses for this endpoint.

DS0S AVAILABLE   Read security: 5
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:

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

Write security: 3; Read security: 5

Defines to the ATLAS 550 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
- Feature Group D

> **NOTE** *The ATLAS 550 converts signaling types between network and user terminations.*

DIRECT INWARD DIALING

Write security: 3; Read security: 5

Defines to the ATLAS 550 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

Write security: 3; Read security: 5

Defines the number of digits sent to ATLAS 550 from the network if **DID** is used. This option only displays if **DID** is set to **ENABLED**.

DID PREFIX

Write security: 3; Read security: 5

Defines to the ATLAS 550 the prefix digits which are not received as a part of the DID number. The ATLAS 550 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.

TRUNK NUMBER

Write security: 3; Read security: 5

When the network connection does not provide DID digits, the ATLAS 550 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**.

> **NOTE** *The trunk number must be specific (i.e., no "wild cards").*

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

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.

> **NOTE**
>
> **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 Dual T1/PRI 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).

DUAL T1/PRI MODULE: USER TERMINATION/PRI

When you are working in the user termination section of the **DIAL PLAN** menu, when **SLT** is defined as a **T1/PRI-2**, and when **SIG** is set to PRI, the following configuration options are available:

SWITCH TYPE

Write security: 3; Read security: 5
Defines the type of PRI switch that the ATLAS 550 is going to emulate. If connected to another ATLAS 550, both need to be set to the same switch type.

- Lucent 5E
- Nation ISDN
- NET 5

- Northern DMS 100
- AT&T 4ESS
- Q Sig Master

> **NOTE**
>
> *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.*

FIRST DS0

Write security: 3; Read security: 5
Defines to the ATLAS 550 the first DS0 for this endpoint. The ATLAS 550 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 the **OUTGOING CALL ACCEPT** and **REJECT NUMBERS** (discussed in the ATLAS 550 *User Manual*).

NUMBER OF DS0S

Write security: 3; Read security: 5
Specifies the number of DS0s ATLAS 550 uses for this endpoint.

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.

> **NOTE**
>
> ***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

Write: 3; Read: 5

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
- AT&T Megacom 800
  - AT&T Megacom
  - AT&T Accunet
- AT&T Long Distance
- AT&T International-800
- AT&T Dial-It 900/Multiquest

- National ISDN INWATS
- Nortel Private Network
- Nortel InWats
- Nortel OutWats
- Nortel Foreign Exchange
- Nortel Tie Trunk

CALLED DIGTS TRANSFERRED

Write security: 3; Read security: 5

Defines to ATLAS 550 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

Write security: 3; Read security: 5

Defines the number for ATLAS 550 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**, and **SUBSTITUTE ALWAYS**.

> **NOTE** *The Caller ID number must be specific (i.e., no "wild cards").*

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 Dual T1/PRI 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).

SWAP ANI/DNIS

Write security: 3; Read security: 5
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.

> **NOTE**
> *With this swap, the ATLAS 550 switchboard uses ANI to route the call. The accept number in the Dial Plan must use the ANI number, not the DNIS number.*

DUAL T1/PRI MODULE: USER TERMINATION/RBS

When you are working in the user termination section of the **DIAL PLAN** menu, when **SLT** is defined as **T1/PRI-2**, and when **SIG** is set to RBS, the following configuration options are available:

FIRST DS0

Write security: 3; Read security: 5
Defines to the ATLAS 550 the first DS0 for this endpoint. The ATLAS 550 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 the **OUTGOING CALL ACCEPT** and **REJECT NUMBERS** (discussed in the *ATLAS 550 User Manual*).

NUMBER OF DS0S

Write security: 3; Read security: 5
Specifies the number of DS0s ATLAS 550 uses for this endpoint.

DS0S AVAILABLE   Read security: 5
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").

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   Write security: 3; Read security: 5
METHOD   Defines to the ATLAS 550 the type of signaling to be used across this trunk. The selected signaling must match that being used by the user equipment (PBX). The choices are as follow:

- E&M Immediate   • E&M Wink   • Loop Start
- Ground Start   • Feature Group D

> **NOTE** *The ATLAS 550 converts signaling types between network and user terminations.*

DIRECT INWARD   Defines to the ATLAS 550 whether Direct Inward Dialing (DID) is used by
DIALING   the user equipment. If **DID** is **ENABLED**, then the following information must be defined:

DID DIGITS   Defines the number of digits the ATLAS 550 sends on to the user equipment.
TRANSFERRED   This field only displays if **DID** is set to **ENABLED**.

CALLER ID   Defines the number the ATLAS 550 uses to provide caller ID to the network
NUMBER   for outgoing calls sent through this endpoint. This option only displays if **DID** is set to **DISABLED**. This item is optional.

> **NOTE** *The Caller ID number must be specific (i.e., no "wild cards").*

STRIP **MSD**   Write security: 3; Read security: 5
Strips a selected quantity (choose from **N**ONE, **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 **S**TRIP **MSD** set to **1**, all digits would be sent toward the network except the leading 9.

> **NOTE** **S**TRIP **MSD** *does not affect* **C**ALL **A**CCEPT *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 **D**IAL **P**LAN 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 **S**OURCE **ID**.
- When creating the **C**ALL **A**CCEPT list, specify a **S**OURCE **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 Dual T1/PRI 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 # _____