

# T3 Module USER MANUAL

Part Number 1200223L1 / 1200225L1



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# FEDERAL COMMUNICATIONS COMMISSION 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.

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# Introduction

## T3 MODULE OVERVIEW

The T3 Module and the T3 D/I (Drop and Insert) Module are members of the ATLAS family of integrated access products providing one or two channelized T3 interfaces. The T3 Module combines with the ATLAS Base Unit and other ATLAS modules to support requirements calling for delivery of multiple T1 circuits. The modules terminate all 28 T1s of a channelized T3 into the ATLAS TDM Backplane for use in dedicated or switched services. The T3 module has a DSX-3 level physical interface and the T3 D/I module has two T3 interfaces. The T3 D/I module may terminate between 2 and 28 T1s as the T3 into the ATLAS and pass through the remaining bandwidth out of the secondary T3 port. The secondary T3 port may not be used to terminate bandwidth on the ATLAS, but passes the T1s back out the primary T3 interface. Timing for the ATLAS may be sourced from the T3 module. The timing sources available from within the T3 module are any of its odd numbered T1s (1-27), the internal 44.736 MHz oscillator (STRATUM 4), or the T3 receive clock. The T3 module supports dedicated T1 links as well as robbed-bit switched terminations.

Typical applications calling for ATLAS and the T3 Module include the following:

- Digital Access Cross Connect System (3/1/0 DACS). Any DS0 on any T1 circuit delivered on the T3 can be switched to any other DS0 on any other circuit.
- T3 Bandwidth Management. A T3 circuit carrying voice, data, video, and other traffic can have its payload groomed and directed to the appropriate interface inside the ATLAS system.

Figure 1-1 on page 1-2 shows the T3 bandwidth management application.

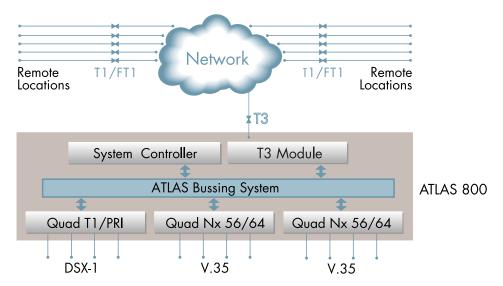


Figure 1-1. T1 Bandwidth Management Application

# **FUNCTIONAL DESCRIPTION**

The T3 Module can be installed in any available option slot in the ATLAS chassis. The status of the module itself, as well as the circuits to which it interfaces, can be viewed from the ATLAS front panel. Additional status information is available via the terminal menu (accessible through either a VT-100 terminal connected to the ATLAS 800 Base Unit's control port or through a Telnet session established through the Base Unit's Ethernet port). The T3 Module can be configured and application software can be downloaded using the terminal menu.

#### **Features**

- Channelized T3 network interface
- Optional second T3 interface for drop and insert applications
- Cross-connect, drop and insert to the DS0 level (3/1/0 DCAS)
- Extensive performance monitoring of the DS3 or individual T1 circuits
- Software configurable line build-out
- T3 maintenance data link support
- Hot swappable
- 5-year warranty

# **T3 Module Specifications**

Each port of the T3 Module conforms to the following specifications:

Line rate 44.736 Mbps, ± 895 bps

Capacity T3: 28 T1s; 672 DS0s

Line Codes B3ZS

**Framing** M13 or C-bit parity

**Tests** Power-up self test, line loopback, port loopback

**Connectors** BNC female-1 receive, 1 transmit (two additional for D/I)

Terminating Impedance

75 ohms  $\pm$  5%, unbalanced

# PHYSICAL DESCRIPTION

The T3 Module plugs into any available option slot in the rear of the ATLAS 800 (see Figure 1-2).

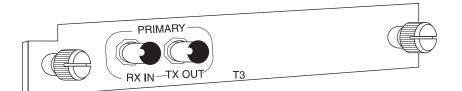


Figure 1-2. T3 Module

The T3 Module has a label over each pair of BNC connectors referring to the port on the card. Each port has a pair of BNC connectors for the T3 circuit interface. The ports are marked to indicate input and output for the T3 receive and transmit cables.

# Installation

# **UNPACK AND INSPECT**

Carefully inspect the T3 Module for any shipping damages. If damage is suspected, 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 T3 Module for repair or for verification of damage during shipment.

# **Contents of ADTRAN Shipment**

The following items are included in the ADTRAN shipment:

- T3 Module
- T3 Module User Manual (to be inserted into the ATLAS 800 User Manual)
- Two six-foot long BNC-BNC (male) cables

#### **INSTALLING THE T3 MODULE**

Figure 2-1 represents the action required for proper placement of the T3 Module, as described here:

- 1. Remove the option slot cover plate from the ATLAS 800 rear panel.
- 2. Slide the T3 Module into the option slot until the module is firmly positioned against the front of the chassis.
- 3. Fasten the thumbscrews at both edges of the T3 Module.

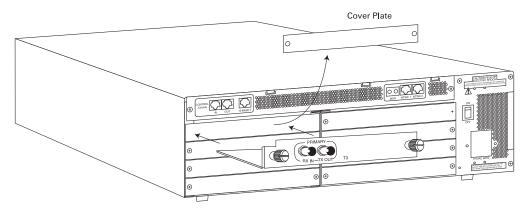


Figure 2-1. Installing the T3 Module

## **WIRING**

Each port of the T3 Module provides a pair of BNC connectors for connecting to the T3 circuit. Table 2-1 describes the network connection.

**Table 2-1. Network Connection** 

Name	Description
RX IN	Receive data from the network
TX OUT	Transmit data towards the network

### **POWER UP AND INITIALIZATION**

The T3 Module automatically executes a self-test when it powers up. Any previously configured setting for the T3 Module is automatically restored upon power up. If the T3 Module fails one or more of the self-tests executed during power up, an error message is displayed on the LCD.

# 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 for pertinent information).

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.

# **Operation**

#### **OVERVIEW**

The ATLAS System Controller automatically detects the presence of the T3 Module when it is installed in the system. You can configure and control the T3 Module from several sources. Table 3-1 shows the various sources, their purpose, and their access. The *ATLAS 800 User Manual* provides detailed instructions on operating each of these supported management approaches. The remainder of this chapter describes the menu items available for managing the T3 Module using the terminal menu.

Table 3-1. Management Approaches

Source	Purpose	Access
ATLAS Front Panel	For minimal configuration and status support	ATLAS 800 Base Unit chassis
Terminal Menu	For detailed configuration, status, and diagnostics	VT-100 terminal ATLAS 800 Base Unit control port
		Telnet session ATLAS 800 Base Unit Ethernet port
Simple Network Management Protocol (SNMP)	For reporting alarm conditions and system status	T-Watch Pro



You must have the appropriate password level to edit items using the terminal menu. (See the section 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 they cannot edit.

# TERMINAL MENU STRUCTURE

The ATLAS 800 uses hierarchical menus to access 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. You can use the **Modules** terminal menu to configure and control the T3 Module (see Figure 3-1 on page 3-2).

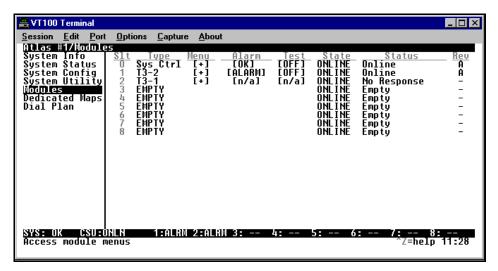


Figure 3-1. Modules Menu

# **MENU ACCESS**

To access the **Modules** menu and submenus, use the keyboard arrow keys to scroll to the appropriate row and column; then press **ENTER** on the keyboard. For example, to view the **Menu** submenus for T3-2 (as shown in Figure 3-1), use the keyboard arrow keys to scroll down to **Modules**, right to **T3-2**, and right again to the **Menu** column; then press **ENTER**.



Refer to the **Atlas 800 User Manual** for detailed instruction on navigating through the terminal menu.

#### T3 MODULE MENU DESCRIPTIONS

The following paragraphs (Slt (slot), Type, Menu, Alarm, Test, State, Status, and Rev (revision)) describe the **Modules** menus and submenus. Unless a write security-level is given, all menus and submenus are read-only.

#### Slt (slot)

Read security: 5

Displays the number of available option slots in the ATLAS 800 chassis. Slot 0 refers to the ATLAS 800 Base Unit.

#### **Type**

Write security: 3; Read security: 5

Displays the type of module currently installed in the slot or the module type you plan to install in the slot. For instance, if a T3 Module is installed, the **Type** field automatically defaults to T3-1 or T3-2. You can use this field to preconfigure a system before installing modules; simply specify the module that you want to install into each slot.



If a module is installed, **Type** automatically displays the name of the installed module, and it cannot be set to any other option.

#### Menu

Displays additional status and configuration menus for the selected module. (See "T3 Module Modules Submenus" on page 3-4 for detailed information on each submenu.)

#### **Alarm**

Read security: 5

Displays whether there is an alarm condition on the T3 Module.

#### Test

Read security: 5

Displays whether the T3 Module is executing a test.

#### **State**

Write security: 3; Read security: 5

Displays whether the 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 field 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*.



A module must be in the Online state in order for ATLAS to use the module for any data bandwidth.

#### Status

Read security: 5

Displays status information on the T3 Module. Table 3-2 on page 3-3 describes status messages that may display.

# **Rev (Hardware Revision)**

Read security: 5

Displays the hardware revision of the T3 Module.

Table 3-2. Status Messages

Message	Meaning
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.

## **T3 MODULE MODULES SUBMENUS**

Figure 3-2 shows the **Menu** submenu options for the T3-1 and T3-2 Modules. The following sections describe these options.

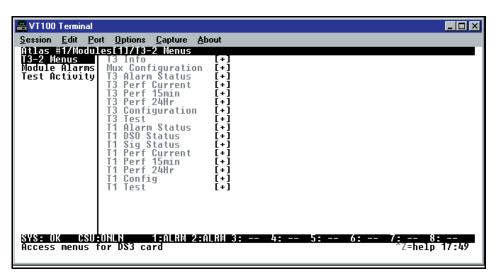


Figure 3-2. T3-2 Menus Screen

#### T3-2 Menus

Read security: 5

Displays module configuration and status information.

#### T3 Info

Read security: 5

Indicates the status of the module (see Figure 3-3).

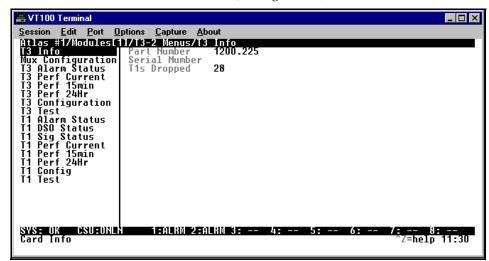


Figure 3-3. T3 Info Screen

**Part Num** Displays the part number of the module (read only).

**Serial Number** Displays the serial number of the module (read only).

**Board Rev** Displays the PCB revision (read only).

T1s Dropped Displays the number of the T1s incoming on the primary T3 (T3-2 Module only) interface that are terminated or dropped in this unit.

# MUX Configuration (T3-2 Module only)

Write security: 3; Read security: 5

Allows users to define which T1s should be dropped or passed on. T1s are dropped in pairs. (See Figure 3-4.)

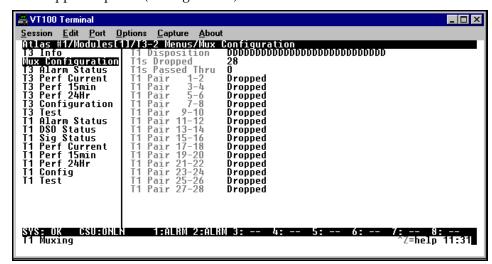


Figure 3-4. MUX Configuration Screen

This field has 28 letters which, from left to right, represent T1s 1 through 28 being delivered to the ATLAS 800 through the primary T3 interface.

D Dropped (available to be terminated in the ATLAS 800)P Pass through (passed out through the secondary T3

interface)

This field shows the number of T1s from the T3-2 module

available to terminate in the ATLAS 800.

T1s Passed Thru This field shows the number of T1s from the T3 module that

are passed out the secondary T3 interface to other

equipment.

T1 Pair 1-2 through T1Pair 27-28 These fields indicate which pairs of T1s of the T3 bandwidth are selected to be dropped or passed through.

#### **T3 Alarm Status**

Read security: 5

Indicates the current alarm status of the T3 interface (see Figure 3-5).

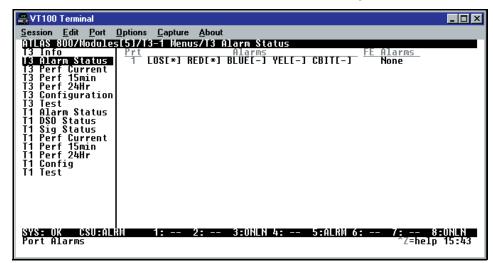


Figure 3-5. T3 Alarm Status Screen

#### Prt

Indicates the port number.

#### **Alarms**

Lists the following alarms:

# FE Alarms (Far End Alarms)

LOS	(Loss of Signal)	Detects no signal at T3 port interface.
RED	(Loss of Frame or RED Alarm)	Received T3 cannot be frame- synchronized. Out of frame for 2.5 seconds.
BLUE	(Alarm Indication Signal or BLUE Alarm)	Receiving alarm indication signal in T3 payload from far end equipment.
IDLE	(Idle)	Receiving idle signal in T3 payload from far-end equipment.
YELLOW	(Remote Alarm Indication or Yellow Alarm)	Receiving RAI signal. Far-end equipment is in RED alarm.
CBIT	(C-bit)	Indicates reception of C-bit parity framing.

Displays received alarms over the FEAC channel for C-bit parity applications.

#### T3 Performance - Current, 15min, 24Hr

Read security: 5

Accumulates various types of T3 performance statistics for current, 15-minute interval, and 24-hour interval categories. Performance measures comply with ANSI T1.231-1993 for DS3 interfaces (see Figure 3-6).

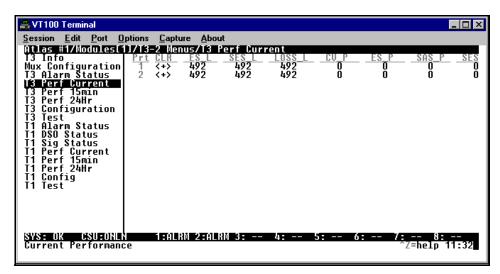


Figure 3-6. T3 Performance (Current) Screen

#### **PRT**

Indicates port number.

# CLR[+]

Write security: 3

Clears all of the counts to 0 for the selected port when you scroll to this field and press **RETURN**.

<b>ES_L</b> (Errored Seconds - Line)	Count of seconds containing excessive zeros, LOS, or BPVS, not due to line code substitutions.
<b>SES_L</b> (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.
<b>CV_P</b> (Code Violation - Path	For the M13 application, 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 frames or AIS signal is received.
<b>SES_P</b> (Severely Errored Seconds - Path)	An accumulation of seconds during which parity errors, severely errored frames, or AIS signal is received.
<b>UAS_P</b> (Unavailable Seconds - Path)	An accumulation of one-second intervals during which the DS3 path is unavailable; i.e., 10

contiguous SES\_Ps.

# **T3 Configuration**

Write security: 3; Read security: 5

Includes all of the configurable parameters pertaining to the T3 interface in this menu chain (see Figure 3-7).

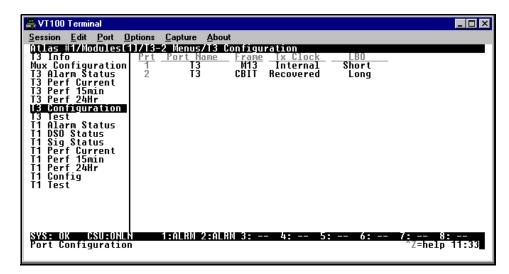


Figure 3-7. T3 Configuration Screen

Prt	Port number of the T3 module.	
Port Name	Name assigned to the associated T3 port.	
Frame	The selected T3 framing format: M13 or C-bit.	
Tx Clock	Selects source of T3 transmit clock. <b>Recovered</b> - derives transmit T3 timing from the receive T3. <b>Internal</b> - derives transmit T3 timing from the internal ± 20 PPM crystal source.	
LBO	Line build-out setting for T3 transmitter. <b>Short -</b> 0 to 100 feet of cable. <b>Long -</b> 100 to 450 feet of cable.	

#### T3 Test

Write security: 3; Read security: 5

Executes loops and indicates test status (see Figure 3-8).

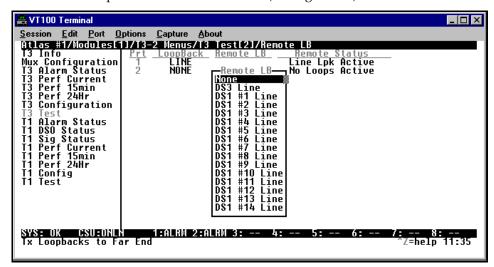


Figure 3-8. T3 Test Screen

**Prt** Indicates the T3 module port under test.

**Loop-** This field indicates the present loopback selected.

back None - No loopback in effect

Line - T3 line loopback active

**Remote** Indicates if loopbacks initiated from remote sources are in effect and may be used to execute remote loopbacks on the far-end T3.

**None -** No remote loopbacks are activated.

**DS3 Line -** Remote DS3 line loopback is activated.

**DS1 #1... DS1 #28 -** Remote individual T1 line loopback is activated.

DS1 All - Remote T1 line loopbacks for all 28 T1s is activated.

**Remote** Indicates progress of remote loopbacks.

**Status** Line Loopback Active - Remote line loopback is active.

No Loops Active - Remote line loopbacks are inactive.

#### **T1 Alarm Status**

Read security: 5

Indicates T1 alarm status (see Figure 3-9).

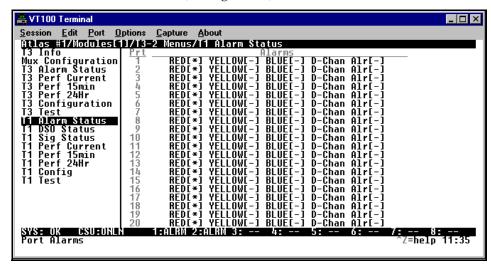


Figure 3-9. T1 Alarm Status Screen

Prt	Specifies port number.
Alarms:	
Red	Not able to frame data on the port; also, referred to as OOF.
Yellow	Port receiving remote alarm indication (RAI).
Blue	Receiving unframed 1s from the port; also called AIS.
D-Chan	D channel alarm is only meaningful if T1 is defined as a PRI. (Requires using an HDLC controller on another card.)

#### **T1 DS0 Status**

Read security: 5

Indicates usage on a DS0 basis for each port (see Figure 3-10).

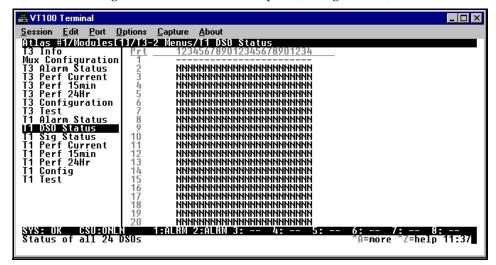


Figure 3-10. T1 DSO Status Screen

- Unallocated DS0
- Inactive DS0
- + Signalling mismatch DS0
- A Active call on this DSO
- **D** Active D channel DS0
- M Maintenance DS0
- N Dedicated DS0
- Off hook detected
- R Ringing detected
- **W** Waiting for dial tone

#### T1 Sig Status

Read security: 5

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 is not being transferred by the ATLAS 800 (see Figure 3-11).

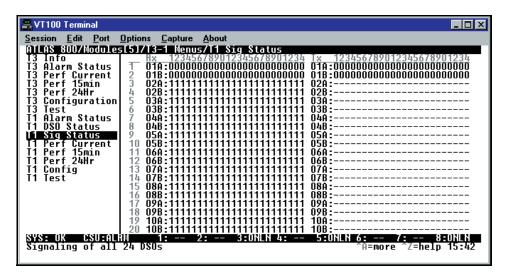


Figure 3-11. T1 Signal Status

#### T1 Performance: Current, 15min, 24Hr

Write security: 4; Read security: 5

Provides status on key performance measures as specified in ANSI T1.403 and AT&T TR54016 for each of the T1 ports for each performance field (either current, 15-minute total, or 24-hour total). Excepting CLR, these fields are all read-only (see Figure 3-12).

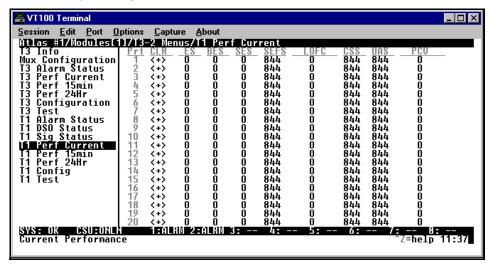


Figure 3-12. T1 Performance (Current) Screen

Prt	Displays the port number.
CLR	Clears performance information for the selected port.
ES	Errored Seconds. An 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 Seconds. A BES is a second with more than one, but less than 320 error events.
SES	Severely Errored Seconds. An 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.

# **T1 Configuration**

Various security levels apply for these configurable parameters (see also Figure 3-13).

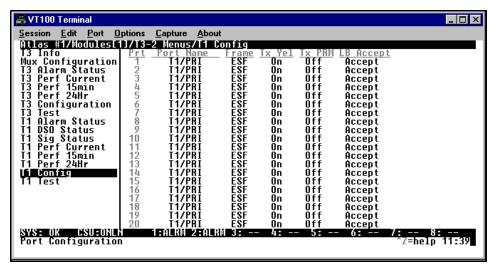


Figure 3-13. T1 Configuration Screen

**Prt** Read security: 5

Displays the port number.

**Port Name** Write security: 3; Read security: 5

Allows users to identify each port on the T3 Module with a unique alpha-numeric name. Names can be up to 16

characters long.

**Frame** Write security: 2; Read security: 5

Set this field to match the frame format of the circuit to which it is connected, available from the network supplier. Choose

either D4 or ESF.

**Tx Yellow** Write security: 3; Read security: 5

(Auto Tx Controls the transmitting of yellow alarms. Choose either On

Yellow Alarm) or Off.

**Tx PRMs** Write security: 3; Read security: 5

(Transmit PRMs) 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

(Loopback 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.

#### T1 Test

Write security: 4; Read security: 5

These options initiate different types of tests and display test results (see Figure 3-14).

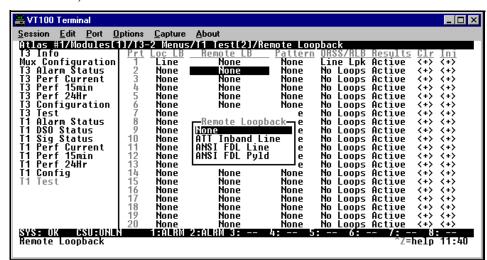


Figure 3-14. T1 Test Screen



These test commands temporarily disrupt service.

Prt Read security: 5

Displays the port number.

**Loc LB** Write security: 4; Read security: 5

(Local Loopback) Causes loopback on near-end port. Includes the following

options:

**Line** — Loopback without regenerating framing

**Payld** — Payload loopback - framing and clocking are

regenerated. (See Figure 3-15 on page 3-15.)

Remote LB

(Remote Loopback) Write security: 4; Read security: 5

Sends loopback code to remote CSU. Includes the

following options:

ANSI FDL Line (Requires ESF mode)ANSI FDL Pyld (Requires ESF mode)

AT&T Inband line

**Pattern** Write security: 4; Read security: 5

Test pattern to be transmitted out the port. Includes the

following options:

All ones — framed ones All zeros — framed zeros

**QRSS** – pseudorandom pattern with suppression of

excess zeros.

**QRSS/RLB** Write security: 4; Read security: 5

Results (Test Pattern Indicates sync and errors of received data pattern.

(Test Pattern Results)

**Clr** Write security: 4; Read security: 5

(Clear Test Pattern Results) Clears error counters on test pattern results menu.

Inj

(Inject Test Pattern

Injects errors into transmitted test pattern.

Write security: 4; Read security: 5

Error)

#### T3 Module

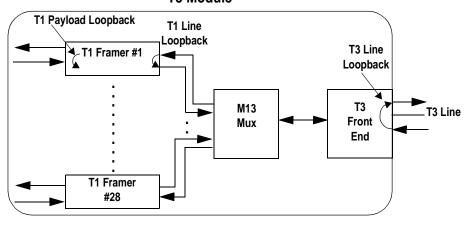


Figure 3-15. Network Loopback Test

## ATLAS 800 FEATURES USED WITH T3-1 OR T3-2 MODULES

In addition to the T3 Module menu items, two other ATLAS 800 menu items may be operated in conjunction with the T3 Modules. These items are Factory Restore and Run Self-Test.

# **Factory Restore**

Factory Restore, a submenu of the ATLAS 800 front panel main menu item Utilities (UTIL), restores the factory-installed default setting for all T3 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 800 menu.

# **Run Self-Test**

Run Self-Test, a submenu of the ATLAS 800 main menu item Test, executes both the T3 Module internal test and the ATLAS 800 internal test. For additional information on Self-Test see the *ATLAS 800 User Manual*. When *Run Self-Test* displays, place the cursor on it and press **ENTER** to execute the test. The results of the self-test are displayed in the LCD.

# **Mapping**

DS0s are used as defined in the Dedicated Map or in the Dial Plan for switched applications. (See the *ATLAS 800 User Manual* for a description.)

# Appendix A Dial Plan Interface Configuration

#### INTERFACE CONFIGURATION

The interface configuration option for the Dial Plan menu sets configuration parameters for the end point. These parameters vary by the type of port selected. The following section describes the configuration options available for the T3-1 and T3-2 Modules. The Dial Plan menus are only accessible when using terminal mode. To access these options, select Dial Plan from the top level menu (see Figure A-1).



The Write security level for all Dial Plan options is 3.

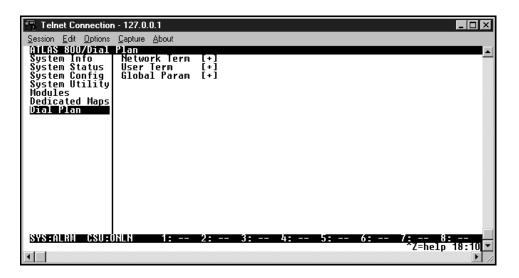


Figure A-1. Dial Plan Menus

# T3 MODULE INTERFACE CONFIGURATION

This section describes the network termination and user termination configuration settings for the T3-1 and T3-2 Modules when using the Dial Plan menus. These menus represent the T3 Module as having 28 T1 ports to configure.

# T3 Module (Network Termination/RBS)

When you are working in the Network Termination section of the Dial Plan menu, *Slot* is defined as a T3-1 or T3-2 Module, and *Sig* is set to RBS, the following interface configuration options are available:

#### First DSO

Write security: 2; Read security: 5

Defines to the ATLAS 800 the DS0s used for this end point. These are the DS0s which the ATLAS 800 uses 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 earlier.

#### Number of DS0s

Write security: 3; Read security: 5

Specifies the number of DS0s already defined for this end point. This field is read-only.

#### **DSOs Available**

Read security: 5

Indicates which DS0s of the T1 have been defined in this switched end point (indicated by "!"), in another switched end point (indicated by "s"), or in a Dedicated Map (indicated by "n"). The following symbols may display in this field:

digits 0-9	This DSO is available. The digit that displays in this field represents the last digit of the DSO number.
*	This port is requesting this DSO for this connection, but the DSO is not yet activated.
!	This DSO is used by this end point.
s	This DSO is used elsewhere in the switched dial plan.
S	This DSO is in the switched dial plan and conflicts with this end point.
_	This DSO is used in one or more dedicated mans

- **n** This DSO is used in one or more dedicated maps.
- N This DSO is in one or more dedicated maps and conflicts with this end point.

# Trunk Type (Voice/SW56)

Write security:3; Read security:5

Use this field if the incoming service on this trunk is Switched 56 digital instead of standard voice.

# **Signaling Method**

Write security: 3; Read security: 5

Defines to the ATLAS 800 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

#### **Direct Inward Dialing (DID)**

Write security: 3; Read security: 5

Defines to the ATLAS 800 whether DID is being used by the network. If DID is Enabled, then you must define the following information:

#### **DID Digits Transferred**

Write security: 3; Read security: 5

Defines the number of digits sent to the ATLAS 800 from the network if DID is used.

#### **DID Prefix**

Write security: 3; Read security: 5

Defines to the ATLAS 800 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 end point that should receive the incoming call.

This option displays only if direct inward dialing (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 800 must be given a number to use to determine which user end point should receive the incoming call. This option displays only when direct inward dialing is set to Disabled.



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

For example, if an incoming DS0 (trunk) is meant to connect to an end point with the Accept number of 963-8615, the trunk number would be set to 963-8615.

#### T3 Module (User Termination/RBS)

When you are working in the user termination section of the Dial Plan menu, when the Slot is defined as a T3-1 or T3-2 module, and when Sig is set to RBS, the following configuration options are available:

#### First DSO/Number of DSOs

Write security: 3; Read security: 5

Defines to the ATLAS 800 the DS0s which will be used for this end point. The ATLAS 800 uses these DS0s to send and receive calls to and from user equipment (PBX). The incoming calls which will be accepted and the outgoing calls which will be restricted over these DS0s are set by the Incoming Call Accept and Outgoing Call Reject Numbers discussed earlier.

#### **DSOs Available**

Read security: 5

Indicates which DS0s of the T1 have been defined in this switched end point (indicated by "!"), in another switched end point (indicated by "s"), or in a dedicated map (indicated by "n").

digits	This DSO is available. The digit that displays in this field represents
0-9	the last digit of the DSO number.

- This port is requesting this DSO for this connection, but the DSO is not yet activated.
- ! This DSO is used by this end point.
- **s** This DSO is used elsewhere in the switched dial plan.
- **S** This DSO is in the switched dial plan and conflicts with this end point.
- **n** This DSO is used in one or more dedicated maps.
- N This DSO is in one or more dedicated maps and conflicts with this end point.

#### **Signaling Method**

Write security: 3; Read security: 5

Defines to ATLAS 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 include the following:

- E&M Immediate
- E&M Wink
- Loop Start
- Ground Start



ATLAS converts signaling types between network and user terminations.

#### **Direct Inward Dialing (DID)**

Defines to the ATLAS 800 whether DID is used by the user equipment. If DID is Enabled, then the following information must be defined:

#### **DID Digits Transferred**

Defines the number of digits the ATLAS 800 sends on to the user equipment. This field only displays if direct inward dialing is set to Enabled.

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# **Caller ID Number**

Defines the number the ATLAS 800 uses to provide caller ID to the network for outgoing calls sent through this end point. This option only displays if direct inward dialing is set to Disabled. This item is optional.



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

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# **Product Support Information**

## Presales 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 Customer 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 Progress Center Building #6 Suite 690 Huntsville, Alabama 35807

RMA	#	