

An ADTRAN Quick Start Guide

ADTRAN ATLAS 550
Configuration Guide for
Interfacing with Castelle
FaxPress Server

*An easy, step-by-step procedure for configuring an ATLAS 550 to **dynamically** switch calls over a single Network T1-CAS and T1 ISDN PRI to an attached Castelle FaxPress and PBX.*

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I. INTRODUCTION

This guide provides a typical solution to convert digital T1-CAS/ISDN PRI signaling from TelCo/Service Provider to DTMF signaling that can be interfaced with FaxPress models 2500, 5000, 7000 and Analog Premier using the Adtran Atlas 550. Also included is information on the provisioning of the Atlas 550 to connect to the FaxPress and the PBX.

The Adtran Atlas 550 is used for the **digital-to-analog signaling conversion** and dynamically shares customer's T1 channels between FaxPress unit for fax calls and their PBX for voice/data calls. With the proper configuration, incoming faxes will be routed to the appropriate destination based on Called Party Number/DNIS digits received.

II. HARDWARE CONFIGURATION

The Adtran Atlas 550 base unit typically includes only 1 T1 CAS/ISDN PRI Network Interface module.

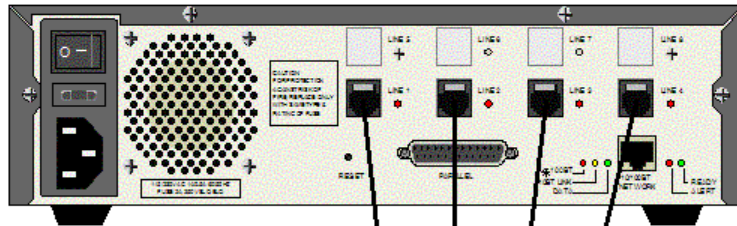
- For connecting to a 2 or 4-Port FaxPress, one Atlas 550 Quad FXS module will be required.
- For connecting to an 8-Port FaxPress, 1 Atlas 550 Octal FXS module will be required.
- For connecting 16-port FaxPress Analog Premier, 2 Atlas 550 Octal FXS modules will be required.
- For T1/PRI connection to PBX, one additional T1/PRI Network Interface module will be required.

The network interface module is required for providing T1/PRI interface from the Telco/Service Provider/PBX. The FXS module is required for passing ringing signal and DNIS to the FaxPress unit.

Please refer to the below diagram for the interconnection of all the components.

ATLAS 550/FaxPress APPLICATION DIAGRAM

CASTELLE FAX PRESS

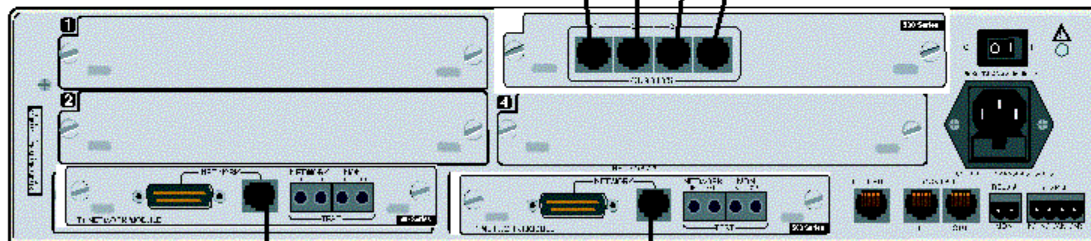


Analog ports in Fax Press configured for Tone, Bi-Directional & PBX/DID.

FXS Ports

Analog FXS ports in ATLAS configured for Loop Start, Passing DID/DTMF Digits to the Castelle Fax Press

ADTRAN ATLAS 550



T1/PRI

TELCO/Service Provider

T1/PRI

PBX

III. TYPICAL SCENARIO

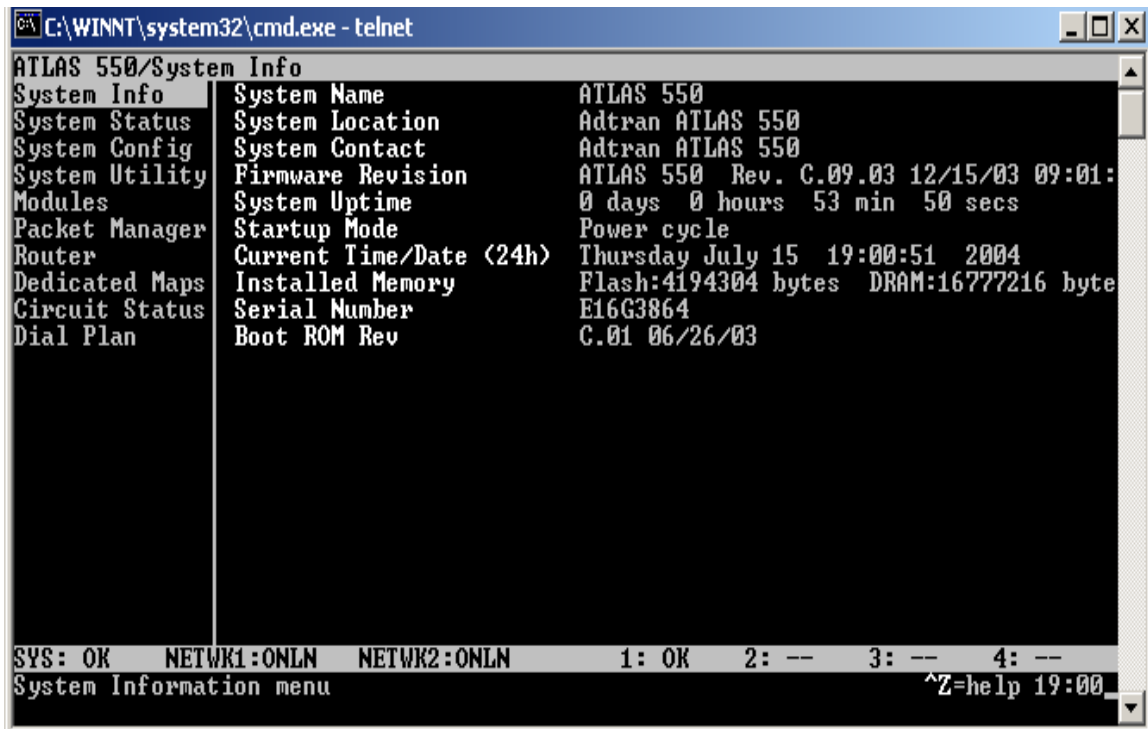
The customer subscribes to a single T1/PRI from the Telco/Service provider with DNIS option and they want to share all the channels between their Voice/Data PBX and Castelle FaxPress Server. A four-port analog FXS module will be used in the Adtran ATLAS 550 to provide DNIS/DTMF digits to an attached Fax Press, while “dynamically” switching calls over the same network PRI/T1 to an attached PBX.

In this example, the customer has ordered a T1/PRI provisioned with a DID/DNIS range of 963-8000 to 963-8199. They would like to route the 963-8000 to 963-8099 range to the analog FXS ports connecting the FAX Press, and the 963-8100 to 963-8199 range to a T1 RBS or PRI interface connecting the PBX.

Note: The term DID mentioned is in digital format and is interchangeable with DNIS.

IV. CONFIGURING THE CONNECTION

Connecting a PC with terminal emulation software to the **ADMIN** port (RJ-45) on the back of the unit or the **CRAFT** interface (DB-9) on the front of the unit allows access to the menus and management features of the ATLAS 550. After logging in with the correct password (default as “password”), the ATLAS 550 **MAIN MENU** is displayed as shown below.



```
C:\WINNT\system32\cmd.exe - telnet
ATLAS 550/System Info
System Info      System Name      ATLAS 550
System Status    System Location  Adtran ATLAS 550
System Config    System Contact   Adtran ATLAS 550
System Utility   Firmware Revision ATLAS 550 Rev. C.09.03 12/15/03 09:01:
Modules          System Uptime    0 days 0 hours 53 min 50 secs
Packet Manager  Startup Mode     Power cycle
Router           Current Time/Date (24h) Thursday July 15 19:00:51 2004
Dedicated Maps  Installed Memory Flash:4194304 bytes DRAM:16777216 byte
Circuit Status  Serial Number    E16G3864
Dial Plan        Boot ROM Rev     C.01 06/26/03

SYS: OK  NETWR1:ONLN  NETWR2:ONLN  1: OK  2: --  3: --  4: --
System Information menu ^Z=help 19:00
```

V. PROVISIONING FOR THE FAXPRESS CONNECTION:

Step 1:

After configuring the network parameters for the Atlas 550 from System Config submenu and verifying it is properly connected to the network, the next step is to set up all the parameters for the ports that are used for the integration from the Dial Plan Submenu.

Using the ATLAS 550's dial plan, calls/faxes will be routed to the appropriate interface/device based on the Called Party Number/DNIS digits received from the Telco/Service Provider.

The individual ports are separated into two port types: network and user. Network ports terminate a connection from the network. User ports terminate incoming calls and, in turn may be connected to user equipment.

Figure1 below indicates "Network Term" is selected from the left pane menu to configure the PRI interface based on the typical example mentioned in section III.

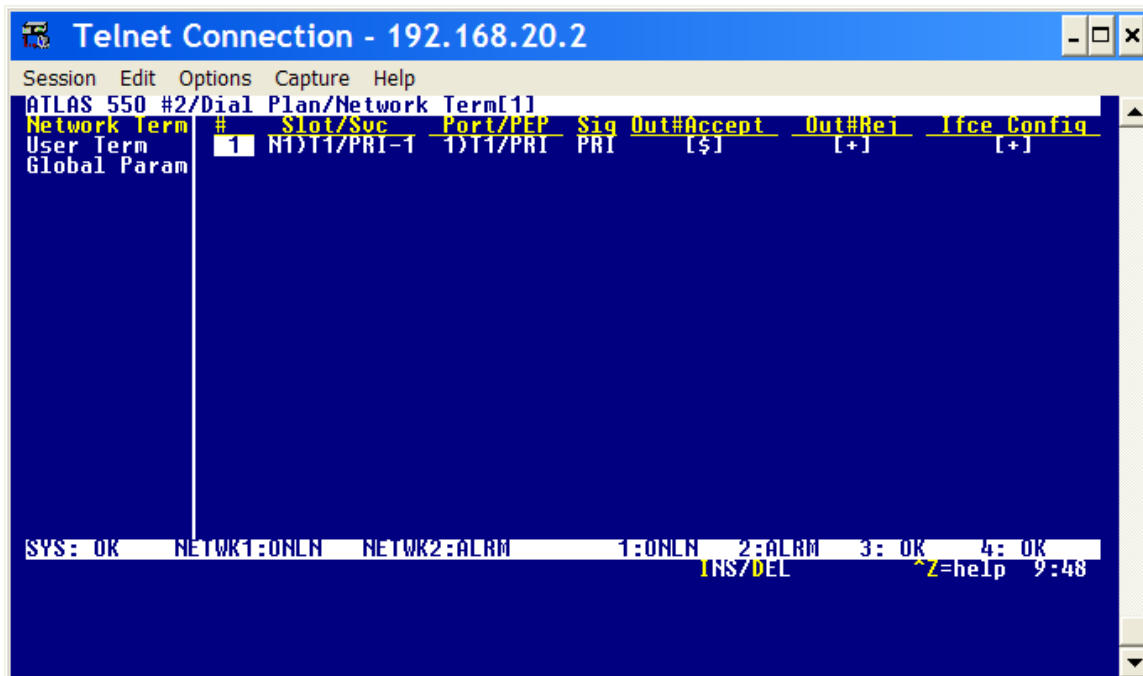


Figure 1

Configure the Network T1 or PRI interface in the Dial Plan of the ATLAS 550, "NETWORK-TERM" Mode. (Note: In this example we are configuring the Network Circuit as PRI; however, T1 RBS w/E&M Wink or immediate signaling is also supported.)

Step 2:

Select the Interface Configuration from the menu and configure all parameters on the right pane as shown in Figure 2 below.

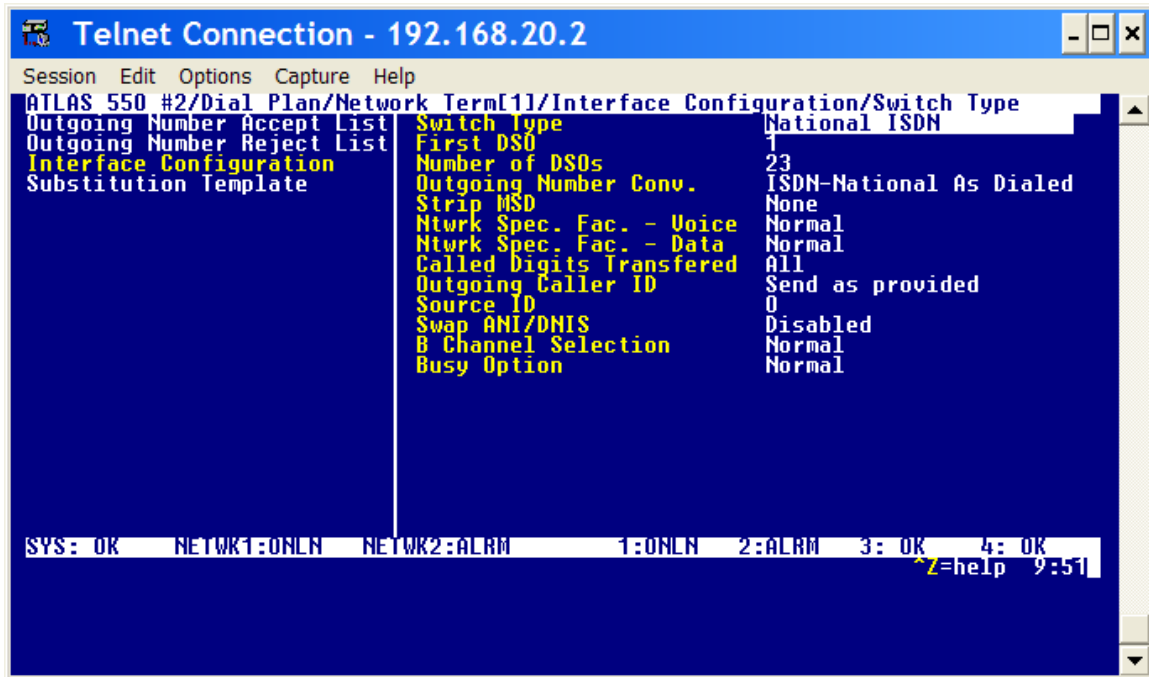


Figure 2

Configure The ISDN Switch Type and the number of “B” channels provisioned on the PRI. (Typically 23; however, the ATLAS can be configured to support any number of “B” channels from 1-23)

(The ISDN Switch Types supported in the ATLAS 550 are: ISDN National/NI2, Lucent 5ESS, AT&T 4ESS, & Nortel DMS-100.)

Step 3:

Select the “User Term” from the Dial Plan menu to configure the FXS interfaces that connect to the FaxPress ports. In the “In#Accept” column, define the range of number for incoming calls that will be used by the FaxPress. In the example shown in Figure 3 below, the wildcard entry “X” is used to accept any number from 0 to 9. This covers the entire 963-8000 to 963-8099 range, eliminating the need for entering 400 separate numbers (100 numbers for each port). See Figure 3-A on next page for complete explanation of Wild Card entries.

Since all 4 ports connecting the Fax Press are configured with the same “IN-ACCEPT” range, ports 1-4 are grouped under the same “IN-ACCEPT” entry.

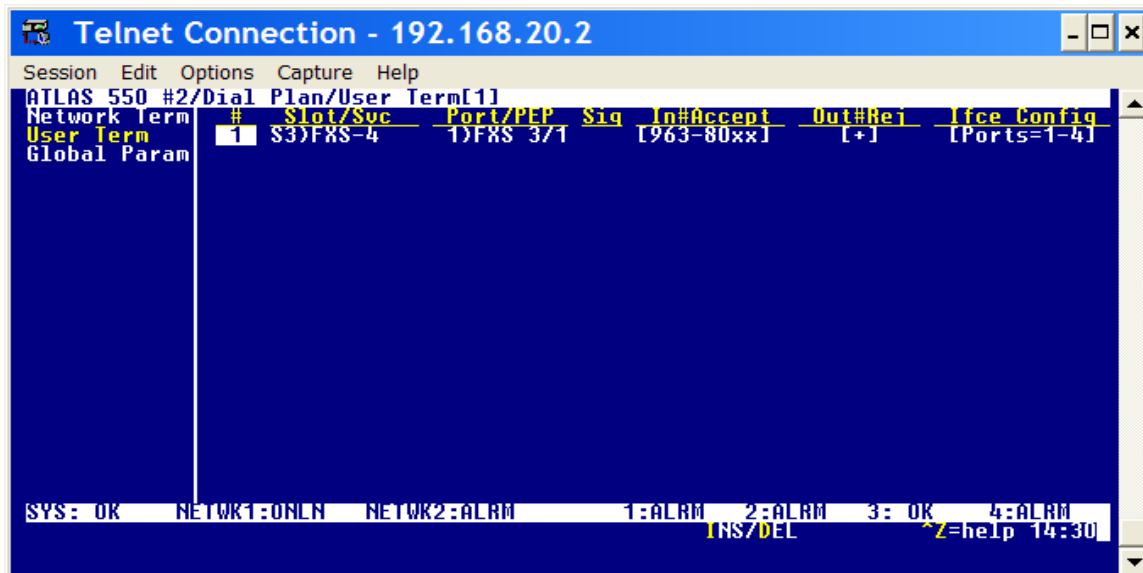


Figure 3

Notice that in the Interface configuration column, all 4 ports are indicated with the same configuration by showing [Ports=1-4].

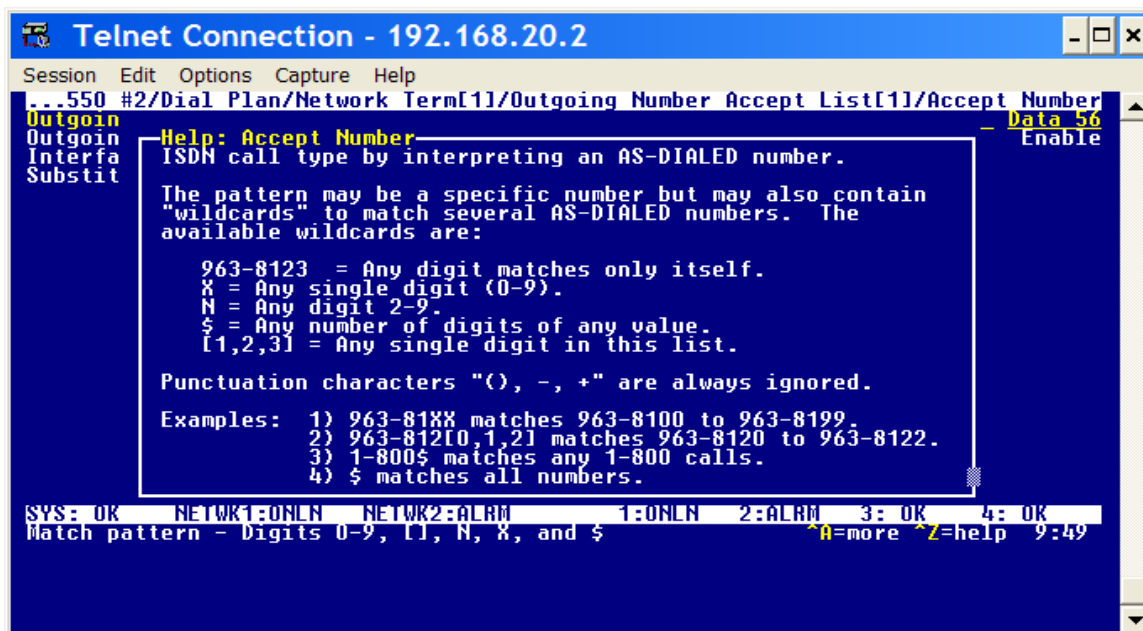


Figure 3-A

Step 4:

From the Interface Configuration submenu, configure the FXS ports to pass DTMF digits and strip digits as needed. In Figure 4 shown below, the Telco is sending all 7 digits; however, the customer only wants the last 4 digits sent to the Fax Press, (i.e. the customer has assigned 4-digit mailbox numbers in the Fax Press). Notice that Direct Inward Dialing is "Enabled" and DID Digits Transferred is set to "4". This means that only the digits of 8000 to 8099 range will be passed to the Fax Press, the ATLAS 550 will automatically strip the "963" prefix.

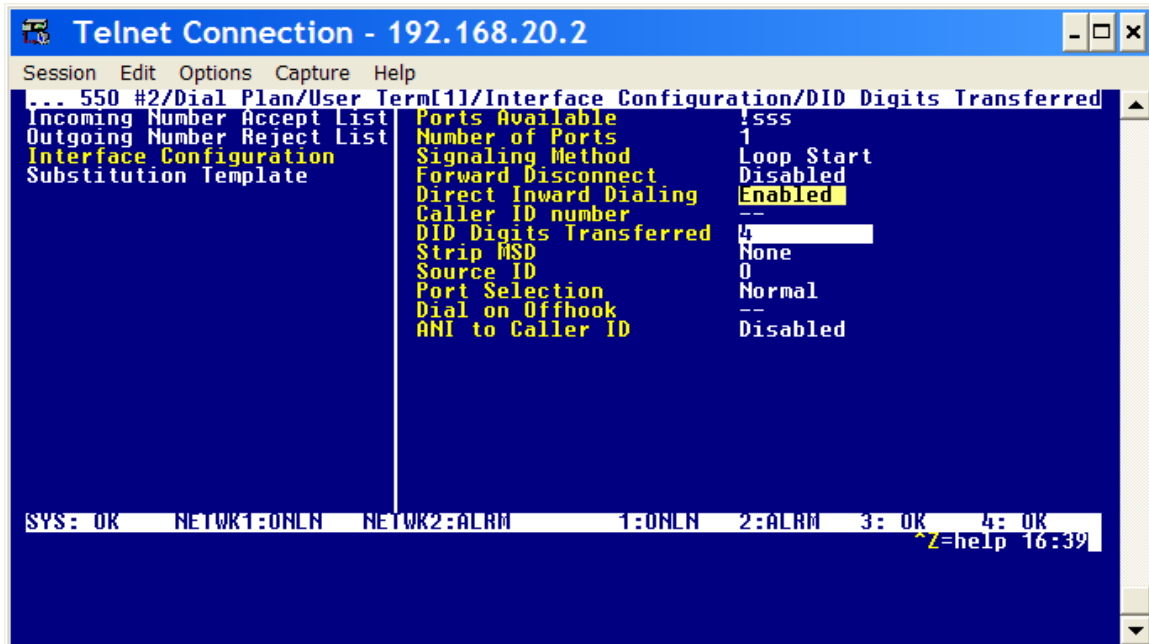
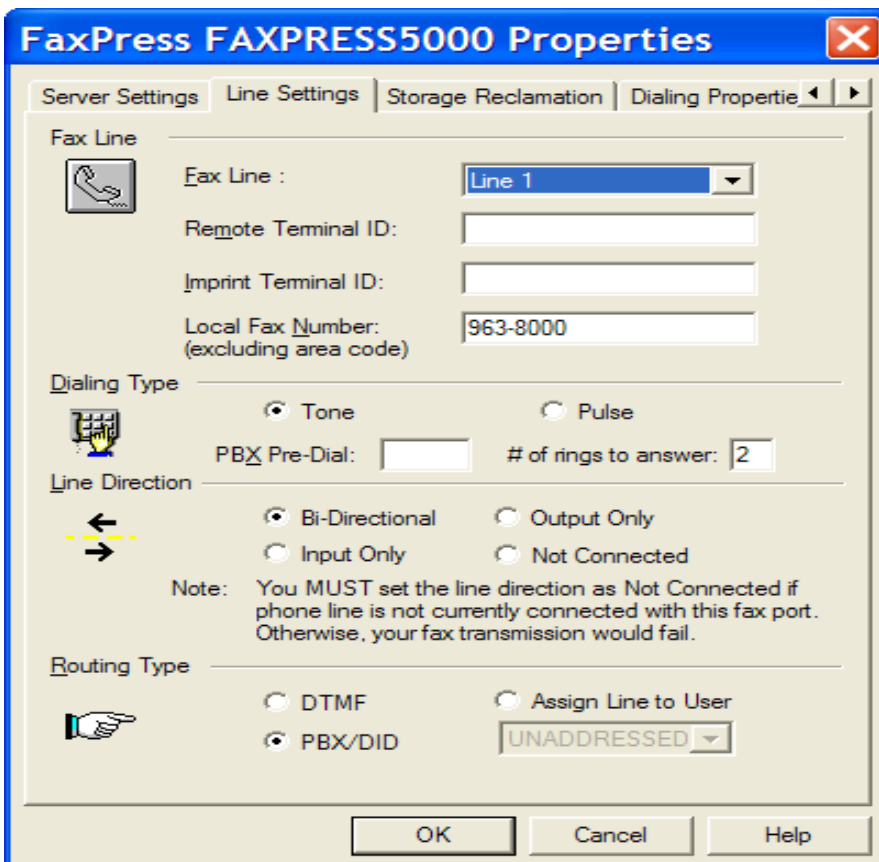


Figure 4

Step 5:

Log in to the FaxPress with Supervisor account, and then from the Line Settings tab of the FaxPress property window, confirm that ALL the Fax Press ports are configured as follows:

Dialing Type = TONE,
 Routing Type = PBX/DID.



Note: Subscription to a two-way DID trunk (DID/DOD) from the Service Provider is required in order for the Bi-Directional to work on both incoming and outgoing faxes, otherwise just set to Input Only.

NOTE: When connecting the **FaxPress Premier Analog** to the Atlas 550. The FaxPress Premier Analog by default waits two seconds to answers a call for an incoming fax. If the Atlas 550 is transmitting the DTMF tones immediately after the FaxPress Premier Analog goes “off hook” then the FaxPress Premier Analog will miss the DTMF tones (either fully or partially) and the incoming fax will go to the “unaddressed” user account; If that is the case, please refer to the below URL for proper instructions on how to configuring the FaxPress Premier Analog to receive the DTMF tone immediately after it’s going “off hook”.

<http://www.castelle.com/support/documentation/pbx.htm>

VI. PROVISIONING FOR THE PBX CONNECTION

From “User Term” submenu, add an entry to configure the interface connecting to the PBX. In Figure 6 shown below, the customer will route all inbound calls in the range of 963-8100 to 963-8199 to the PBX, passing all 7-digits.

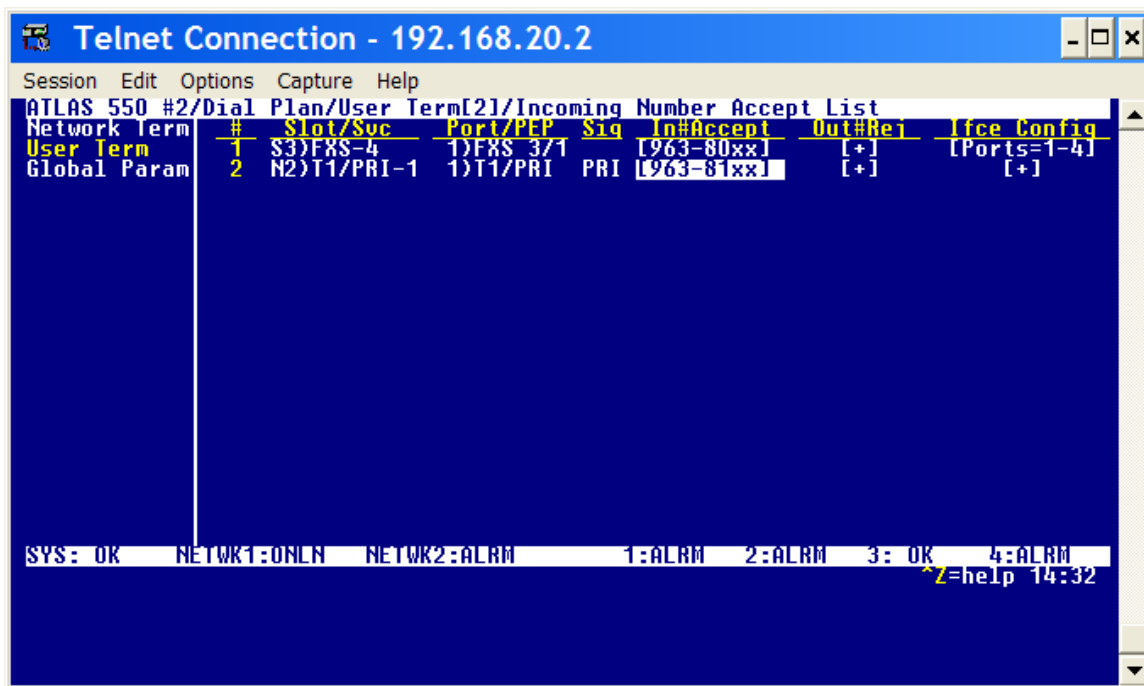


Figure 6

From the “Interface Configuration” submenu, configure all the PRI interface parameters connecting the PBX as shown below in Figure 7. Just as with the Network PRI, the ISDN switch type is selected, along with the number of “B” channels to emulate toward the PBX. Notice that all 23 channels are selected in this example. If the customer would like to dedicate a minimum of two channels for FaxPress use, then they would enter 21 for the “Number of DSOs” entry.

In the “B Channel Selection” entry, “normal” means always start with the last channel configured (i.e., for a full PRI channel 23 would be used if available). If the customer would like to use call load balancing amongst the available B channels on this interface, “circular” should be selected to use contiguous channels from last to first.

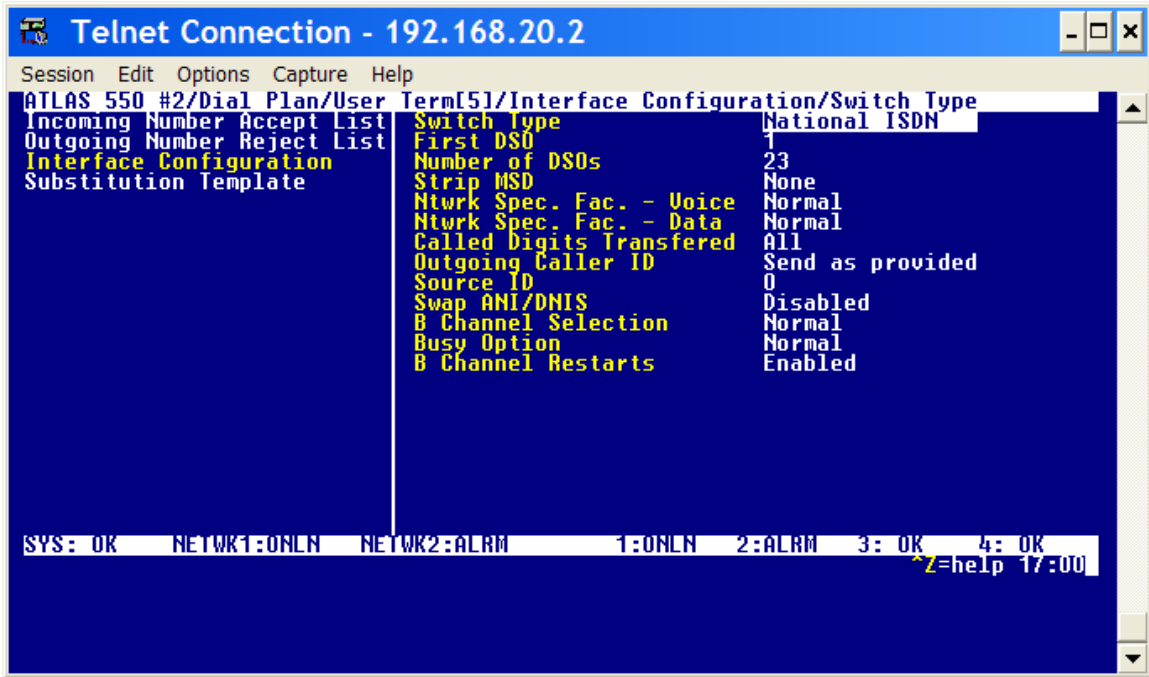
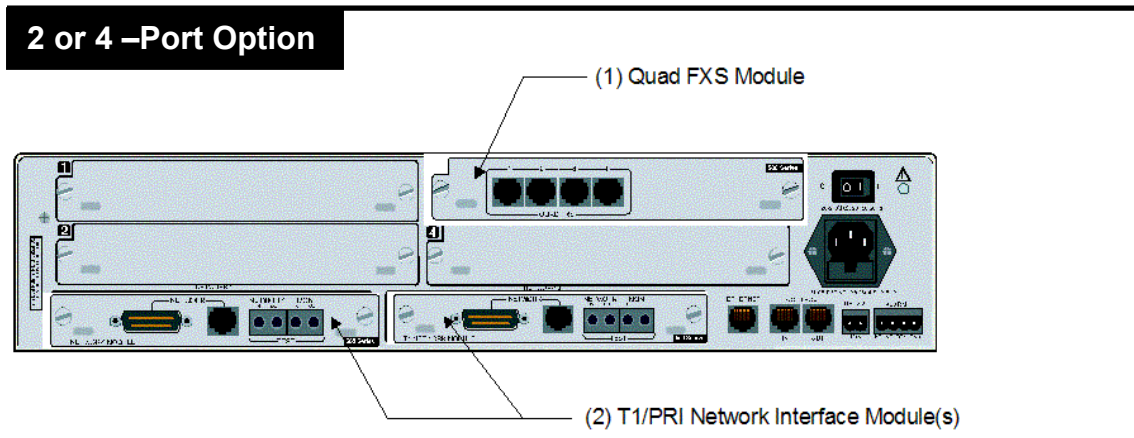


Figure 7

VII. ORDERING INFORMATION:

The following section provides part numbers of individual modules that are required for this specific scenario. Please check with your local dealer for pricing.

ATLAS 550 – Configuration Options for connecting a 2 or 4-Port Castelle 2500 or 5000 Fax Press



ADTRAN Part Numbers

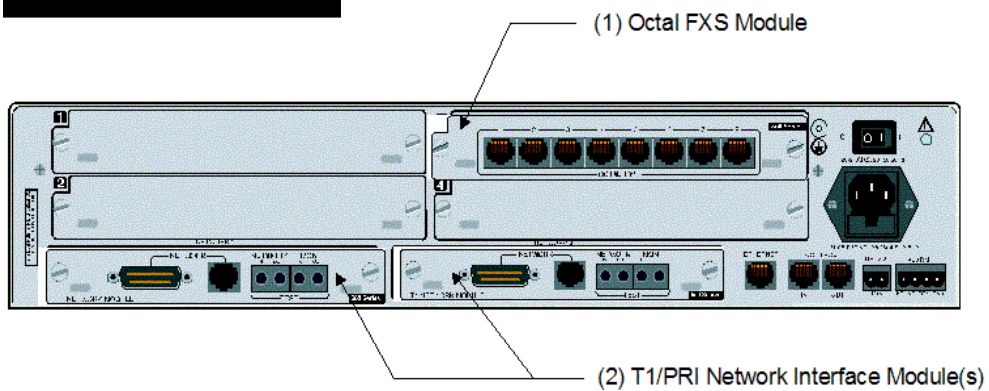
ATLAS 550 Base Unit (Includes 1-T1/PRI Network Interface Module)
Part # 1200305L2

ATLAS 550 T1/PRI Network Interface Module (For Connecting PBX)
Part # 1200307L2

ATLAS 550 Quad FXS Module (For Connecting a 4-Port Castelle Fax Press)
Part # 1200328L1

ATLAS 550 – Configuration Options for connecting an 8-Port Castelle 5000 or 7000 Fax Press

8-Port Option



ADTRAN Part Numbers

ATLAS 550 Base Unit (Includes 1-T1/PRI Network Interface Module)
Part # 1200305L2

ATLAS 550 T1/PRI Network Interface Module (For Connecting PBX)
Part # 1200307L2

ATLAS 550 Octal FXS Module (For Connecting an 8-Port Castelle Fax Press)
Part # 1200309L1