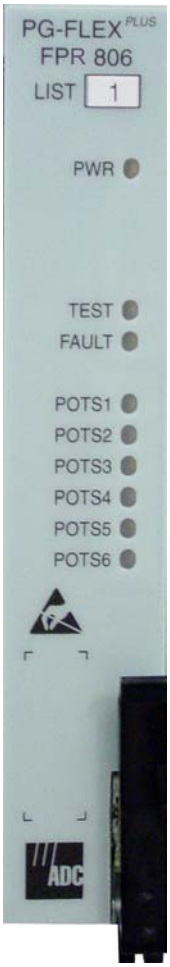
PG-Flex*Plus*

RPOTS 6 Channel

Remote Terminal Channel Unit

Technical Practice



Model	List	CLEI Code
FPR-806	1	S9C2BB0B~~

Section SCP-FPR806-010-01H

REVISION HISTORY

Revision	Release Date	Revisions Made
01	March 24, 2003	Initial Release

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USING THIS TECHNICAL PRACTICE

The following style conventions and terminology are used throughout this guide.

Element	Meaning
Bold font	Text that you must input exactly as shown (e.g., type **1** for card 1), menu buttons (e.g., **ACCEPT SHELF OPTIONS**) or menu screen options (e.g., **ALARMS** screen) that you must select
Italic font	Variables that you must determine before inputting the correct value (e.g., *Password*)
Monospace font	References to screen prompts (e.g., Invalid Password...Try Again:.)

Reader Alert	Meaning
	Alerts you to supplementary information
	Alerts you to supplementary information that is essential to the completion of a task
	Alerts you to possible equipment damage from electrostatic discharge
CAUTION	Alerts you to possible data loss, service-affecting procedures, or other similar type problems
WARNING	Alerts you that failure to take or avoid a specific action might result in hardware damage or loss of service
DANGER	Alerts you that failure to take or avoid a specific action might result in personal harm

INSPECTING YOUR SHIPMENT

Upon receipt of the equipment:

- Unpack each container and visually inspect the contents for signs of damage. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company and to ADC. Order replacement equipment, if necessary.
- Check the packing list to ensure complete and accurate shipment of each listed item. If the shipment is short or irregular, contact ADC as described in Product Support on page 45. If you must store the equipment for a prolonged period, store the equipment in its original container.

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OVERVIEW

The FPR-806 Remote Channel Unit Module RPOTS card provides the Remote Terminal (RT) Plain Old Telephone Service (POTS) function in the PG-Flex*Plus* distributed DLC platform.

FEATURES

Features supported by the FPR-806 include:

- Six Remote Terminal POTS interfaces
- Loop Start/Ground Start (LS/GS) and Direct Inward Dialing (DID) services
- MLT and Subscriber Drop Testing support

APPLICATIONS

When used in conjunction with the supported system configurations, the FPR-806 enables the system to deliver POTS directly at the DLC remote location in the following applications:

- Integrated Distributed DLC
- Universal Distributed DLC
- System Support for DID

Integrated Distributed DLC

As a distributed Integrated DLC (Figure 1), the remote system shelf can be placed in a CO, CEV or outdoor cabinet; anywhere that the DS1 facility can be delivered and subtended directly off the switch. The system supports TR-08 Mode 1 or SF/ESF Integrated Channel Bank (ICB) interfaces into digital class 5 switches. The 96 channels delivered to the system Remote shelf can be directly dropped off at the shelf via the FPR-806 or delivered to distributed, line-powered, micro-DLC remotes ranging from four to twenty-four channels in size.

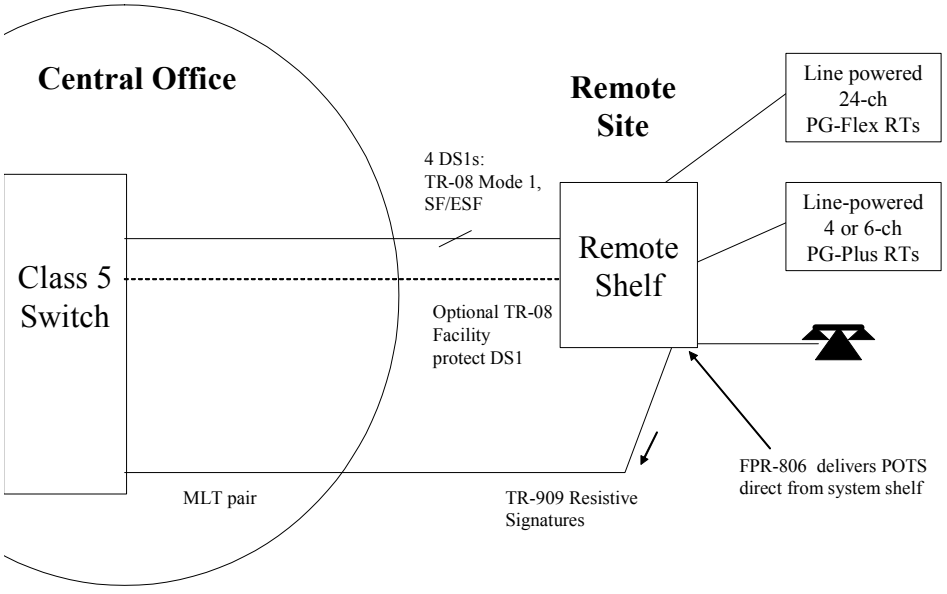


Figure 1. Integrated Distributed DLC

Universal Distributed DLC

The system can also be deployed in a universal configuration using POTS interfaces into the switch rather than digital DS1s (Figure 2). In this configuration, a system shelf populated with FPC-806 CPOTS cards is placed in the CO to provide the VF interface into the class 5 switch. As a distributed, universally fed DLC, the remote system shelf can be placed in a CO, CEV or outdoor cabinet; anywhere that the DS1 facility can be delivered.

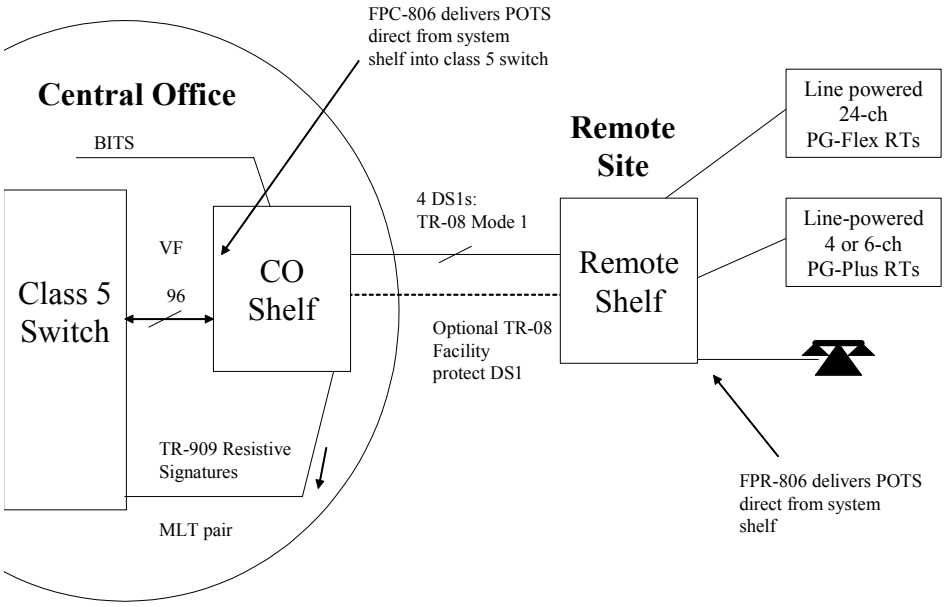


Figure 2. Universal Distributed DLC

When operating in an universal mode, back-to-back with a CO shelf, the remote shelf communicates the drop testing results through overhead communications to the CO shelf where the MLT reads the TR-909 signatures from the CO shelf.

Using the overhead communications in the universal configuration allows the system to support drop testing without the need for a metallic bypass pair to the remote shelf.

The 96 channels delivered to the system Remote shelf can be directly dropped off at the shelf via the FPR-806 or delivered to subtended line-powered, micro-DLC remotes ranging from four to 24 channels in size.

System Support for DID

The system supports DID to a Private Branch eXchange (PBX) (Figure 3). DID can be served in a universal system configuration where the DID lines enter the CO shelf through FPR-806 cards and the PBX interfaces to the remote system shelf through the FPC-806 cards.

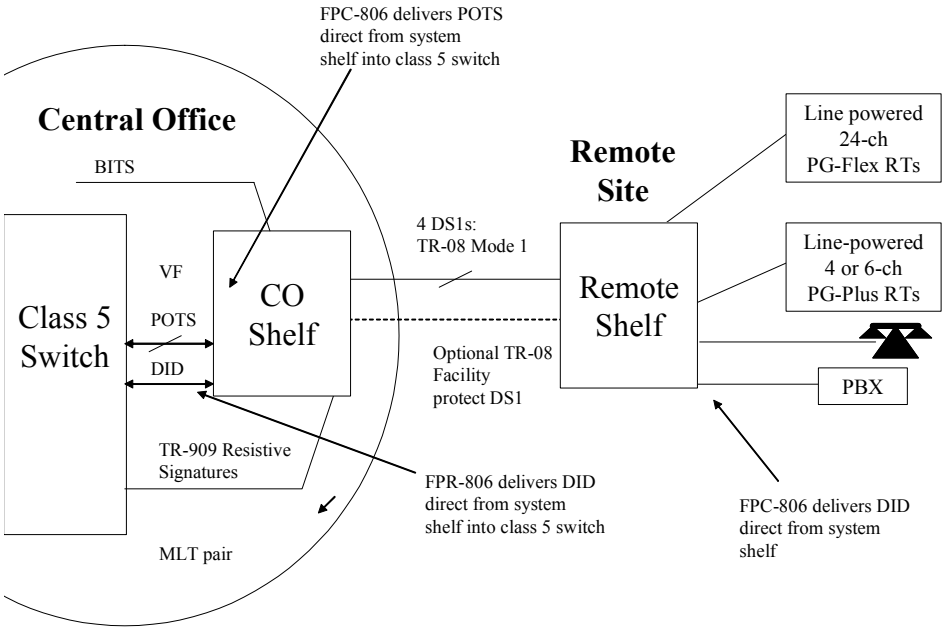


Figure 3. System Support for DID

System Configurations supporting the FPR-806

Table 1 summarizes the supported cards for a system configuration in which the FPR-806 is used to deliver POTS directly at the DLC remote site.

Table 1. System Supported Shelf and Card Configurations

Catalog Number	Description	Notes
PG-Flex*Plus* Shelf		
PCS-719 L1A	23” Shelf	1
PCS-719 L3	23” Shelf with DS3 UNI Support	1
PCS-718 L1	19” Shelf	2
PCS-718 L2	19” Shelf, Wire-Wrap	2
PCS-822 L1B	Cabinetized Field Shelf	3
Management Options		
AMU-912 L1	Management Unit	
T1 Multiplexer Options		
PMX-744 L1B	8-Port DS1 Multiplexer	
Line Unit Options		
PLL-735 L2	Dual PG-Plus Line Unit (deploys two 4-ch or 6-ch RTs)	
FLL-814 L1A/L1B	PG-Flex Line Unit (deploys one PG-Flex Remote Terminal)	
FPR-806 L1	6-port RPOTS	
1. PCS-719 with 16 LU slots has 96-channel POTS capacity 2. PCS-718 shelf with 12 LU slots has 72-channel POTS capacity 3. PCS-822 outdoor cabinetized field shelf with eight LU slots has 48-channel POTS capacity		

SUBSCRIBER DROP TESTS

The FPR-806 provides the interface to initiate a subscriber drop test on the corresponding six subscriber tip and ring pairs located at the remote terminal. Simultaneous testing of multiple tip and ring pairs is not supported. Tests performed are detailed in Table 2.

The tests outlined in Table 2 can be initiated through MLT, craft screens or integrated TR-08 channel test, depending upon application.

Table 2. DC Resistive Signatures

Test	Failure Condition	TR (kΩ)	TG, RG (kΩ)
Foreign Voltage on Drop	TG or RG > 10 Vrms TG or RG > 6 Vdc	27.8	90.9
All Tests OK	No failures detected	38.3	90.9
Ringer Test	REN > 5.0 or REN < 0.2	48.3	90.9
Resistive Fault on Drop	TG, RG, or TR ≥ 150 kΩ	58.0	90.9
Receiver Off-Hook	Phone is off-hook	68.0	90.9
Hazardous Potential on Drop	TG or RG > 50 Vrms TG or RG > 135 Vdc	78.5	90.9

The resistive signatures on the AMU-912 are biased to -14 Vdc.

SPECIFICATIONS

Table 3 lists the specifications for the FPR-806.

Table 3. Specifications

Category	Item	Value
Electrical	Input Voltage	-42.5 Vdc to -56.5 Vdc
	Input Power	Less than 40 W with four lines Off Hook and two lines ringing 5 REN each
POTS Specifications	RT Supervisory Range	820 Ω plus 430 Ω for handset; or 9.6 kft on 26 AWG; 15.6 kft on 24 AWG; 25.1 kft on 22 AWG
	Detection of Loop Open	≥10 kΩ
	Idle State Voltage	-48 V minimum
	Loop Current	23 mA minimum
	Ring Generation	Unbalanced Trapezoidal 40 Vrms minimum @ 20 ± 3 Hz up to 5 REN per line (10 REN total)
	Ring Trip	≤ 200 ms after Loop Closure
POTS Interface	Supports Loop Start/Ground Start (LS/GS) POTS	
Environmental	Elevation	-200 ft. to 13,000 ft. -60 m to 4,000 m
	Temperature	-40° F to +150° F -40° C to +65° C
	Humidity	5% to 95% (non-condensing)
Compliance	NEBS	SR-3580 Level 3
	ESD	Per GR-1089-CORE
	Power Cross and Lightning Surge	Per GR-1089-CORE
	Human Safety	UL-1950 for Restricted Access
	Emissions Radiation and Immunity	GR-1089-CORE for Class A equipment
Physical	Height	5.5 in. (14.0 cm.)
	Width	1.1 in. (2.8 cm.)
	Depth	10.25 in. (26.0 cm.)
	Weight	0.6 lbs. (0.27 kg.)

FRONT PANEL

Figure 4 shows the FPR-806 front panel and Table 4 on page 8 lists the LEDs and LED status for the FPR-806. Refer to Table 5 on page 8 for diagnostic indications.

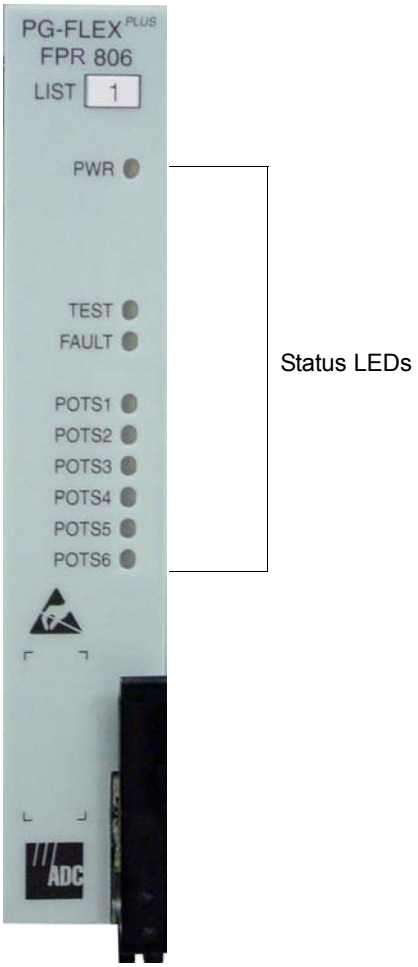


Figure 4. FPR-806 Front Panel

Table 4. FPR-806 Front Panel LEDs

LED	Color	State	Description
PWR	Green	On	FPR-806 is receiving power
		Off	FPR-806 is NOT receiving power
TEST	Yellow	Flashing	Subscriber Drop Testing is in progress
		Off	No Subscriber Drop Testing in progress
FAULT	Red	On	Fault in the FPR-806
		Flashing	PMX-744 is removed
		Off	No fault is detected
POTS# (# = 1 – 6)	Green	On	Off Hook
		Ring Cadence Flash	Channel is ringing
		Slow Flash	Channel is in test
		Off	Channel is idle

Table 5. FPR-806 Diagnostic Indicators

LED State	Description	Action
PWR LED On, All other LEDs flashing	FPR-806 is running in Boot Mode	Application software must be re-installed. Contact Product Support on page 45 for additional information.
PWR LED On, All other LEDs sequencing downward	Software download to FPR-806	Wait for download to complete and FPR-806 to re-start
FAULT On, All other LEDS Off	FPR-806 hardware failure	Replace FPR-806

INSTALLATION AND TEST

STATIC SENSITIVE DEVICE – DO NOT HANDLE ANY MATERIAL WITHOUT FIRST TAKING PROPER STATIC CONTROL PRECAUTIONS.

REQUIRED TOOLS AND TEST EQUIPMENT

No tools are required to install the FPR-806. For testing, the following tools may be used:

- Telephone test set
- PSU-795 List 1 COTS Continuity Test Card (Optional – Streaker Card)

You can install the FPR-806 in any slot except the three positions labeled COMMON, MUX 1, and MUX 2. Refer to the cabling tables provided in the COTS documentation for slot and Telco cabling assignment.

INSTALLATION

Install an FPR-806

Step	Action
1	Open the retaining latch on the front of the FPR-806.
2	Insert the FPR-806 into a vacant slot in the shelf that corresponds to the location of the wiring for the service being activated.
3	Engage the retaining latch to hold the card in place.

INITIALIZE AND POWER UP THE FPR-806

After installing the FPR-806, the following events occur:

- All LEDs briefly blink on and then off, with the exception of the PWR LED that remains On.

ADMINISTRATION

Refer to the proper Management Unit Technical Practice for detailed Administration instructions.

For example:

1. Provision your PC/Laptop running Windows HyperTerminal or PROCOMM, etc. to the following terminal settings:

8 data bits
1 stop bit
no parity
VT-100 emulation
baud rate – 1200, 2400, 4800, 9600, 19200, 38400, 57600

2. Connect the DB-9 cable between the RS-232 port on the front of the Management Unit and the PC/Laptop serial port.

3. Press **ENTER** several times until the Main Menu appears.

NAVIGATIONAL METHODS

Table 6 shows the keys used to navigate through the menus and screens.

Table 6. Navigational Keystrokes

Keypress	Effect on Menu	Effect on Screen
ENTER	Moves to sub-menu or screen selected	Confirms changes
← or CTRL - F	Moves left across Main Menu	Moves the cursor left
→ or CTRL - G	Moves right across Main Menu	Moves the cursor to the right
↑ or CTRL - T	Moves up the sub-menu selection	Moves the cursor up
↓ or CTRL - V	Moves down the sub-menu selection	Moves the cursor down
TAB	No effect	Moves to the next field
SPACEBAR	No effect	Cycle through the field options
ESC	Moves up a menu level. From the Main Menu, the Logout screen is displayed.	Returns to Main Menu without accepting changes. The banner briefly appears and then the Main Menu bar displays.
CTRL - R	Returns to the Main Menu. The banner briefly appears and then the Main Menu bar displays.	Returns to Main Menu without accepting changes
A - Z keys	Selects an underlined or highlighted menu item	A screen entry is made

Some screens illustrated in this document may be slightly different than what may appear on the craft interface terminal. These differences are related to individual software installations.

PROVISIONING, TESTING AND MAINTENANCE

The following sections describe how to navigate the VT-100 screens to configure, check the status of, and maintain the FPR-806 system. All configurable options are set to factory defaults to minimize field provisioning. Use the Craft terminal to verify system performance and to customize the units to your requirements.

MENUS AND DISPLAY STRUCTURE

Figure 5 shows the menu structure of the terminal management system.

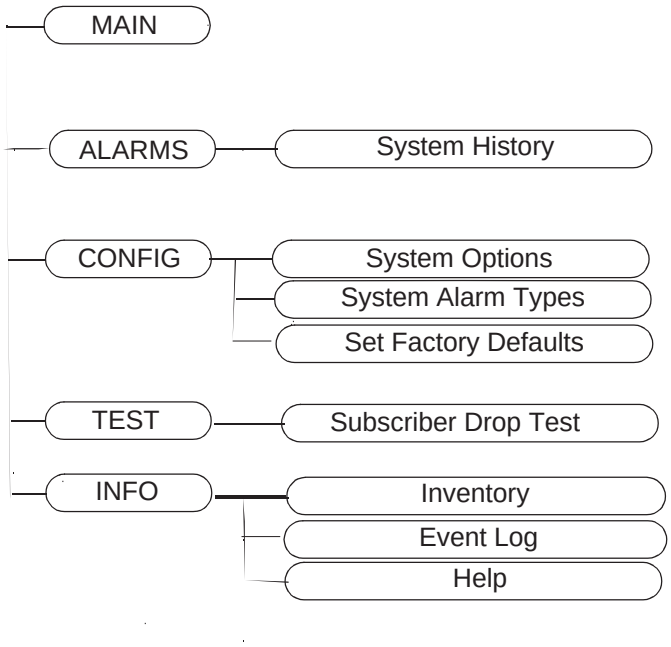


Figure 5. Terminal Menu and Display Structure

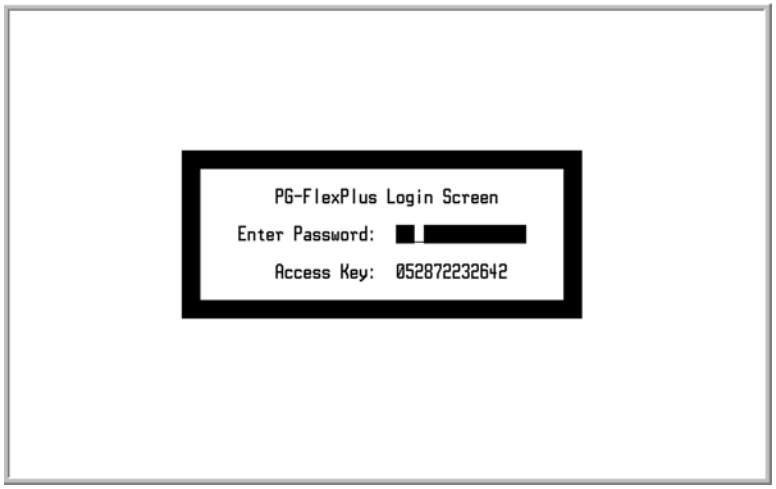
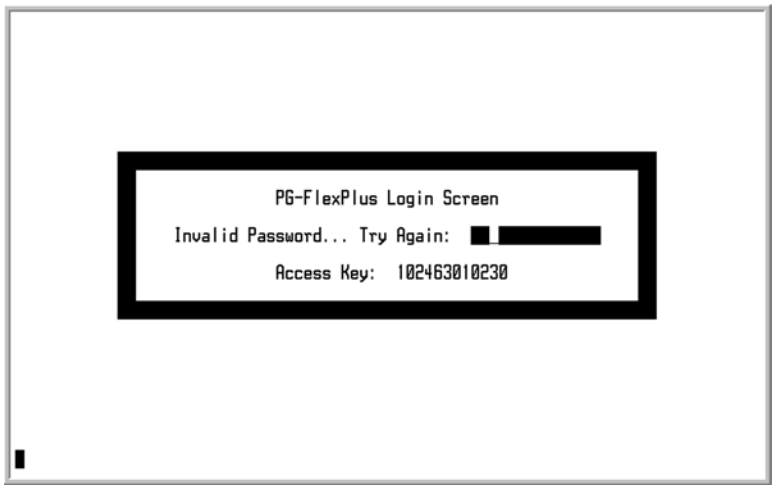
Log On the FPR-806 Through the Management Unit (AMU-912)

This screen logs the user into the system. This procedure shows how to log into the FPR-806 through the AMU-912.

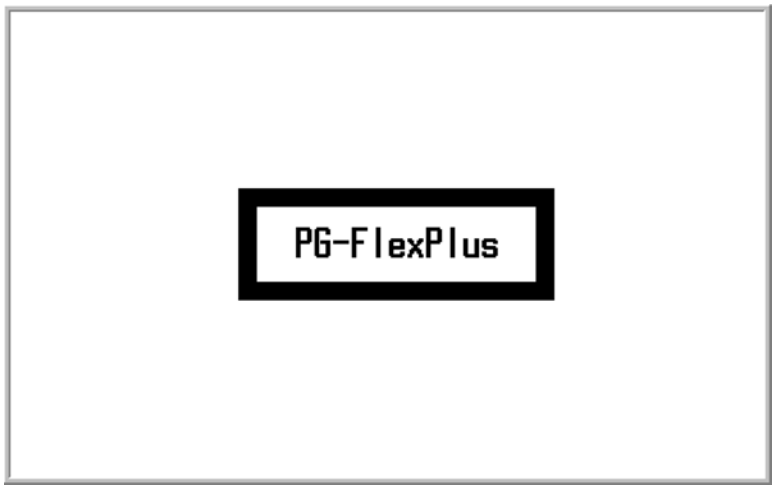
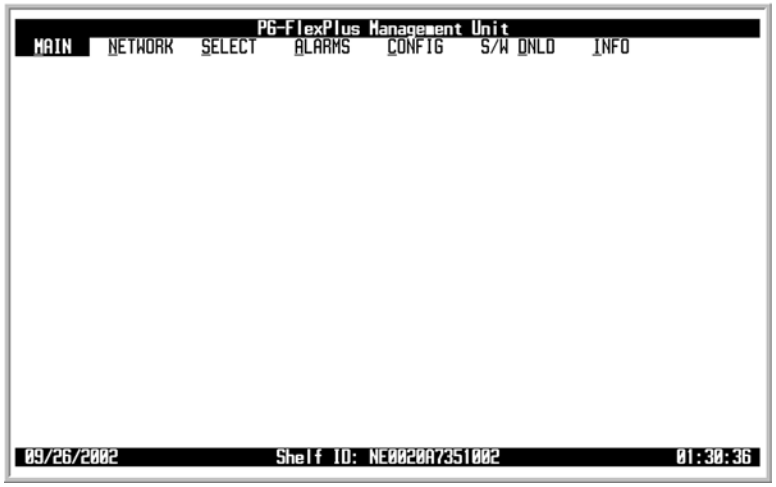
The factory-default password is **password#1**.

If the password has been changed and the new password is not known, contact ADC Technical Support while at the terminal. Technical Support will provide a temporary password based on the Access Key number displayed on the Logon screen.

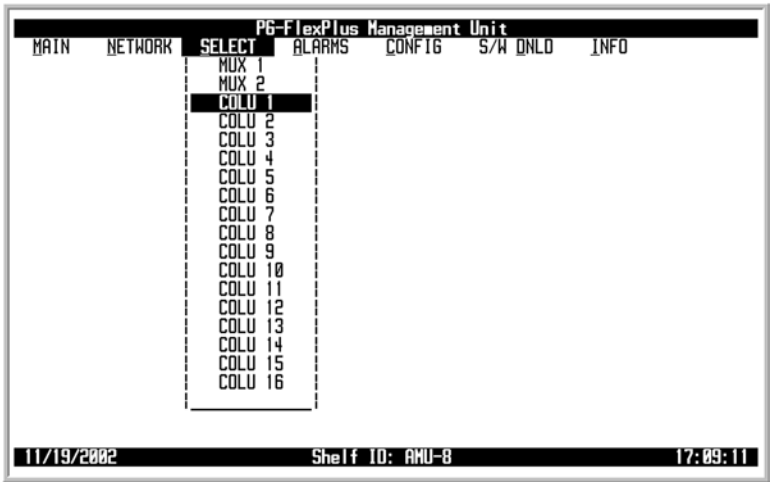
Log On the FPR-806 Through the Management Unit (AMU-912)

Step	Action
1	Press SPACEBAR several times to activate the Autobaud feature. When the Login screen displays, type the *Password*, then press ENTER. 
2	If an invalid Password is entered, the Login screen is redisplayed with the message `Invalid Password...Try Again:`. Type the *Password*, then press ENTER. 

Log On the FPR-806 Through the Management Unit (AMU-912) (Continued)

Step	Action
3	After a successful login, the welcome banner screen appears for a few seconds.  Then the AMU-912 Main Menu screen appears. 

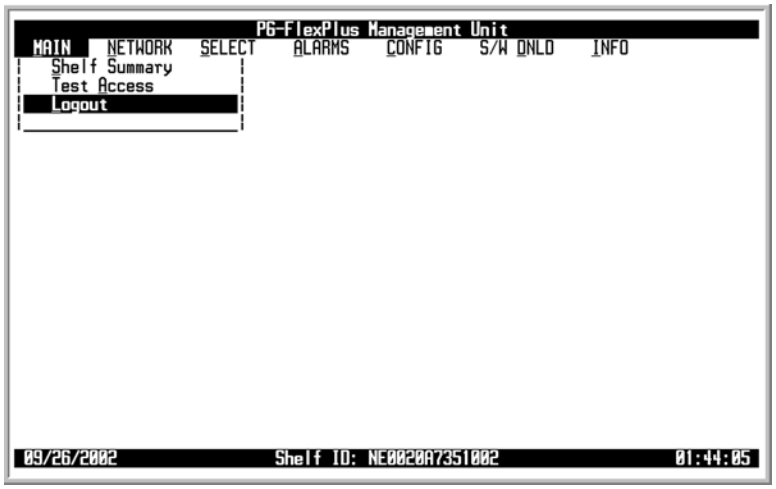
Log On the FPR-806 Through the Management Unit (AMU-912) (Continued)

Step	Action
4	At the Main Menu, choose **SELECT**. Press ↓ to choose the appropriate *COLU#* (e.g., **COLU 1**).  The FPR-806 Main Menu appears. 

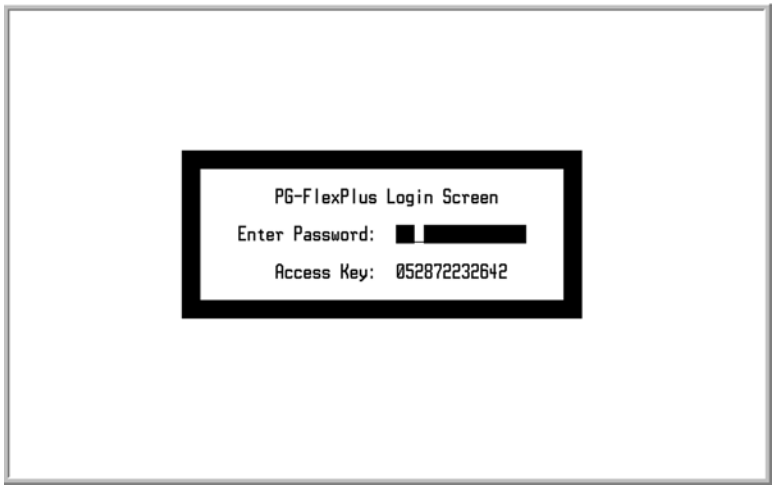
Logout

This action logs the user out of the system.

Logout

Step	Action
1	**CAUTION** ***If you must leave your VT-100 terminal unattended for any length of time, log off until you are ready to resume work. This prevents unauthorized persons from inadvertently changing any of your operating parameters and/or experiencing loss of service.*** At the FPR-806 Main Menu screen, press **ESC**. The MU Main Menu appears. 
2	At the MU Main Menu screen, select **MAIN**. Press ↓ to choose **Logout**. The following screen appears. 

Logout (Continued)

Step	Action
3	Press **ENTER**. The following screen appears. 
4	Press **Y**. The PG-Flex*Plus* Login screen reappears. 

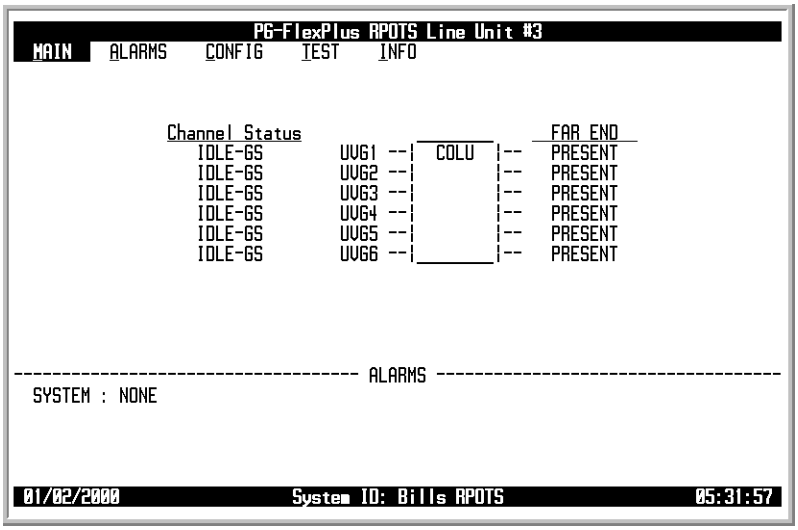
MAIN MENU OPTIONS

The Main Menu provides access to the status of the system.

MAIN

The screen provides access to the status of the system.

MAIN

Step	Action
1	At the Main Menu screen, select **MAIN**. The following screen appears. 
2	Press **ESC**. The Main Menu screen reappears.

ALARM MENU OPTIONS

The Alarm Menu provides access to the alarm status and system related alarm events. Refer to Table 7 for the sub-menu option and description, parameter and valid value.

Table 7. Alarm Menu Options

Sub-Menu Options	Sub-Menu Descriptions	Selectable Parameter Options	Valid Values
System History	View the system's active critical, major and minor alarms	• Clear System Alarm History (Y)? • System Alarm History Will Be Cleared. Continue (Y/N)?	• Y • Y or N

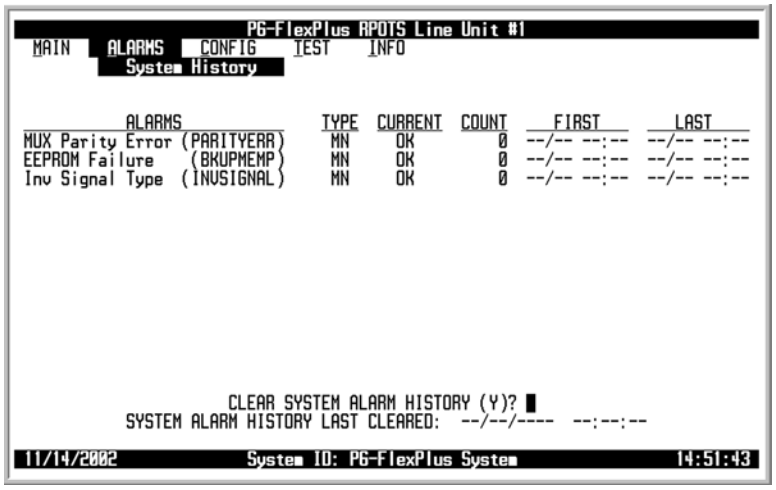
ALARMS — System History

This screen displays the system's active critical, major, and minor alarms.

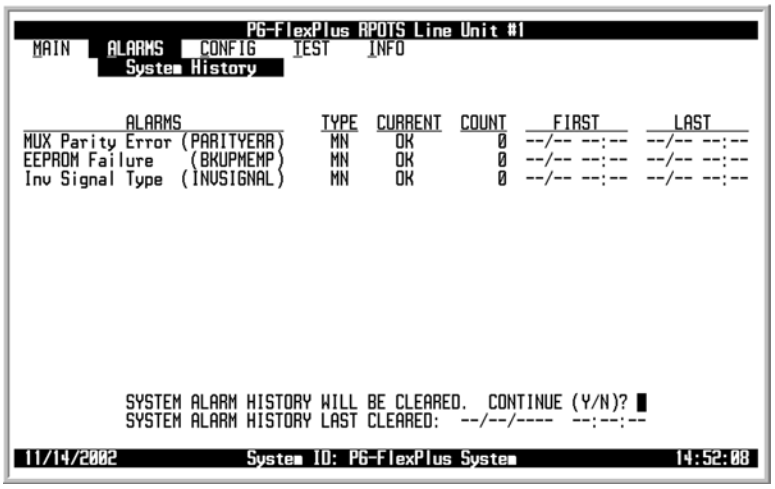
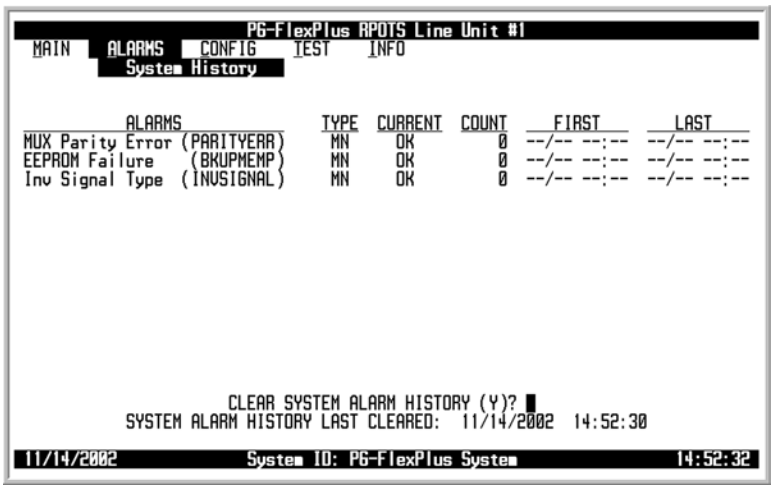
ALARMS — System History

Step	Action
1	At the Main Menu screen, select **ALARMS**. Press ↓ to choose **System History**. The following screen appears. 

ALARMS — System History (Continued)

Step	Action
2	Press **ENTER**. The following screen appears. To clear the system history, press **Y** at the `CLEAR SYSTEM ALARM HISTORY (Y)?` prompt.  If you want to retain the system history, press **ESC**. The Main Menu screen reappears. The alarm information displayed indicates: Alarm Types: • CRITICAL — Critical alarm is present • MAJOR — Major alarm is present • MINOR — Minor alarm is present • NOT ALARMED — Condition is active, but has no severity • NOT REPORTED — Condition not reported by system Alarm States: • Active — Designates active alarm • OK — Designates no alarm exists

ALARMS — System History (Continued)

Step	Action
3	To verify you want to clear the system history, press **Y** at the `SYSTEM ALARM HISTORY WILL BE CLEARED. CONTINUE (Y/N)?` prompt.   If you want to retain the system history, press **N**, then press **ESC**. The Main Menu screen reappears.
4	Press **ESC**. The Main Menu screen reappears.

CONFIGURATION MENU OPTIONS

The Configuration Menu provides access to system provisioning and setting all options to factory defaults, etc. Refer to Table 8 for sub-menu options and descriptions, parameters and valid values.

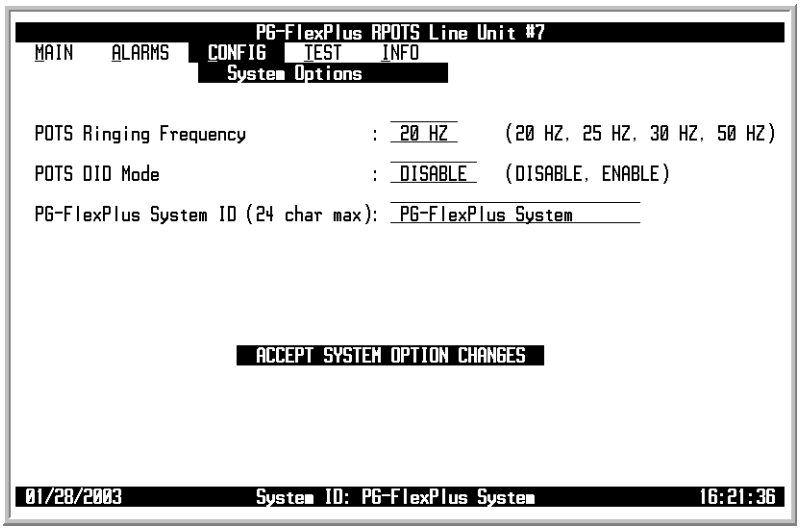
Table 8. Configuration Menu Options

Sub-Menu Options	Sub-Menu Descriptions	Parameters	Valid Values
System Options (Table 9 on page 26 for Shelf Options)	Set system options	System Options will be changed. Continue (Y/N)?	Y or N
System Alarm Types (See Table 11 on page 29)	Provision all FPR-806 alarm types	System Alarm Types will be changed. Continue (Y/N)?	Y or N
Set Factory Defaults	Reset the provisionable items to the original factory settings	• Configuration data will be set to factory defaults (This May Be Service Affecting!) Continue (Y/N)? • Configuration data has been set to factory defaults. Press ESC to continue:	• Y or N • ESC

CONFIG — System Options

The System Options screen allows provisioning of system options. Refer to Table 9 on page 26 for Shelf Options.

CONFIG — System Options

Step	Action
1	At the Main Menu screen, select **CONFIG**. Press ↓ to choose **System Options**. The following screen appears. 
2	Press **ENTER**. The following screen appears. To change a field value, press **SPACEBAR** to toggle to the desired value, or press ↓ or ↑ to move to the next option.  To save the system options, select the **ACCEPT SYSTEM OPTION CHANGES** button, then press **ENTER**.

CONFIG — System Options (Continued)

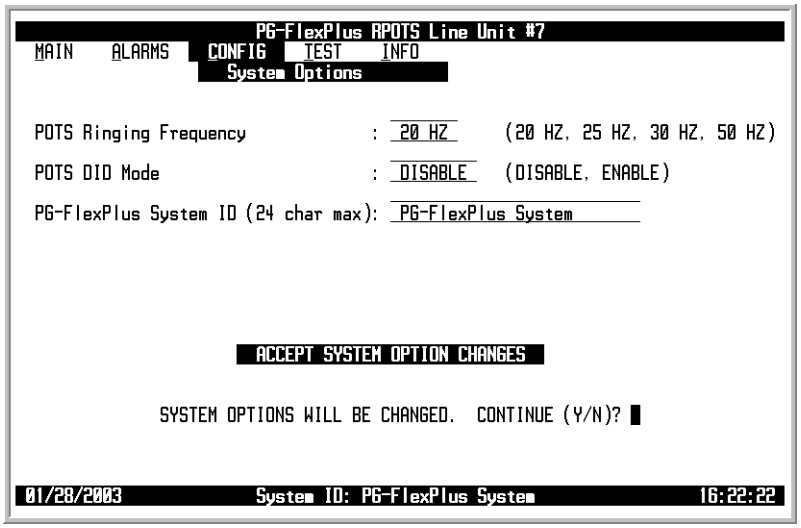
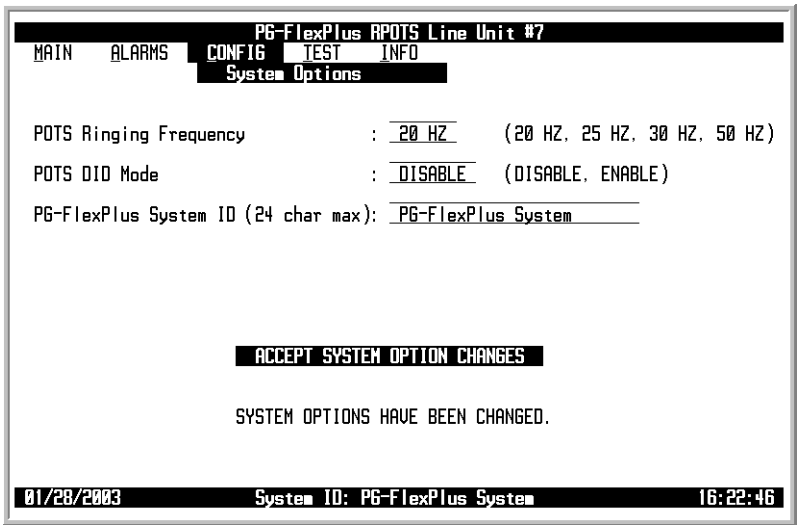
Step	Action
3	From the `SYSTEM OPTIONS WILL BE CHANGED. CONTINUE (Y/N)?` prompt, the following actions can be taken: • To save the system options, press **Y**. All current values are set to desired values.   • To retain the existing values, press **N**.
4	Press **ESC**. The Main Menu screen reappears.

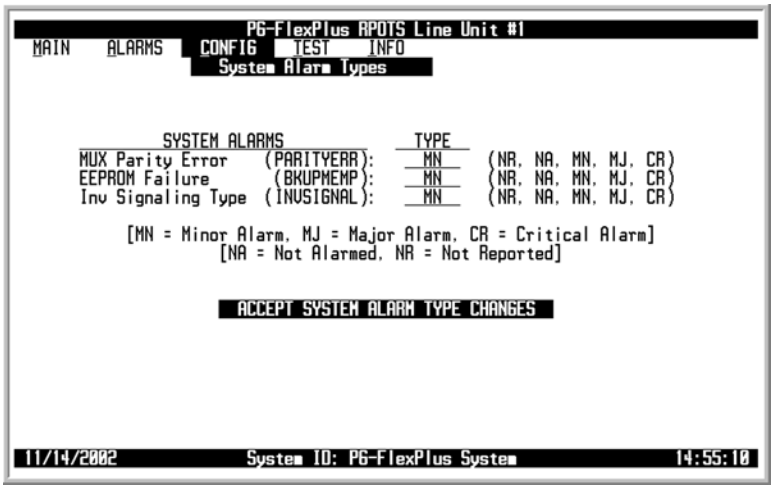
Table 9. Shelf Options

System Options	Value	Description	Default
POTS Ringing Frequency	20, 25, 30, 50 HZ	Changes frequency of ringing at the RT	20 HZ
POTS DID Mode	ENABLE, DISABLE	Enables/Disables POTS Direct Inward Dialing Mode	DISABLE
PG-Flex*Plus* System ID	Up to 24 characters maximum - Can contain letters, digits or hyphens	Visible at the bottom of the screen	PG-FlexPlus System

CONFIG — System Alarm Types

The alarm types screen allows provisioning of all FPR-806 system alarm types. Table 11 on page 29 shows the alarm fields, values, descriptions and default settings. Table 10 on page 29 provides a description of the Alarm types reported.

CONFIG — System Alarm Types

Step	Action
1	At the Main Menu screen, select **CONFIG**. Press ↓ to choose **System Alarm Types**. The following screen appears. 
2	Press ENTER. The following screen appears. 

CONFIG — System Alarm Types (Continued)

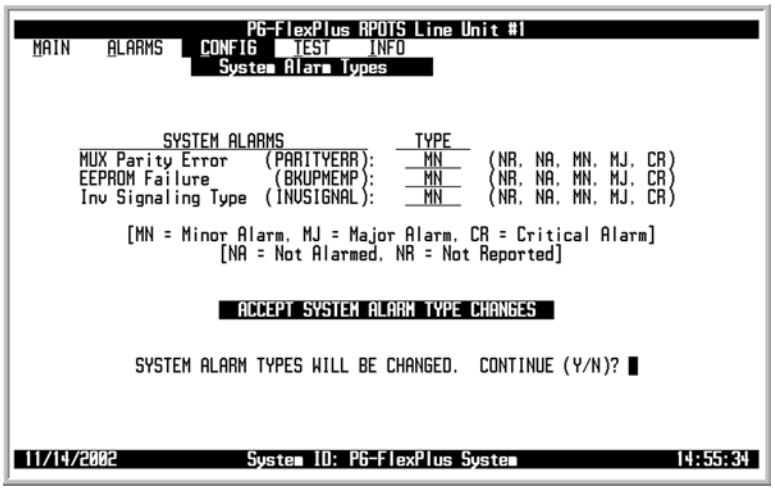
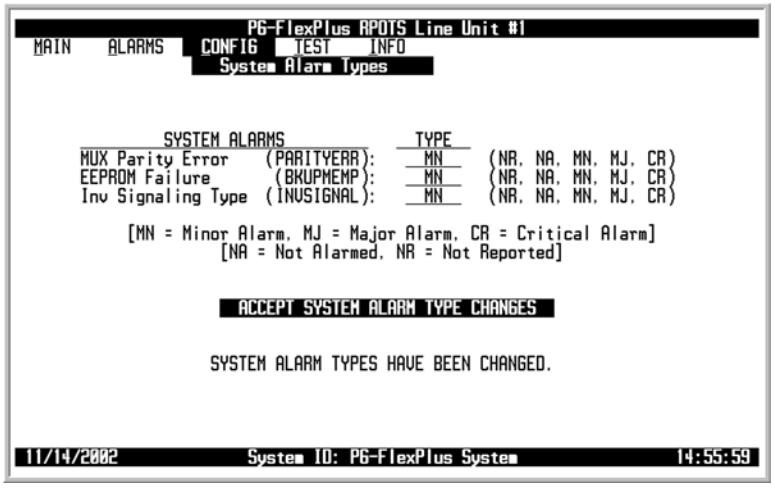
Step	Action
3	The following actions can be taken: a. To change the field value, press **SPACEBAR** to toggle to the desired value, or press ↓ or ↑ to move to the next option. b. To save the alarm type changes, select the **ACCEPT SYSTEM ALARM TYPE CHANGES** button, then press **ENTER**. From the `SYSTEM ALARM TYPES WILL BE CHANGED. CONTINUE (Y/N)?` prompt, the following actions can be taken: • To save the alarm type changes, press **Y**. All current values are set to desired values.   • To retain the existing alarm types, press **N**.
4	Press **ESC**. The Main Menu screen reappears.

Table 10. Alarm Types Reported

Settings	Alarm LED Lit	Main Shelf Summary	History Updated
CR – Critical	Yes	Yes	Yes
MJ – Major	Yes	Yes	Yes
MN – Minor	Yes	Yes	Yes
NA – Not Alarmed	No	No	Yes
NR – Not Reported	No	No	No

Table 11. Alarm Types

Alarm	Value	Description	Default
MUX Parity Error	CR, MJ, MN, NA, NR	Parity error detected on MUX	MN
EEPROM Failure	CR, MJ, MN, NA, NR	Non-volatile database is corrupt	MN
Inv Signaling Type	CR, MJ, MN, NA, NR	FPR-806 has an invalid Signaling Type	MN

CONFIG — Set Factory Defaults

This screen resets the configuration data back to the original factory default setting.

CONFIG — Set Factory Defaults

Step	Action
1	At the Main Menu screen, select **CONFIG**. Press ↓ to choose **Set Factory Defaults**. The following screen appears. 
2	Press ENTER. The following screen appears.  **CAUTION** ***Setting to Factory Defaults may cause a loss of service.***

CONFIG — Set Factory Defaults (Continued)

Step	Action
3	The following actions can be taken: a. To reset the system options back to the original factor default settings, press **ENTER**. From the `CONFIGURATION DATA WILL BE SET TO FACTORY DEFAULTS (THIS MAY BE SERVICE AFFECTING!) CONTINUE (Y/N)?` prompt, the following actions can be taken: • To save the Factory Default changes, press **Y**. The following events occur: – all current values are reset to the factory default values  • To retain the existing configuration data, press **N**.
4	Press **ESC**. The Main Menu screen reappears.

TEST MENU OPTIONS

The Test Menu provides access to the Subcriber Drop Test Facility. Refer to Table 12 for the sub-menu option and description, parameter and valid values.

If you attempting to run a second test when one test is already in progress, a flashing warning message appears. Wait a few minutes, then try to run the test again.

Table 12. Test Menu Options

Sub-Menu Options	Sub-Menu Descriptions	Parameters	Valid Values
Subscriber Drop	Allows Subscriber Drop Test to be performed on a particular channel	POTS (#) Chosen for Test. **WARNING** Calls in Progress on Test Circuit will be Terminated. Continue with Test (Y/N)?:	• POTS1 through POTS6 • Y or N

TEST — Subscriber Drop Test

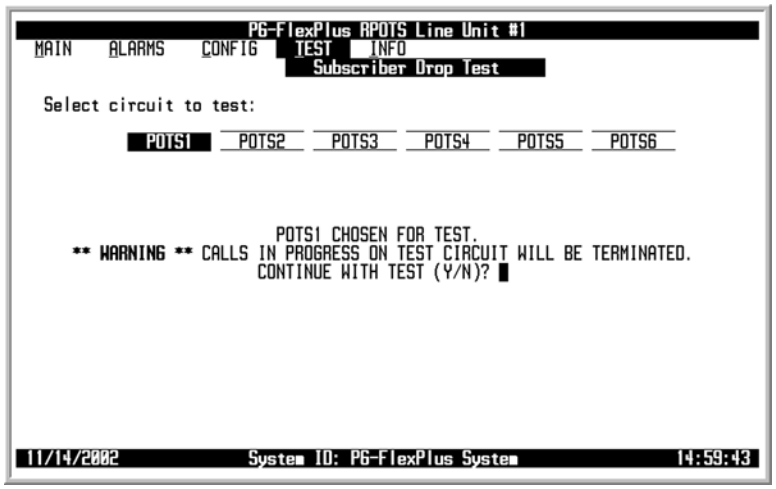
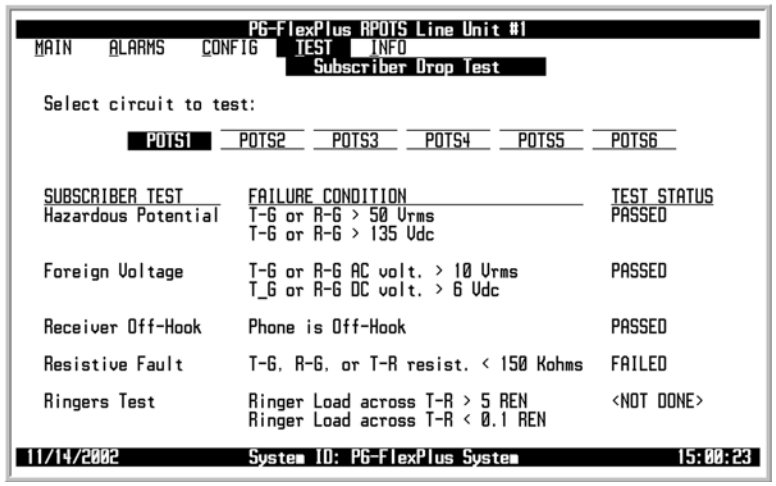
This screen allows a subscriber drop test to be performed on a particular channel.

CAUTION ***Performing a subscriber drop test on any channel interrupts service on the line under test. The remaining lines on the system remain in service.***

TEST — Subscriber Drop Test

Step	Action
1	At the Main Menu screen, select **TEST**. Press ↓ to choose **Subscriber Drop Test**. The following screen appears. 
2	Press **ENTER**. The following screen appears. 

TEST — Subscriber Drop Test (Continued)

Step	Action
3	The following actions can be taken: a. To assign the POTS circuit to test, press → or ← to select the appropriate POTS# field, then press ENTER. b. From the `POTS# CHOSEN FOR TEST. **WARNING** CALLS IN PROGRESS ON TEST CIRCUIT WILL BE TERMINATED. CONTINUE WITH TEST (Y/N)?` prompt, the following actions can be taken: • To start the test, press Y.  • To abort the test, press N. Then press ESC and the Main Menu reappears.
4	Upon completion of all tests, the Subscriber Drop Test Results screen with the Subscriber Test, Failure Condition, and Test Status results is displayed. Tests are performed in the order of display.  If a test fails, the remaining tests are not performed (as per TA-909). It takes approximately seven to eight seconds for all tests to complete.
5	Press ESC. The Main Menu screen reappears.

INFORMATION MENU OPTIONS

The Information Menu provides technical information about the system. Refer to Table 13 for sub-menu options and descriptions.

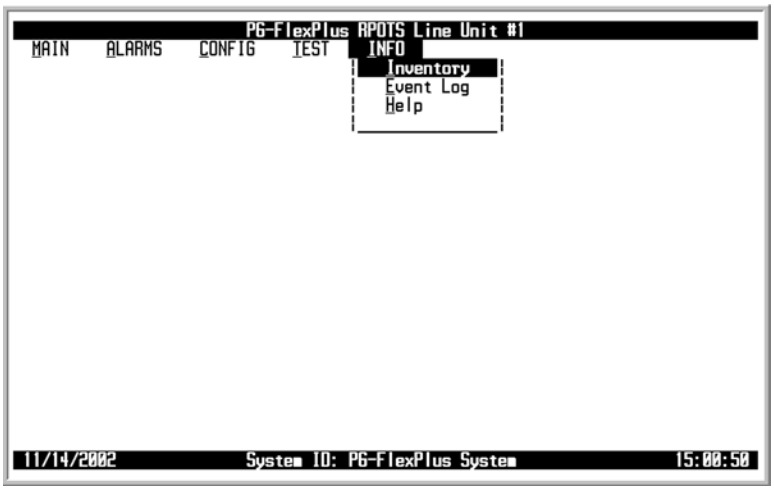
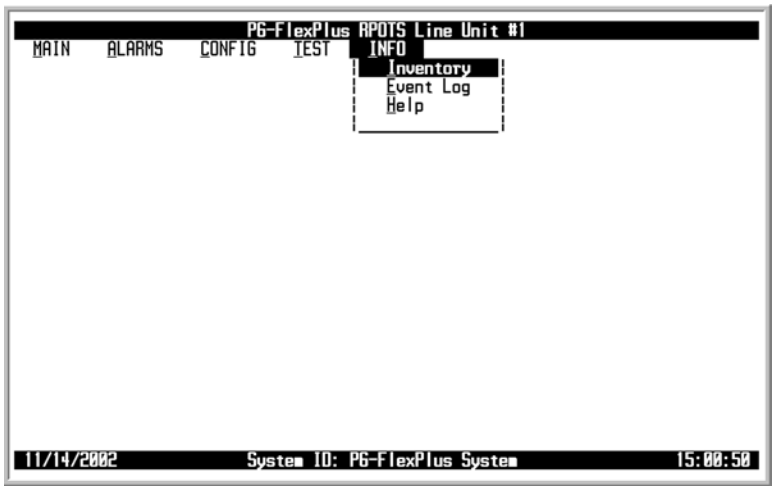
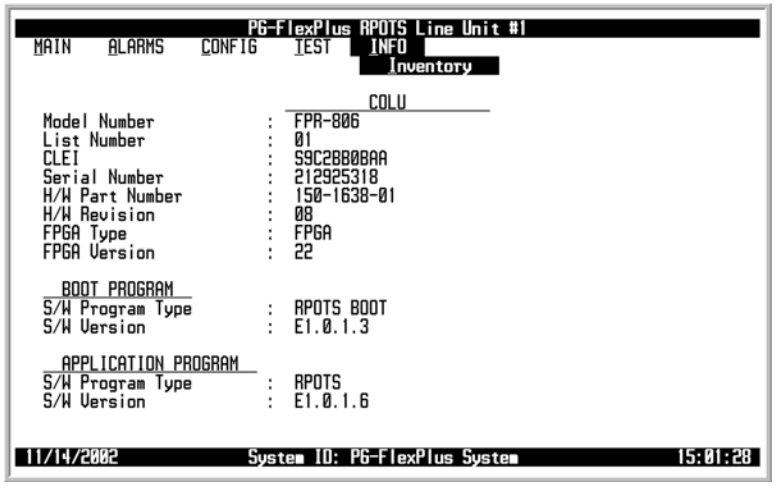


Table 13. Information Menu Options

Sub-Menu Options	Sub-Menu Descriptions	Parameters	Valid Values
Inventory	Displays product identification information, manufacturing data, software versions and the hardware revisions for the FPR-806		
Event Log	Displays all the FPR-806 event information about the FPR-806	• Clear event log history (Y)? • Event log history will be cleared. Continue (Y/N)?	• Y • Y or N
Help	Displays product identification information, manufacturing data, software versions and the hardware revisions for the FPR-806		

INFO — Inventory

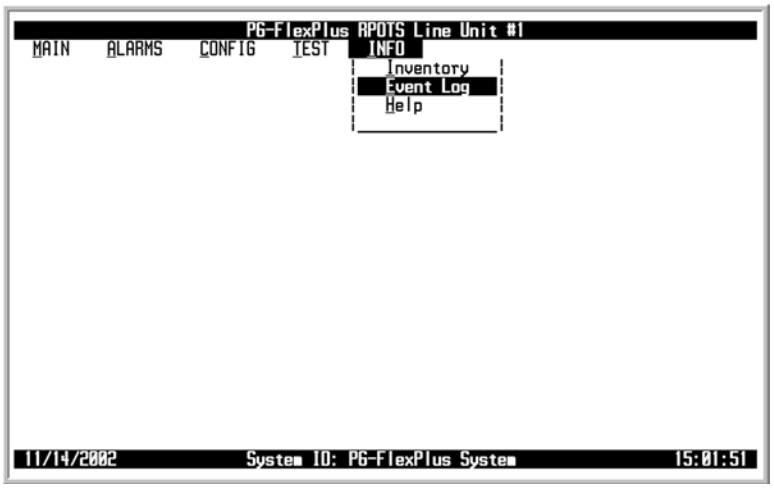
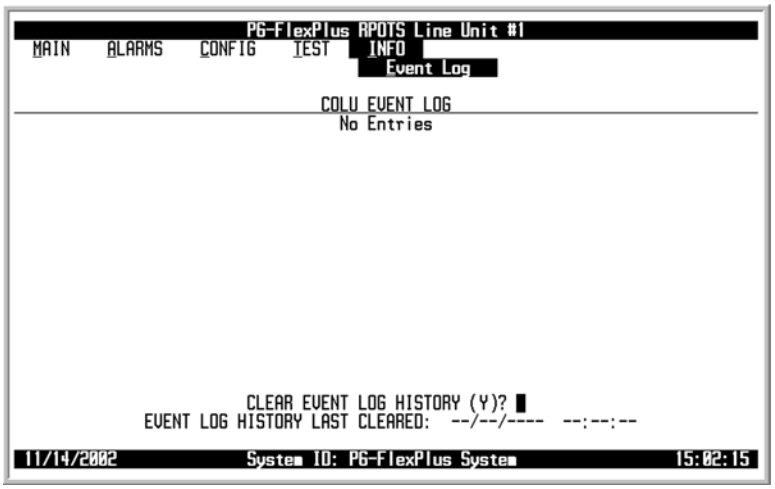
This screen displays product identification information, manufacturing data, software versions and the hardware revisions for the FPR-806.

Step	Action
1	At the Main Menu screen, select **INFO**. Press ↓ to choose **Inventory**. The following screen appears. 
2	Press **ENTER**. The following screen appears. 
3	Press **ESC**. The Main Menu screen reappears.

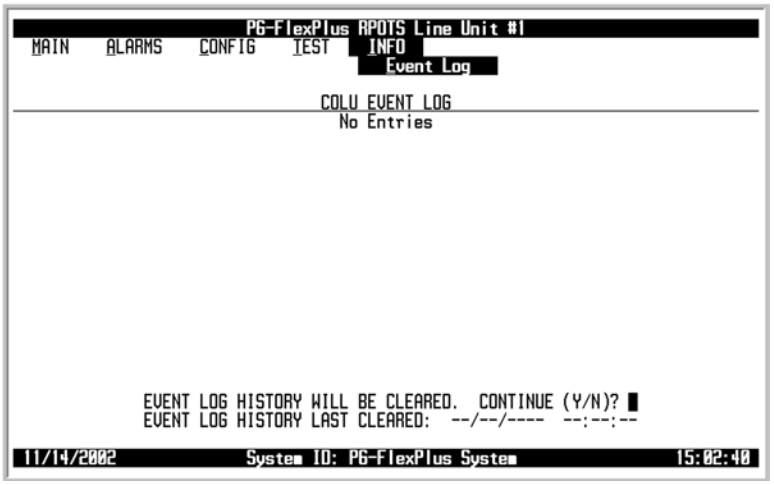
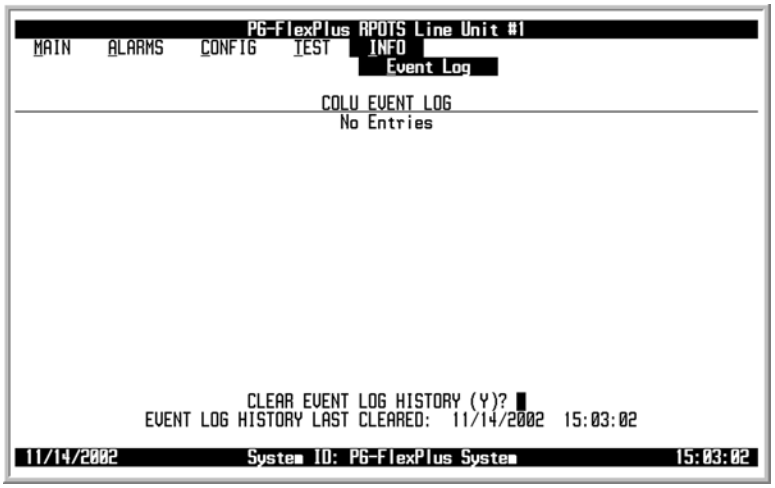
INFO — Event Log

This screen displays all the FPR-806 event information (an unsolicited change in state, a physical or logical device change, etc.) about the FPR-806.

INFO — Event Log

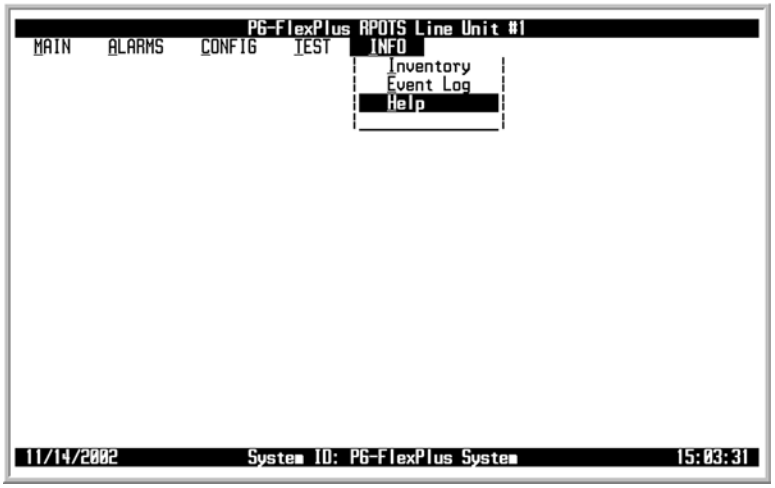
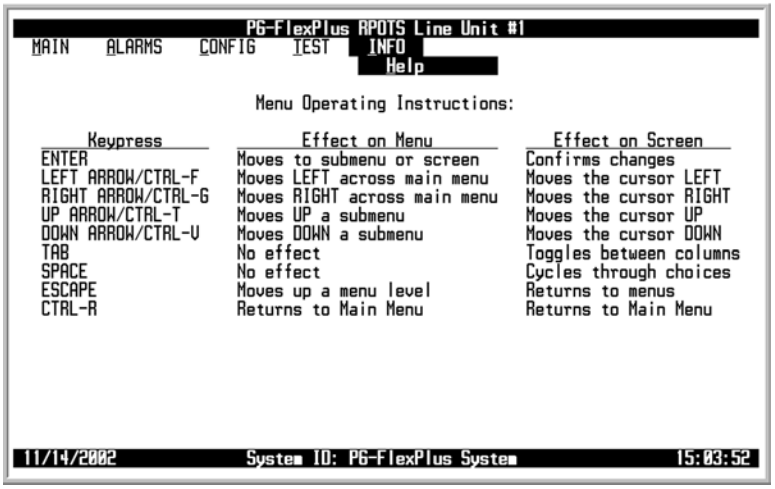
Step	Action
1	At the Main Menu screen, select **INFO**. Press ↓ to choose **Event Log**. The following screen appears. 
2	Press **ENTER**. The following screen appears.  • To clear the Event Log History, press **ENTER** at the `CLEAR EVENT LOG HISTORY (Y)?` • To retain the Event Log History, press **ESC**. The Main Menu screen reappears.

INFO — Event Log (Continued)

Step	Action
3	The following actions can be taken: • To confirm your selection, press **Y** and **ENTER** at the `EVENT LOG HISTORY WILL BE CLEARED. CONTINUE (Y/N)?` prompt. The following events occur: 1. All Event Log History is cleared 2. Time and date that the registers were last cleared are updated   • To retain the Event Log History, press **N**.
4	To return to the Main Menu, press **ESC**.

INFO — Help

This screen provides information on using the system screens and menus.

Step	Action
1	At the Main Menu screen, select **INFO**. Press ↓ to choose **Help**. The following screen appears. 
2	Press **ENTER**. The following screen appears. 
3	Press **ESC**. The Main Menu screen reappears.

FAULT ISOLATION AND TROUBLESHOOTING

Table 14 provides fault isolation and troubleshooting procedures for the FPR-806.

Table 14. Fault Isolation and Troubleshooting

LED	State	Probable Cause	Solution
PWR	On	OK	
	Off	• No input power • Shelf power fuse blown • FPR-806 processor stopped	• Verify fuses on bay fuse panel • Check input power on the COT Shelf battery terminations • Remove and re-insert FPR-806 • Replace the FPR-806
FAULT	On	Problem with the FPR-806	Replace the FPR-806
	Flashing	PMX-744 card missing from shelf	Make sure PMX-744 is installed
	Off	OK	

SUBSCRIBER REPORTED FAULTS

The following sections provide procedures for isolating faults based on subscriber reports. Table 15 provides subscriber fault isolation procedures for the system. At the CO, you can use the Craft interface to initiate a Subscriber Drop Test (SDT) to help determine the cause of any of the following problems: Hazardous Potential, Foreign Voltage, Resistive Fault, Receiver Off-hook, and Ringer Tests.

Table 15. Subscriber Fault Isolating

Indicator	Probable Cause	Solution
No dialtone, cannot dial	Short-circuit or open-circuit	At the CO using the Craft interface, select the TEST menu option and view the test results. The tests run are for Hazardous Potential, Foreign Voltage, Resistive Fault, and CPE Termination. If dialtone is not present, drop the channel to the Maintenance Unit (MU) Voice Frequency (VF) interface and check for dialtone: a. At the Craft Terminal (from the MU Menu), select the MAIN option and press RETURN. b. Select the Test Access submenu option and press RETURN. c. Choose the Active MUX card from the Test Access submenu and press RETURN. d. Select the fields for the DS1 and the Channel and type of numbers of the RT in fault. e. Select the Enable Test Access button and press RETURN. f. Check for dialtone at the VF Interface. If dialtone is still not present, the problem exists within the CO.
Phone does not ring	High-resistance short on subscriber drop	At the CO using the Craft interface, go to the FPR-806 Main Menu and choose MAIN on page 18 to verify the correct operation of the FPR-806. If you cannot view the FPR-806 Main Menu, a communication error exists indicating a faulty card. Remove and reinsert the FPR-806. Then replace the FPR-806, if needed. Go to the Test Menu Option and select the desired circuit to test. View the SDT results. Refer to the Test Submenu section for specific results. If ringing is not present, drop the channel to the MU interface and check for ringing: a. At the Craft Terminal (from the MU Menu), select the MAIN option and press RETURN. b. Select the Test Access submenu option and press RETURN. c. Choose the Active MUX card from the Test Access submenu and press RETURN. d. Select the fields for the DS1 and the Channel and type of numbers of the RT in fault. e. Select the Enable Test Access button and press RETURN. f. Connect a telephone set at the CO to check for ringing.

Indicator	Probable Cause	Solution
Phone does not stop ringing	Faulty subscriber station instrument or loop length too long	If phone stops ringing when using a butt-in set at the subscriber location, the subscriber's station internal resistance is too high. Replace phone. If phone does not stop ringing when using a butt-in set at the subscriber location, one or both of these conditions exist: • loop length is too long (see Table 3 on page 6 for Specifications) • Replace the FPR-806
Cannot hear, cannot be heard	Subscriber problem (e.g., Bad voice path in the FPC-806 card)	If audible level is too low at protector drop lifted, drop the channel to the MU interface and check for voice quality. a. At the Craft Terminal (from the MU Menu), select the MAIN option and press RETURN. b. Select the Test Access submenu option and press RETURN. c. Choose the Active MUX card from the Test Access submenu and press RETURN. d. Select the fields for the DS1 and the Channel and type of numbers of the RT in fault. e. Select the Enable Test Access button and press RETURN. f. Connect a telephone set at the CO to check for ringing. If audible level is acceptable, replace the FPR-806; otherwise, the problem is in the CO switch.

If system problems cannot be resolved after following the procedures in Table 15, contact Technical Support on page 45.

ACRONYMS

A

ACO – Alarm Cut-Off

AWG – American Wire Gauge

C

CO – Central Office

COT – Central Office Terminal

CPOTS – Central Office Plain Old Telephone Service (Central Office Channel Unit)

CR – Critical

D

DID – Direct Inward Dialing

DS0 – Digital Signal Level 0

DS1 – Digital Signal Level 1

DSL – Digital Subscriber Line

E

ES – Errored Seconds

ESD – Electrostatic Discharge

F

FCC – Federal Communications Commission

G

GND – Ground

I

ICB – Integrated Channel Bank

L

LCF – Loop Current Feed

LCFO – Loop Current Feed Open

LED – Light Emitting Diode

LS/GS – Loop Start/Ground Start

M

MJ – Major

MLT – Mechanized Loop Testing

MN – Minor

MU – Maintenance Unit

MUX – Multiplexer

N

NA – Not Alarmed

NEBS – Network Equipment Building System

NR – Not Reported

P

PBX – Private Branch EXchange

PGTC – Pair Gain Test Controller

POTS – Plain Old Telephone Service

R

RLCF – Reverse Loop Current Feed

RMA – Return Material Authorization

RPOTS – Remote Plain Old Telephone Service (Remote Terminal Channel Unit)

RT – RemoteTerminal

S

SES – Severely Errored Seconds

SYNC – Synchronization

U

UAS – Unavailable Seconds

V

VF – Voice Frequency

PRODUCT SUPPORT

TECHNICAL SUPPORT

Technical Assistance is available 24 hours a day, 7 days a week by the contacting Customer Service Engineering group at:

Telephone:	800.366.3891 The 800 telephone support line is toll-free in the U.S. and Canada.
Email:	wsd_support@adc.com
Knowledge Base:	http://adc.com/Knowledge_Base/index.jsp
Web:	www.adc.com

LIMITED WARRANTY

Product warranty is determined by your service agreement. Refer to the ADC Warranty/Software Handbook for additional information, or contact your sales representative or Customer Service for details.

RETURNS

To return equipment to ADC:

1. Locate the number of the purchase order under which the equipment was purchased. To obtain a return authorization number, you need to provide the original purchase order number to ADC's Return Material Authorization (RMA) Department.
2. Call or write ADC's RMA Department to ask for an RMA number and any additional instructions. Use the telephone number, fax number or email address listed below:
   - Telephone: 800.366.3891
   - Email Address: rma@ADC.com
3. Include the following information, in writing, along with the equipment you are returning:
   - Company name and address
   - Contact name and telephone number
   - Shipping address to which ADC should return the repaired equipment
   - Original purchase order number
   - Description of the equipment that includes the model and part number of each unit being returned, as well as the number of units that you are returning.
   - Reason for the return. For example:
     – The equipment needs an ECO/ECN upgrade.
     – The equipment is defective.

If the equipment is defective, please tell us what you observed just before the equipment malfunctioned. Be as detailed in your description as possible.

If there is any other reason for returning the equipment, please let us know so we can determine how best to help you.

4. Pack the equipment in a shipping carton.

5. Write ADC's address and the RMA Number you received from the RMA Department clearly on the outside of the carton and return to:

   ADC DSL Systems, Inc.
   14402 Franklin Ave.
   Tustin, CA 92780-7013

   Attention: **RMA (Number)**

All shipments are to be returned prepaid. ADC will not accept any collect shipments.

FCC CLASS A COMPLIANCE

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 communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the use will be required to correct the interference at his own expense.

MODIFICATIONS

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by ADC voids the user's warranty.

All wiring external to the product(s) should follow the provisions of the current edition of the National Electrical Code.

World Headquarters:
ADC Telecommunications, Inc.
12501 Whitewater Drive
Minnetonka, Minnesota USA 55343

For Technical Assistance:
800.366.3891

ISO 9001
DNV
DNV Certification, Inc.
Certificated Firm

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