



4 POTS/6 POTS CENTRAL OFFICE LINE UNIT

| Model | List | CLEI Code |
|---------|------|------------|
| PLL-720 | 2 | S9L1AADA~~ |
| PLL-721 | 2 | S9L1ABDA~~ |

SECTION SCP-PLL720-020-03H



Revision History of This Practice

| Revision | Release Date | Revisions Made |
|----------|-------------------|--|
| 01 | December 15, 2000 | Initial Release |
| 02 | February 6, 2002 | Release to rebrand document to comply with ADC standards |
| 03 | January 6, 2003 | Updated Product Support Information |

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USING THIS PRACTICE

Three types of messages, identified by icons, appear in the text.



Notes indicate information about special circumstances.



Cautions indicate the possibility of equipment damage or the possibility of personal injury.



Electrostatic Discharge (ESD) susceptibility symbols indicate that a device or assembly is susceptible to damage from electrostatic discharge.You must wear an antistatic wrist strap connected to the appropriate ground connection prior to performing installation procedures. You must also observe normal ESD precautions when handling electronic equipment. Do not hold electronic plugs by their edges. Do not touch components or circuitry.

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 "Returns" on page 55. If you must store the equipment for a prolonged period, store the equipment in its original container.

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OVERVIEW

The PG-Plus[®] PLL-720, PLL-721 List 2's, PAU-710 List 4B, provide interface with the respective RT for four and six POTS subscribers.

DESCRIPTION AND FEATURES

A PG-Plus application, consisting of one COTS, one COLU and one RT, (see Figure 1) provides bidirectional transport of multiple DS0, over a single, unconditioned wire pair using HDSL technology. Using existing cable, PG-Plus provides for higher bandwidth needs of residential and business customers by providing multiple POTS interfaces on a single HDSL twisted-pair wire.



Figure 1. Typical PG-Plus Application

The COLU uses ADC HDSL technology to provide digital transmission without the need for repeaters, loop conditioning, or pair selection. The COLU can be installed in the PCS-718 19-inch or the PCS-719 23-inch COTS. The COLU operates in the standalone mode with no other COTS circuit cards required. Advanced features such as performance monitoring, alarm reporting, and testing require the addition of the PG-Plus PAU or PMU. Line power is provided to the RT by the COLU.

The COLU performs the interface functions between the analog POTS circuits of the CO switching system by mapping one POTS line onto one DS0 for transmission to the RT on the HDSL pair. To obtain maximum reach, the HDSL line to the RT is operated at the minimum rate to support the payload.

METALLIC FALLBACK

Metallic fallback provides a direct connection from the CO to one subscriber under fault conditions. Service is provided to the first POTS subscriber on the affected system. At the RT, the system exits metallic fallback and attempts to synchronize if either the first POTS or the HDSL Tip to Ring pair is shorted for at least 3 seconds, and then released for at least 3 seconds. Otherwise, the COLU checks for the presence of an RT every 5 minutes. If an RT is present, the system begins HDSL synchronization acquisition.

Relays in the COLU and RT provide a path for SDT and metallic fallback operation. These relays are used to establish a circuit to POTS # 1 during fault conditions and to provide for drop testing of the selected subscriber line from the CO location.

SPECIFICATIONS

| Function | PLL-720 4 POTS | PLL-721 6 POTS |
|----------------------------------|---|---|
| System | | |
| Resistive Signature | Tip to Ground 162 K | Tip to Ground 162 K |
| - | Ring to Ground 453 K | Ring to Ground 453 K |
| Power Supply | | |
| Voltage Safety | A2 compliant per GR-1089-CORE | A2 compliant per GR-1089-CORE |
| Input Voltage | -42 Vdc to -56.5 Vdc | -42 Vdc to -56.5 Vdc |
| HDSL Line | | |
| Output Voltage | <u>+</u> 140 Vdc maximum | \pm 140 Vdc maximum |
| Output Power | 27 Watts maximum | 27 Watts maximum |
| HDSL Line Code | 2B1Q | 2B1Q |
| HDSL Line Rate | 130.6 K symbols/sec (261.3 Kbps) | 196 K symbols/sec (392 Kbps) |
| HDSL Reach | 26 AWG - 15.0 kft (4.75 km) | 26 AWG - 12.5 kft (3.81 km) |
| | 24 AWG - 21.7 kft (6.61 km) | 24 AWG - 18.0 kft (5.48 km) |
| | 22 AWG - 31.2 kft (9.51 km) | 22 AWG - 25.2 kft (7.68 km) |
| | 19 AWG - 49.7 kft (15.1 km) | 19 AWG - 37.8 kft (11.5 km) |
| Maximum Line Attenuation | 45.9 dB at 65 kHz | 41.6 dB at 98 kHz |
| POTS | | |
| Analog Impedance | 900Ω | 900Ω |
| DC On-hook Resistance | $4 M\Omega$ minimum | 4Ω minimum |
| DC Off-hook Resistance | 1000Ω maximum | 1000Ω maximum |
| COTS Input Impedance | 0.9 REN @ 20 Hz maximum | 0.9 REN @ 20 Hz maximum |
| COTS Ring Detection | 65 Vrms minimum @ 15 to 50 Hz | 65 Vrms minimum @ 15 to 50 Hz |
| Environment | | |
| Operating Temperature | -40° F to +150° F (-40° C to +65° C) | -40° F to +150° F (-40° C to +65° C) |
| Operating Humidity | 5% to 95% noncondensing | 5% to 95% noncondensing |
| Altitude | -200 ft. to 13,000 ft. (-60m to 4,000m) | -200 ft. to 13,000 ft. (-60 m to 4,000 m) |
| Vibration | NEBS | NEBS |
| ESD | Per GR-1089-CORE | Per GR-1089-CORE |
| Power and Lightning | Per GR-1089-CORE | Per GR-1089-CORE |
| Human Safety | UL 1950 for Restricted Access | UL 1950 for Restricted Access |
| Emissions Radiation and Immunity | Per GR-1089-CORE for class A equipment | Per GR-1089-CORE for class A equipment |
| Connector | 50 gold-plated card edge fingers | 50 gold-plated card edge fingers |
| Dimensions | | |
| Height | 5.5 in. (14.0 cm.) | 5.5 in. (14.0 cm.) |
| Width | 1.1 in. (2.8 cm.) | 1.1 in. (2.8 cm.) |
| Depth | 10.25 in. (26.0 cm.) | 10.25 in. (26.0 cm.) |
| Weight | 2.0 lbs. (0.9 kg.) | 2.0 lbs. (0.9 kg.) |

POWER CONSUMPTION AND HEAT DISSIPATION



The worst case conditions under which these parameters are measured include a 15,000 ft., #26 AWG loop, a fully loaded COTS, a -42.5 Vdc COTS battery voltage and a 40° C outdoor temperature.

| Power | 4 POTS COLU Slot | 19-inch COTS [*] | 23-inch COTS [†] | 6 POTS COLU Slot | 19-inch COTS [‡] | 23-inch COTS ^{**} |
|--------------------------|--------------------------|------------------------------|------------------------------|---------------------|------------------------------|-------------------------------|
| Maximum Heat Dissipation | Maximum Heat Dissipation | | | | | |
| HDSL Line Power Off | 2.8 W | 33.6 W | 44.8 W | 3.1 W | 37.2 W | 49.6 W |
| HDSL Line Power On | 5.0 W | 60 W | 80 W | 6.5 W | 78 W | 104 W |
| Maximum Power Consump | tion | | | | | |
| HDSL Line Power Off | 3.0 W | 36 W | 48 W | 3.1 W | 37.2 W | 49.6 W |
| HDSL Line Power On | 27.8 W | 333.6 W | 444.8 W | 31.25 W | 375 W | 500 W |
| Maximum Current Drain | | | | | | |
| HDSL Line Power Off | 71 mA | 0.852 A | 1.14 A | 73 mA | 0.875 A | 1.17 A |
| HDSL Line Power On | 654 mA | 7.85 A | 10.5 A | 735 mA | 8.82 A | 11.76 A |

Table 1. Power Consumption and Heat Dissipation

(*) The PCS-718 List 1 is shown as loaded with one PMU-712, two PMX-744, and 12 PLL-720s.

(†) The PCS-719 List 1 is shown as loaded with one PMU-712, two PMX-744, and 16 PLL-720s.

(‡) The PCS-718 List 1 is shown as loaded with one PMU-712, two PMX-744, and 12 PLL-721s

(**) The PCS-719 List 1 is shown as loaded with one PMU-712, two PMX-744, and 16 PLL-721s.

Monitoring, History, and Diagnostics

The COLU provides real-time, nondisruptive monitoring of HDSL transmission performance parameters for all units in a circuit. You can set threshold values for the performance monitoring measurements at the appropriate COLU screen. Alarms are activated at the designated threshold setting. The user interface ports performance is also monitored. Monitored parameters include:

- HDSLNoise margin, insertion loss, ES, UAS
- InterfaceES and UAS seconds
- Major Alarm RelayForm-C relay contacts (NO, NC, C). Fail-safe operation

Performance Parameters

Based on the monitored parameters, the COLU derives the following performance parameters:

- MAR A measure of the ratio of signal power to noise power, in dB, at a receiver point. A value of 0 dB means that the predicted transmission BER is equal to 10⁻⁷, a value of 6 dB means the predicted transmission BER is equal to 10⁻¹⁰. The *Main* menu option *Status Summary* displays continuous updates of the margin value. You can set the high and low values of this parameter for the COLU and the RT at the "System Alarm Types Screen" on page 37 and the severity of the alarm at the "System Alarm Types Screen" on page 37. View the results of these settings at the "Main Summary Screen" on page 18
- LOSW The COLU detected an error in one or more bits in five consecutive HDSL SYNC words. Five consecutive SYNC words must be received without error to clear this condition. A LOSW condition generally indicates the loop is down, thus data cannot be transmitted. The COLU uses this parameter to derive UAS performance parameter. You can set the severity of the alarm at the "HDSL Alarm Thresholds Screen" on page 39. View the results of these settings at the "HDSL Summary Screen" on page 21.
- HDSL ES An interval of 1 second during which at least one CRC is detected at the incoming HDSL port. You can set the value of this parameter for the COLU and the RT at the "System Alarm Types Screen" on page 37, and at the "From the CONFIG submenu you can perform the following tasks:" on page 33 set the severity of the alarm. View the results of these settings at the "HDSL Summary Screen" on page 21.
- HDSL UAS An interval of 1 second during which a loop is down. You can set the value of this parameter for the COLU and the RT at the "System Alarm Types Screen" on page 37 and at the "System Alarm Types Screen" on page 37 set the severity of the alarm. You can view the results of these settings at the "HDSL Summary Screen" on page 21.

Alarms

The COLU generates alarms for problem conditions on the HDSL transmission facility and at the application interface. You can view the alarm status from the "COLU Main Screen" on page 16.

- MAR The margin default value or a value you selected has been reached, or the unit is below the current threshold value set.
- ES The errored seconds are measured by both 15-minute or 24-hour thresholds. The threshold has been reached or exceeded if an alarm exists.
- UAS The unavailable seconds are measured by both 15-minute or 24-hour thresholds. The threshold has been reached or exceeded if an alarm exists.
- PFO The COLU cannot power the RTs due to an open circuit.
- PFS The COLU cannot power the RTs due to a short circuit.
- PGF The COLU cannot power the RTs due to HDSL Tip or Ring Fault to GND.
- LOSW If the alarm is on the COLU, then the COLU cannot synchronize with the A or B RT, then both the COLU and the A or B RT are out of service. If the alarm is on the RTs, then the A or B RTs cannot synchronize with the COLU, and the COLU and either RT A or B are out of service.
- MISPWR*n* Power supply *n* is missing (where *n* is A or B).
- MISMATCH*n* Incompatible RT*n* unit is installed (where *n* is A or B). For example, a COLU List 1 has been connected to a 2 ISDN RT.
- NORTSWn RTn has no application software and is awaiting software download (where n is A or B).

Alarm Types

At the "System Alarm Types Screen" described on page 37 you can set the alarm to any of these values:

- Critical (CR) Alarms of this value are reported to the PMU or PAU, the Fault LED is lighted, and the alarm history page is updated.
- Major (MJ) Alarms of this value are reported to the PMU or PAU, the Fault LED is lighted, and the alarm history page is updated.
- Minor (MN) Alarms of this value are reported to the PMU or PAU, the Fault LED is lighted, and the alarm history page is updated.
- Not Alarmed (NA) Alarms of this value are not reported to the PMU or PAU, the Fault LED is not lighted, and the alarm history page is not updated.
- Not Reported (NR) Alarms of this value are not reported to the PMU or PAU, the Fault LED is lighted, and the alarm history page is updated.

History

Current cumulative counts of the past 24 hours and historical data in the form of a 24-hour history (in 15-minute increments) and a 7-day history (in 24-hour increments) are available to assist you in identifying problem sources. You can view the HDSL history from the "HDSL History Screen" on page 30

- HDSL Interface 24-Hour (15-minute intervals) and 7-Day (24-hour intervals) for ES and UAS
- Alarm Time stamp of first and last occurrence, number of occurrences for all enabled alarms

LED DESCRIPTIONS

Table 2 describes the LED shown on the front panel, where *n* equals the POTS line. For further details on the LED activities, refer to "Initialization Sequence" on page 8 and the "COLU and RT Fault Indicators" on page 53.



Figure 2. Front Panel LEDs

| LED | Color | State | Mode | | |
|------------|--------|--|--|--|--|
| PWR Green | | On, all other LEDs flashing at 1 Hz | Running in Boot Mode due to invalid Application Program. | | |
| | | On, POTS <i>n</i> LEDs On, all other LEDs running downward at 1 Hz | Active software download of the COLU. | | |
| | | On, POTS <i>n</i> LEDs On, all other LEDs running upward at 1 Hz | Active software download of the RT connected to the COLU. | | |
| | On | | COLU is powered and power provided to the HDSL pair is normal. | | |
| | | Flashing | One battery feed is missing or a battery feed fuse on the COLU is blown. | | |
| | | On, and FAULT flashing | DC power provided to the HDSL pair is out of normal range. | | |
| SYNC | Green | On | COLU is in Metallic Fallback, unless provisioned Disable. | | |
| | | On, and POTSn flashing | SDT is occurring on POTS <i>n</i> . | | |
| MARGI N | Yellow | On | COLU HDSL margin is equal to or below the threshold value | | |
| | | Flashing | RT HDSL margin is equal to or below the threshold value. | | |
| BYPAS | Yellow | On | COLU is in Metallic Fallback, unless provisioned Disable. | | |
| 8 | | and POTSn Flashing | SDT is occurring on POTS <i>n</i> . | | |
| FAULT | Red | On | COLU has a fault | | |
| | | Flashing | Alarm condition exists on the COLU | | |
| POTSn | Green | On | Channel is off-hook | | |
| | | Flashing (following Ring Cadence) | Channel is ringing | | |

| Table 2. | LED Descriptions |
|----------|------------------|
|----------|------------------|

INSTALLATION AND TEST

Observe normal electrostatic discharge precautions when handling electronic equipment. Do not hold electronic plugs by their edge. Do not touch components or circuitry.



The following procedure assumes that an RT is installed in the system and all wiring between the CO and the RT has been completed and verified.

REQUIRED TOOLS AND TEST EQUIPMENT

No tools are required to install the COLU. For testing, the following tools may be utilized:

- Telephone test set
- Optional, PSU-795 List 1 COTS Continuity Test Card, part number 150-1695-01

INSTALLING THE COLU

You can install the COLU 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.

- 1. Open the retaining latch on the front of the COLU.
- 2. Insert the COLU into the card guides in a vacant slot in the COTS that corresponds to the location of the wiring from the CO switch.
- 3. Engage the retaining latch to hold the card in place.

INITIALIZATION SEQUENCE

The COLU continuously attempts to power up the RTs until end-to-end HDSL synchronization is established. If the COLU is unable to establish synchronization, it powers down the loops and waits 5 minutes before re-trying.



The COLU initialization and power up sequence described below assumes that the HDSL and auxiliary power pairs are wired from the COTS and terminated at the RTs. It also assumes the COTS has been wired to CO battery, the bay fuses are installed, and the RTs are installed.

- 1. When the COLU is installed with power applied to the COTS, all LEDs turn on for about 1 second then go off, except for the PWR LED.
- 2. After approximately 5 to 19 seconds, the PWR LED flashes.



To prevent the COLU from attempting to power up simultaneously, there is a 2 second delay between each system in the COTS. For example, a COLU installed in slot 4 will power up 2 seconds after the COLU installed in slot 2, and a COLU installed in slot 12 will power up 10 seconds after the COLU installed in slot 2. This delay is dependent on the COTS slot in which the COLU is installed, rather than on the number of COLUs already installed in the COTS.

3. The COLU attempts to power up the RTs. Depending on the condition of the HDSL pair, one of the following occurs:

a. The pair is open between the COLU and RTs:

- The PWR LED flashes for approximately 12 seconds, then remains on.
- The SYNC LED flashes for approximately 6 seconds, then remains off.
- A DSL PFO alarm is indicated on the "HDSL History Screen" on page 30.
- The COLU waits 1 minute, then goes back to step 3.

b. One, or more, pairs are shorted or grounded between the COLU and RTs:

- The PWR LED flashes for approximately 12 seconds, then remains on.
- A DSL PFS alarm is indicated on the "HDSL History Screen" on page 30.
- The SYNC LED flashes for approximately 6 seconds, then remains off.
- A DSL PFO alarm is indicated on the "HDSL History Screen" on page 30.
- The COLU waits 1 minute, then go back to step 3.

c. All pairs are good, and all correctly wired between the COLU and RTs:

- The PWR LED flashes for approximately 12 seconds, then remains on.
- The SYNC LED flashes and the COLU attempts to synchronize with the RTs. One of the following occurs:
 - The COLU does not detect, or is unable to synchronize with, an RTs: The SYNC LED flashes for approximately 1 minute, then remains off. The COLU waits 1 minute, then goes back to step 3.
 - The COLU detects, and is able to synchronize with, an RTs: The COLU waits 1 minute, then goes back to step 3.
 - The COLU detects, and is able to synchronize with, an RTs:

Within 1 minute, the SYNC LED remains on and the COLU establishes synchronized HDSL communications with the RTs. Assuming the HDSL margins are above alarm thresholds, and there are no subscriber drop tests or other alarms or faults in the system, the COLU LEDs are in the following states:

PWR is on SYNC is on MARGIN is off TEST is off ALARM is off FAULT is off

It may take up to 4 minutes before end-to-end synchronization is established.

SUBSCRIBER DROP TESTS

You can perform this function in one of two ways (see "Test Submenu" on page 47):

- Initiate a test by applying +116 V on the Tip side of the POTS circuit at the COLU through a loop test system.
- With the VT-100 terminal connected to the PMU maintenance port, select the *Subscriber Drop Test* feature from the Test menu. Relays on the RT provide a path for performing a SDT. The results are displayed on the VT-100 terminal and presented as TA-909 resistive signatures on the COLU Tip and Ring.

ADMINISTRATION

With a VT-100 terminal, you can access the craft port of the PMU or the PAU to review system administration functions, such as alarm checking and clearing, configuration changes, performance monitoring, and testing the PG-Plus through the craft terminal screens.

CONNECTING TO A TERMINAL OR MODEM

Connections between the craft port and a VT-100 terminal are shown in Figure 3 for both DB-9 and DB-25 connectors. Although a cable can be used that connects only the transmit (TD), receive (RD), and ground (GND) signals, the craft port does not automatically log off when the VT-100 terminal is unplugged. Using a cable that also connects the Data Terminal Ready (DTR) signal ensures automatic log off when the VT-100 terminal is unplugged.



Figure 3. Craft Port to Terminal Connections

When connecting the port to a modem, use a null modem cable. The wiring for this cable is shown in Figure 4. Ensure that the modem's Carrier Detect (CD) and DTR functions are enabled. This allows the modem connection to terminate correctly when the Alarm or PGTC Interface unit drops Data Set Ready (DSR), and the unit logs off when the modem drops Carrier Detect.



Figure 4. Craft Port to Modem Connections

The craft port supports a VT-100 terminal. The VT-100 terminal allows real time updating of information displayed on the screen, rather than requiring the technician to press the **ENTER** key to refresh the screen. Configure the VT-100 terminal as shown in Table 3.

| Data | |
|--------------------------------|-----------|
| Bits | 8 |
| Stop bits | 1 |
| Parity | None |
| Baud Rate | |
| Autobaud | 1.2 kb/s |
| | 2.4 kb/s |
| | 4.8 kb/s |
| | 9.6 kb/s |
| | 14.4 kb/s |
| | 19.2 kb/s |
| | 28.8 kb/s |
| | 38.4 kb/s |
| Hardware Flow Control | Off |
| Software Flow Control XON/XOFF | Enabled |

Table 3.Modem Settings

LOGGING ON

1. After connecting the VT-100 terminal to the PMU or PAU, press the **SPACEBAR** several times to start the autobaud feature. The Logon Password screen displays:



2. Type the correct password and press **ENTER**.



The factory default password is password#1. If you establish a different password, type the new password at subsequent log ons.

Passwords are not case sensitive. Passwords must use at least 6, and no more than 10, printable characters, and must contain at least 1 alpha, 1 numeric, and 1 special character.

If the password has been changed and you do not know the new password, contact ADC Technical Support (see "Technical Support" on page 55) while at the terminal. They will provide you a temporary password that is based on the Access Key number displayed on the Logon screen. The Access Key changes whenever you change the password in the PAU, or when you use the temporary password in the PAU or PMU, so you should be at the terminal when you contact Technical Support. When you use the temporary password#1 and the temporary password will no longer be valid.

3. The ADC banner displays briefly.

ADC Technologies

Then the PMU or PAU main menu screen displays:

| Г | | | | | | | |
|---|----------|---------|--------|-------------|-------------|------|----------|
| | | | PG | -FlexPlus | Management | Unit | |
| | MAIN | NETWORK | SELECT | ALARMS | CONFIG | INFO | |
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| | | | | | | | |
| | 01/01/19 | 970 | | Shelf ID: 1 | NE0020A7000 | 0004 | 01:00:05 |
| | | | | | | | |

- **4.** If you know the slot number in which the COLU is installed, go to the next step. If you do not know the slot number:
 - **a.** From the PMU or PAU main screen select *Main*, and press **ENTER** to view the submenu.

| | DC | FlowDlug | Management | llait | |
|-----------------|--------|----------|------------------|--------------------|----------|
| NETHORK | SFLECT | ALARMS | CONFIG | S/M DNLD | INFO |
| Shelf Summary | | <u>-</u> | <u>-</u> 0411 10 | 57 w <u>P</u> 1110 | |
| Composite Cloc | ks | | | | |
| Test Access | I | | | | |
| Start TL1 Sess | ion | | | | |
| Logout | 1 | | | | |
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b. Select *Shelf Summary* and press **ENTER** to display the inventory of the COLUs installed in the COTS. Note the slot number of the desired COLU, then press **ESC** to return to the PMU main screen.

| | | PG-FlexPlus | s Management | Unit | |
|---------|----------------|------------------|---------------|------------------|--------------|
| MAIN | NETWORK SELEC | T <u>A</u> LARMS | CONFIG | s/w <u>D</u> NLD | INFO |
| She: | Lf Summary | | | | |
| | | SHELF | UNIT TYPES | | |
| SLOT | UNIT TYPE | SLOT | UNIT TYPE | SLOT | UNIT TYPE |
| PMX1 | NOT RESPONDING | 5 1 | NOT EQUIPPED | 11 | NOT EQUIPPED |
| PMX2 | NOT EQUIPPED | 6 4 | NOL FOOIDAFED | 12 | NOL EGUIDAED |
| 1 | NOT EQUIPPED | | 4 POIS | | |
| 2 | F-ICOLU 24 CH | | NOT EQUIPPED | | |
| 3 | NOI EQUIPPED | 10 1 | OT EQUIPPED | | |
| - | 3-000 1-005 | 10 1 | OI EQUIFFED | | |
| | | | | | |
| | | SHELF C | URRENT ALARI | ¶S | |
| | PMU P | MX1 PMX2 1 2 | 345678 | 3 9 10 11 12 | |
| | CRITICAL: | | | | |
| | | | | | |
| | MAJOR: | + | | | |
| | | | | | |
| | MINOR: | * * | | | |
| | | | | | |
| | | [*= | ACTIVE ALARN | M] | |
| | | | | | |
| 08/01/2 | 2000 | Shelf ID: | NE0020A7000 | 0013 | 03:12:22 |
|] | | | | | |

- **c.** Continue with step 5.
- 5. From the PMU or PAU main screen, select the menu option *Select* and press **ENTER** to view the COTS slot list. The number of slots shown in the Select submenu depend on the size of the PG-Plus COTS; the number is 12 for the 18-inch COTS, and 16 for the 23-inch COTS.

| | | PG- | FlexPlus | Management | línit | |
|---------|---------|---------|----------|--------------|-------|--------------|
| MAIN | NETWORK | SELECT | ALARMS | CONFIG | INFO | |
| - | - | PMX 1 | _ | - | - | |
| | 1 | PMX 2 | | | | |
| | 1 | COLU 1 | 1 | | | |
| | I | COLU 2 | I. | | | |
| | I | COLU 3 | I | | | |
| | 1 | COLU 4 | I. | | | |
| | 1 | COLU 5 | I. | | | |
| | 1 | COLU 6 | I. | | | |
| | I | COLU 7 | I. | | | |
| | 1 | COLU 8 | I. | | | |
| | I | COLU 9 | I | | | |
| | I | COLU 10 | L | | | |
| | I | COLU 11 | I | | | |
| | I | COLU 12 | I. | | | |
| | I | | I | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 01/01/1 | 070 | | bolf TBe | WE00208 3000 | 004 | 01.12.27 |
| 01701/1 | 970 | S | neir ID: | REUU2UA7UUU | 1004 | 01:13:37 |

6. Select the slot number for the COLU you installed and press **ENTER** to view the first screen.

LOGGING OFF

If you must leave your VT-100 terminal unattended, it is good practice to log out until you are ready to resume work. This prevents unauthorized persons from inadvertently changing any of your operating parameters.

- 1. From the PAU or PMU main screen (the PMU is shown here), select *Main* and press **ENTER** to display the submenu.
- 2. Select *Logout* and press ENTER.



- 3. At the Current Session will be Logged Out. Continue (Y/N)? prompt, you have the following options:
 - a. To continue with the logout, type Y and press ENTER.



b. To terminate the logout and return to the screens, press N. The ADC banner displays.

4. Press **ESC** to return to the main screen.

COLU MAIN SCREEN

The main screen provides access to the PAU-710 functions through the menu items. The date and times displayed are the default values for the system.



The date and time for the COTS is set from the PMU or PAU. To change the date and time to the local date and time, use the Date and Time option on the CONFIG menu option.

The elements of the COLU main screen are:

- Screen Identifier and COTS slot number.
- Menu bar these are your access to the COTS monitoring, configuration, and control screens.
- Date and Time The date and time are in opposite lower corners. If your system does not have a configured PMU installed, the factory default date and time displays.
- System ID The identifying name for the COTS. You can configure the COLU name to one applicable to your site (see "From the CONFIG submenu you can perform the following tasks:" on page 33).

| | | Sc | reen Identii | fication a | and Slot Nu | ımber | |
|----------|---------------|----------------------------------|-------------------------------------|-----------------|-------------|-----------|-----------|
| MAIN | PERFORMANCE | PG-Flex <u>A</u> larms | Plus CO Li <u>C</u> ONFIG | ne Unit TEST | #2 | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | 000 | 6 | | | | 00 | - 10 - 50 |
| 4 | | | | | | 09 | |
| Date | Provisionable | System ID | | | Curr | rent Time | |

COLU Menu Bar Selections

Table 4 describes the submenus that can be selected from the COLU menu bar.

Press the underlined key to go directly to the selected menu bar item.

| Submenu | To View or Change |
|-------------------------|---|
| <u>M</u> AIN | System status and channel information. |
| <u>P</u> ERFORMANC E | HDSL status and performance monitoring information. |
| <u>A</u> LARMS | Alarm status, history and fault information. |
| <u>C</u> ONFIG | System configuration. |
| <u>T</u> EST | Subscriber drop testing and ISDN loopback testing. |
| <u>I</u> NFO | Inventory information and on-line help. |

COLU Menu Structure

Figure 5 illustrates the menu structure of the COLU.



Figure 5. Menu Tree

Main Summary Screen

This screen details the performance condition of the COLU and RT. Table 5 defines the conditions that appear in the Channel and HDSL Status fields.

1. At the COLU main screen, select MAIN and press ENTER to view the Summary screen.

| MAIN | <u>p</u> erforman | PG-PL ICE <u>A</u> larms | us POTS CO I CONFIG | Line Unit <u>T</u> EST | #3 _INF0 | | | 1 | |
|------------------|--|---|--------------------------------|-------------------------------------|-------------|----|--|---|---|
| Chan | nel Status OPEN OPEN OPEN OPEN OPEN OPEN | POTS1 POTS2 POTS3 POTS4 POTS5 POTS6 _ | COTA | HDSL Stat NORMAL HDSL SPAN | <u>us</u> | RT | POTS1 POTS2 POTS3 POTS4 POTS5 POTS6 | } | Status indicators for the HDSL span and the POTS interfaces |
| HDSL M HDSL E | argin (dB) S (24 Hr.) | : | PERFORMAI 22 0 | NCE | 20 0 | | | } | HDSL performance summary in terms of margin and ES counts |
| SYSTEM HDSL | I : NONE : NONE | System | ALARM ID: PG-PLU | 3 5 POTS S¥S | STARY | | 09:13:04 | } | Status of current HDSL and System alarms |

2. Press **ESC** to return to the main screen. Refer to the Performance and Alarms screens for a detailed description of data displayed in these areas.

| Status | Description |
|-------------------------|--|
| System Status | |
| IN SYNC | No CO battery detected, Line Status Open. This status does not change except for Test status |
| OUT OF SYNC | CO battery detected and line is Onhook at RTs |
| HDSL Status | |
| HDSL LINK DOWN | HDSL link is down and System is not in Metallic Fallback. |
| NORMAL | HDSL link is synchronized. |
| START-UP | HDSL link is acquiring synchronization. |
| METALLIC FALLBACK | HDSL link is down and System is in Metallic Fallback |
| Alarm Status | |
| HDSL | Summary of alarms associated with HDSL link. |
| SYSTEM | Summary of alarms within the system. |
| Channel Status | |
| BUSY | Line is off-hook at RT. |
| FRAMED | The DSL startup sequence is complete, but end-to-end transparency has not been established. |
| IDLE | CO battery detected and line is on-hook at RT. |
| LOS | Loss of signal. |
| N/A | Not applicable. |
| OPEN | No CO battery detected, Line Status Open. This status does not change except for Test status. |
| IDLE | CO battery detected and line is on-hook at RT |
| RINGING | Line is ringing. |
| RINGGND | Ring ground detected at the RT. |
| REVERSED | CO battery is detected with Tip and Ring reversed. |
| TEST | Testing being done on line. |
| Channel Status for POTS | S during Metallic Fallback and HDSL Startup |
| N/A | Invalid until HDSL is in SYNC, or if Metallic Fallback has been disabled |
| METALLIC FALLBACK | POTS #1 line status when system is in Metallic Fallback, if Metallic Fallback has been enabled |

Table 5.System Status

PERFORMANCE SUBMENU

These screens provide access to the COLU HDSL performance screens.

1. At the COLU main screen, select *PERFORMANCE*, and press **ENTER** to view the submenu.

| | | PG-Plus | POTS CO L | ine Unit | #3 | | |
|---------|-------------------|----------|------------|----------|-------|---------|---|
| MAIN | PERFORMANCE | ALARMS | CONFIG | TEST | INFO | | |
| | - HDSL Summary | | | - | - | | |
| | HDSL 24 Hr. | History | • | | | | |
| | HDSL 7 Day | History | Ì | | | | |
| | 1 | | 1 | | | | |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| 04/25/2 | 000 | System I | D: PG-PLUS | POTS SY | STIEM | 09:13:1 | 5 |
| | | | | | | | |

2. From the *PERFORMANCE* submenu you can perform the following tasks:

| Submenu | Allows you to |
|---------------------------|--|
| HDSL Summary | view the HDSL performance summary and status. |
| HDSL 24 Hour History | view the last 24 hours of HDSL performance history in 15 minute intervals. |
| HDSL <u>7</u> Day History | view the last seven days of performance history plus the current day's accumulated performance history in 24 hour intervals. |

3. Press **ESC** to return to the main screen.

HDSL Summary Screen

This screen depicts an HDSL performance summary in terms of the margin and UAS and ES count, insertion loss, and the Tip and Ring connection state. Use the available options to reset the minimum and maximum margin counts.

1. From the *Performance* submenu, select *HDSL-A Summary* for either the A RT, and press **ENTER** to view the screen.

| IAIN | PERFORMANCE ALARMS CONFIG TE | ST I | NFO | |
|------|---|----------------|------|----|
| | HDSL Summary | | | |
| | | | COLU | RT |
| | Current Margin (dB) | : | 22 | 20 |
| | Minimum Margin (dB) | : | 22 | 20 |
| | Maximum Margin (dB) | : | 22 | 20 |
| | Errored Seconds (24 Hr.)(ES) | : | 0 | 0 |
| | Unavailable Seconds (24 Hr.)(UAS) | : | 0 | 0 |
| | Insertion Loss (dB) | : | 3 | 1 |
| | HDSL Tip/Ring Reversal (YES/NO) | : | NO | |
| | RESET MIN/MAX MARGIN COU MIN/MAX MARGIN COUNTS LAST RESET: | NTS (Y) //- | ? | -: |

- 2. You can perform the following tasks:
 - a. To reset the minimum and maximum margins to the current margin values for the COLU, press **Y** at the RESET MIN/MAX MARGIN COUNTS(Y/N)? prompt. At the HDSL MIN/MAX MARGINS WILL BE RESET. CONTINUE(Y/N)? prompt, you have the following options:

| | PC-Plue | DOTS CO T | ine Unit | #3 | | | |
|---------------|------------|------------------|----------|-----|-----------|-------|------|
| MAIN | ALARMS | CONFIG | TEST | I | NFO | | |
| HDSL Summar | - Y | | - | _ | | | |
| | | | | | | 5.00 | |
| Current Margi | n (dB) | | | | 22 | 21 | |
| Minimum Margi | n (dB) | | | ÷ | 22 | 21 | |
| Maximum Margi | n (dB) | | | : | 22 | 21 | |
| - | | | | | | | |
| Errored Secon | ds (24 Hr. |)(ES) | | : | 0 | 0 | |
| | | | | | | | |
| Unavailable S | econds (24 | Hr.) (UAS) | | : | 0 | 0 | |
| Insertion Los | e (dB) | | | | 3 | 1 | |
| | 5 (ab) | | | • | 3 | - | |
| HDSL Tip/Ring | Reversal | (YES/NO) | | : | NO | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | _ | |
| HDSL LOW/HI | GH MARGINS | WILL BE F | RESET. C | ONT | INUE (Y/N |)? | |
| MIN/MAX MAR | GIN COUNTS | LAST RESE | T:/- | -/- | :- | -: | |
| | | | | | | | |
| 04/25/2000 | Svstem I | D: PG-PLUS | POTS SY | STE | м | 09:13 | : 52 |
| | | | | | | | |

- **a.1.** To reset the margins, press **Y**.
 - The minimum and maximum margins are set to the current margins
 - The time and date that the margins were last set are updated.

| | PG-Plus POTS CO Line Ur | it #3 | | |
|-------------|--|------------------|-------|----------|
| <u>MAIN</u> | HDSL Summary | · <u>1</u> | MFO | |
| | | | COLII | RT |
| c | urrent Margin (dB) | : | 23 | 21 |
| м | (inimum Margin (dB) | : | 23 | 21 |
| м | (aximum Margin (dB) | : | 23 | 21 |
| E | rrored Seconds (24 Hr.)(ES) | : | ο | O |
| υ | navailable Seconds (24 Hr.)(UAS) | : | 0 | O |
| г | nsertion Loss (dB) | : | 3 | 1 |
| н | DSL Tip/Ring Reversal (YES/NO) | : | NO | |
| | RESET MIN/MAX MARGIN COUNT MIN/MAX MARGIN COUNTS LAST RESET: 04 | ເຮ (¥) ¥/25/2 | ? | 3:57 |
| 04/25/2000 | System ID: PG-PLUS POTS | SYSTE | м | 09:13:59 |

- **a.2.** To retain the existing minimum and maximum margins, press N.
- **a.3.** To return to the screen, press **ESC**.
- **3.** Press **ESC** to return to the main screen.

HDSL 24-Hour History Screen

This screen shows the previous 24-hours of HDSL performance history in 15-minute intervals. The performance history data displayed includes ES counts, UAS counts, and the validity of the counts.

1. From the *Performance* submenu, select *HDSL 24 Hr. History* for either RT, and press **ENTER** to view the screen.

| TN PARA | DRMANCE ALA | RINS PUTS CU | TEST INFO | |
|------------|----------------|----------------|-----------------|---------------|
| | SL 24 Hr. Hist | ory | 1201 1110 | |
| | | - | | |
| | co | LU | | RT |
| Time | ES | UAS | ES | UAS |
| 09:00 | O-ADJ | O-ADJ | O-ADJ | O-ADJ |
| 08:45 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 08:30 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 08:15 | 0-UNA | 0-UNA | 0-UNA | O-UNA |
| 08:00 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 07:45 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 07:30 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| 07:15 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 07:00 | O-UNA | O-UNA | O-UNA | O-UNA |
| 06:45 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| COM = C | omplete, PAR = | Partial, ADJ | = Adjusted, UNA | = Unavailable |
| AGE HISTOR | Y BACKWARD | PAGE HISTORY | Y FORWARD | CLEAR HISTORY |
| HD | SL 24 HOUR HIS | TORY LAST CLEI | ARED:// | :: |
| | | | | |

The current day performance information shows the performance since the previous midnight. At midnight of every day, the current day performance history is moved to the previous day's history and the current day performance information is cleared. The COLU derives the ES and UAS performance parameters for both the COLU and the RT, which have the valid field values of:

- COM (Complete): Data is saved in the history register for this interval.
- PAR (Partial): Data is being collected for this interval.
- ADJ (Adjusted): The time or date has been changed on the system during this interval.
- UNA (Unavailable): Data has not been collected for this interval.

- 2. You can perform the following tasks:
 - **a.** To scroll through all intervals, select either PAGE HISTORY FORWARD or PAGE HISTORY BACKWARD and press **ENTER**.

| | PG | -Plus POTS CO L | ine Unit # | 3 | |
|-------------|----------------|-----------------|------------|---------|---------------|
| MAIN POR | ORMANICE ALA | RMS CONFIG | TEST | INFO | |
| — — но | SL 24 Hr. Hist | ory | - | - | |
| | | | | | |
| | CO | LU | | F | ₹T |
| Time | ES | UAS | E | ŏ | UAS |
| 09:00 | O-ADJ | O-ADJ | 0- | -ADJ | O-ADJ |
| 08:45 | O-UNA | O-UNA | 0- | -UNA | O-UNA |
| 08:30 | 0-UNA | O-UNA | 0- | -UNA | O-UNA |
| 08:15 | O-UNA | O-UNA | 0- | -UNA | O-UNA |
| 08:00 | O-UNA | O-UNA | 0- | -UNA | O-UNA |
| 07:45 | 0-UNA | O-UNA | 0- | -UNA | O-UNA |
| 07:30 | 0-UNA | O-UNA | 0- | -UNA | O-UNA |
| 07:15 | O-UNA | 0-UNA | 0- | -UNA | O-UNA |
| 07:00 | 0-UNA | O-UNA | 0- | -UNA | O-UNA |
| 06:45 | 0-UNA | O-UNA | 0- | -UNA | O-UNA |
| | | | | | |
| COM = C | omplete, PAR = | Partial, ADJ = | Adjusted, | UNA = | Unavailable |
| | | | | | |
| PAGE HISTOR | Y BACKWARD | PAGE HISTORY | FORWARD | | CLEAR HISTORY |
| | | | | | |
| HD | SL 24 HOUR HIS | TORY WILL BE CL | EARED. CO | ONTINUE | (Y/N)? |
| | | | | | _ |
| 04/25/2000 | Sys | tem ID: PG-PLUS | POTS SYST | N FRANK | 09:14: |
| | | | | | |

b. To clear the history, select CLEAR HISTORY and press **ENTER**. At the HDSL 24 HOUR HISTORY WILL BE CLEARED. CONTINUE(Y/N)? prompt, you have the following options:

| VATN DEDE | | RMS CONFIG | TEST INFO | |
|-------------|----------------|-----------------|-----------------|---------------|
| Н | SL 24 Hr. Hist | | 1001 1010 | |
| | | | | |
| | CC | DLU | | RT |
| Time | ES | UAS | ES | UAS |
| 09:00 | O-ADJ | 0-ADJ | 0-ADJ | 0-ADJ |
| 08:45 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| 08:30 | O-UNA | O-UNA | O-UNA | O-UNA |
| 08:15 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| 08:00 | 0-UNA | O-UNA | O-UNA | O-UNA |
| 07:45 | O-UNA | O-UNA | O-UNA | O-UNA |
| 07:30 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| 07:15 | 0-UNA | O-UNA | O-UNA | O-UNA |
| 07:00 | O-UNA | O-UNA | O-UNA | O-UNA |
| 06:45 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| COM = C | omplete, PAR = | Partial, ADJ | = Adjusted, UNA | = Unavailable |
| PAGE HISTOR | Y BACKWARD | PAGE HISTORY | FORWARD | CLEAR HISTORY |
| HD: | 3L 24 HOUR HIS | STORY LAST CLEA | RED: 04/25/2000 | 09:14:29 |

If there is an active 15-minute ES or UAS alarm, this alarm becomes inactive when the 24-hour performance history is cleared.

- **b.1.** To clear the 24-hour history, press **Y**. The time and date that the history was last cleared is updated.
- **b.2.** To retain the current history, press **N**.
- **b.3.** To return to the screen, press **ESC**.
- **3.** Press **ESC** to return to the main screen.

HDSL 7-day History Screen

This screen displays the last seven days of performance history, plus the current day's accumulated performance information of the COLU and the two RTs. The information displayed includes ES counts, UAS counts, and the validity of the values.

1. From the *PERFORMANCE* submenu, select *HDSL-n 7 Day History*, and press **ENTER** to view the screen.

| | P(| -Plus POTS CO L | ine Unit #3 | |
|-----------|--|--|---|-------------|
| IAIN PERF | ORMANCE ALA | ARMS <u>C</u> ONFIG | <u>t</u> est <u>i</u> nfo | |
| | SL / Day Histo |) L Y | | |
| | COI | 'n | : | RT |
| Date | ES | UAS | ES | UAS |
| 04/25 | O-ADJ | O-ADJ | O-ADJ | 0-ADJ |
| 04/24 | 0-UNA | O-UNA | 0-UNA | O-UNA |
| 04/23 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/22 | O-UNA | O-UNA | O-UNA | O-UNA |
| 04/21 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/20 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/19 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/18 | O-UNA | O-UNA | 0-UNA | O-UNA |
| сом = с | omplete, PAR = CLEJ DSL 7 DAY HIST | = Partial, ADJ = AR HDSL 7 DAY HI FORY LAST CLEARE | Adjusted, UNA = STORY (Y)? ∎ D:// | Unavailable |
| /25/2000 | Stre | ************************************** | DULC CASTEM | 09.1 |
| 2372000 | 391 | Cem ID. PG-PLUS | FUIS SISTEM | 0911 |

The current day performance information shows the performance since the previous midnight. At midnight of every day, the current day performance history is moved to the previous day's history and the current day performance information is cleared. The COLU derives the ES and UAS performance parameters for both the COLU and the RT, which have the valid field values of:

- COM (Complete): Data is saved in the history register for this interval.
- PAR (Partial): Data is being collected for this interval.
- ADJ (Adjusted): The time or date has been changed on the system during this interval.
- UNA (Unavailable): Data has not been collected for this interval.

- 2. You can perform the following tasks:
 - **a.** To clear the 7-day history information, at the CLEAR HDSL 7 DAY HISTORY (Y)? prompt, type **Y**. At the HDSL 7 DAY HISTORY WILL BE CLEARED. CONTINUE(Y/N)? prompt, you have the following options:

| | τı | -Plue POTS CO I | ine 16nit #3 | |
|------------|-----------------|------------------|---------------|-----------------|
| MAIN BORD | ORMANCE ALA | RMS CONFIG | TEST INFO |) |
| но | SL 7 Day Histo | ry | | |
| | 601 | | | D.T. |
| | COL | .0 | | RI |
| Date | ES | UAS | ES | UAS |
| 04/25 | O-ADJ | O-ADJ | O-ADJ | 0-ADJ |
| 04/24 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/23 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/22 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/21 | O-UNA | O-UNA | 0-UNA | O-UNA |
| 04/20 | O-UNA | 0-UNA | 0-UNA | O-UNA |
| 04/19 | O-UNA | O-UNA | O-UNA | O-UNA |
| 04/18 | O-UNA | O-UNA | O-UNA | O-UNA |
| COM = C | Complete, PAR = | · Partial, ADJ = | Adjusted, UNA | a = Unavailable |
| H | IDSL 7 DAY HIST | ORY WILL BE CLE | ARED. CONTINU | JE (Y/N)? |
| F | IDSL 7 DAY HIST | ORY LAST CLEARE | D:// | ·:: |
| | | | | |
| | | | | |
| | | | | |
| 04/25/2000 | Sys | tem ID: PG-PLUS | POTS SYSTEM | 09:14:50 |

Clearing the 7-day performance history does not clear the current day performance information. The current day performance information can only be cleared through the HDSL 24-hour performance history screen. The date and time that the 7-day performance history was last cleared appears at the bottom of the screen.

a.1. To clear the 7-day history, press **Y**.

| | PG | -Plus POTS CO L | ine Unit #3 | |
|------------|---|--|---|--------------------------|
| MAIN PER | ALA: | RMS <u>C</u> ONFIG | TEST INFO | |
| — — н | DSL 7 Day Histo | ry | | |
| | COL | σ | | RT |
| Date | ES | UAS | ES | UAS |
| 04/25 | O-ADJ | O-ADJ | O-ADJ | 0-ADJ |
| 04/24 | O-UNA | O-UNA | O-UNA | O-UNA |
| 04/23 | 0-UNA | 0-UNA | 0-UNA | O-UNA |
| 04/22 | 0-UNA | O-UNA | O-UNA | O-UNA |
| 04/21 | O-UNA | O-UNA | O-UNA | O-UNA |
| 04/20 | 0-UNA | 0-UNA | 0-UNA | O-UNA |
| 04/19 | O-UNA | O-UNA | O-UNA | O-UNA |
| 04/18 | O-UNA | O-UNA | O-UNA | O-UNA |
| сом = | Complete, PAR = HDSL 7 DAY HIST HDSL 7 DAY HIST | Partial, ADJ = ORY WILL BE CLE ORY LAST CLEARE | Adjusted, UNA = ARED. CONTINUE D:// | • Unavailable (Y/N) ? |
| 04/25/2000 | Sys | tem ID: PG-PLUS | POTS SYSTEM | 09:14:50 |

- all HDSL 7 day history 24-hour interval registers are set to zero.

- the time and date that the history was last cleared is updated.
- **a.2.** To retain the current history, press N.
- a.3. To return to the screen, press ESC.
- **3.** Press **ESC** to return to the main screen.

ALARMS SUBMENU

The COLU detects and reports HDSL, POTS, and System related alarmed events to the PAU/PMU (if present). Only events provisioned for Major or Minor notification types are reported. Select *Alarms* at the menu bar and press **ENTER** to view the submenu.

1. At the COLU main screen, select *ALARMS*, and press **ENTER** to view the submenu.

| - | | | |
|--------------|--------------------|-----------------------------|----------|
| | | 0 1 11 11-2 | |
| | PG-PLus PUIS C | U Line Unit #3 | |
| MAIN PERFORM | MANCE ALARMS CONFI | g <u>t</u> est <u>i</u> nfo | |
| 1 | System Histor | Y | |
| 1 | HDSL History | | |
| 1 | | | |
| 1 | I | 1 | |
| 1 | | | |
| 1 | | | |
| 1 | | | |
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| 1 | | | |
| | | | |
| | | | |
| 04/25/2000 | Swetem ID: DC_D | I US DOTS SYSTEM | 09.15.09 |
| 0472372000 | System ID: PG-P | E03 P013 3131EM | 09:13:00 |
| 1 | | | |

2. From the *ALARMS* submenu you can perform the following tasks:

| Submenu | Allows you to |
|----------------|--|
| System History | view the system history. |
| HDSL History | view the last 24 hours of HDSL performance history in 15 minute intervals. |

3. Press **ESC** to return to the main screen.

System History Screen

The system history maintained on the COLU contains the status of the COLU-RT match, the presence of RT software, and the condition of the EEPROM (see Table 6). Here you see the results of the alarms set at the Configuration submenu "HDSL Alarm Types Screen" on page 42.

1. At the ALARMS submenu, select System History, and press ENTER to view the screen.

| DG-D | 1115 POT | S CO Line | línit # | 3 | |
|-----------------------------|--------------|---------------|----------|--------|----------|
| MAIN PERFORMANCE | s <u>c</u> o | NFIG <u>T</u> | EST | INFO | |
| Sys | tem His | tory | | | |
| | | | | | |
| ALARMS | TYPE | CURRENT | COUNT | FIRST | LAST |
| COLU-RT Mismatch (MISMATCH) | MN | OK | 0 | /: | /: |
| No RT S/W (NORTSW) | MN | OK | 0 | /: | /: |
| EEPROM Failure (BKUPMEMP) | MN | OK | 0 | /: | /: |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | - | |
| CLEAR S | YSTEM A | LARM HIST | CORY (Y) | ? | |
| SYSTEM ALARM HISTOR | Y LAST | CLEARED: | // | ::- | - |
| 04/05/0000 | - TD | | | T.D. 6 | 00.45.44 |
| 04/25/2000 Syste | m ID: P | G-PLUS PO | TS SYST | 1914. | 09:15:14 |

If there are no active alarms, the status OK appears in the Current column.

- 2. You can perform the following tasks:
 - a. To clear the system history information, at the CLEAR SYSTEM ALARM HISTORY (Y)? prompt, type Y. At the SYSTEM ALARM HISTORY WILL BE CLEARED. CONTINUE(Y/N)? prompt, you have the following options:

| MAIN | <u>P</u> ERFORMAN | PG-P1 ICE <u>A</u> LARMS Syst | us POT <u>C</u> C em His | 'S CO Line NFIG <u>T</u> tory | Unit # EST | 3 INFO | |
|-----------|--------------------|-------------------------------------|--------------------------------|-------------------------------------|---------------|-----------|----------|
| COLU-RT | ALARMS Mismatch | (MISMATCH) | TYPE MN | CURRENT OK | COUNT 0 | FIRST | |
| No RT S/ | /W | (NORTSW) | MN | OK | 0 | /: | /: |
| | | | | | | | |
| | SYSTEM A | CLEAR SY LLARM HISTORY | STEM A LAST | LARM HIST CLEARED: | ORY (Y) // | ? | - |
| 04/25/200 | 0 | System | ID: P | G-PLUS PO | TS S¥ST | en M | 09:15:14 |



Clearing the alarm history clears the RT and the COLU alarm history, whether you clear it from the COLU or the RT page of the history screen. If there is an active alarm, then the count is set to 1 and the value in the LAST date and time field is set to the FIRST date and time field.

a.1. To clear the system alarm history, press **Y**.

| MATN | PERFORMAN | PG-P1 | us POT | S CO Line | Unit # | 3 INFO | |
|----------|--------------------|-------------------------------|----------------|----------------------|---------|----------------------|----------|
| <u></u> | - Ind ordina | Syst | em His | tory | | | |
| | | | | | | | |
| | ALARMS | | TYPE | CURRENT | COUNT | FIRST | LAST |
| COLU-RT | Mismatch | (MISMATCH) | MIN | OK | 0 | /: | /: |
| No RT S | /₩ | (NORTSW) | MN | OK | 0 | /: | /: |
| EEPROM | Failure | (BKUPMEMP) | MN | OK | 0 | /: | /: |
| | | | | | | | |
| | SYSTEM SYSTEM J | ALARM HISTOR ALARM HISTORY | Y WILL LAST | BE CLEAF CLEARED: | ED. CO | NTINUE (Y/N)? ::- | 2 |
| 04/25/20 | 00 | System | ID: P | G-PLUS PO | TS SYST | a) cH ∑ I | 09:15:26 |

- all system history 24-hour interval registers are set to zero.

- the time and date that the history was last cleared is updated.
- a.2. To retain the current history, press N.
- **a.3.** To return to the screen, press **ESC**.
- 3. Press **ESC** to return to the main screen..

| Table 6. | System History Alarms Screen | |
|----------|------------------------------|--|
|----------|------------------------------|--|

| Alarm | Description | Default |
|------------------|---|---------|
| COLU-RT Mismatch | Incompatible COLU and RT units installed. | MN |
| No RT S/W | The RT does not have software installed. | MN |
| EEPROM Failure | The EEPROM has failed. | MN |

HDSL History Screen

The HDSL history maintained on the COLU contains a count of the number of times each alarm occurred, the time and date of the first and last occurrence, the provisioned notification type, and the current status (see Table 7). Here you see the results of the alarms set at the Configuration submenu "HDSL Alarm Types Screen" on page 42.

1. At the ALARMS submenu, select HDSL History, and press ENTER to view the screen.

| nit #3 |
|---------------------------|
| T <u>I</u> NFO |
| |
| |
| UNI FIRSI LASI |
| 1 04/25 09:09 04/25 09:09 |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 1 04/25 09:09 04/25 09:09 |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 0/:/: |
| 1 04/25 09:10 04/25 09:10 |
| (Y) ? |
| -// |
| |
| SYSTEM 09:15:46 |
| 05,15,40 |
| |

If there are no active alarms, the status OK appears in the CURRENT column.

2. You can perform the following tasks:

a. To clear the system history information, at the CLEAR HDSL ALARM HISTORY (Y)? prompt, type Y. At the HDSL ALARM HISTORY WILL BE CLEARED. CONTINUE(Y/N)? prompt, you have the following options:

| MAIN PERFORMANCE ALARM | | NETG T | FST | INFO | |
|-----------------------------|---------|-----------|---------|--------------|-------------|
| | L Histo | | 201 | 1 | |
| | | ~1 | | | |
| ALARMS | TYPE | CURRENT | COUNT | FIRST | LAST |
| COLU HDSL LOSW | MIN | OK | 1 | 04/25 09:09 | 04/25 09:09 |
| COLU HDSL ES 15 MIN THRESH | MN | OK | 0 | /: | /:- |
| COLU HDSL ES 24HR THRESH | MN | OK | 0 | /: | /: |
| COLU HDSL UAS 15 MIN THRESH | MIN | OK | 0 | / : | /:- |
| COLU HDSL UAS 24HR THRESH | MN | OK | 0 | /: | /: |
| COLU HDSL LOW MARGIN | MN | OK | 0 | /: | /: |
| COLU POWER FEED OPEN | MN | OK | 0 | /: | /:- |
| COLU POWER FEED SHORT | MN | OK | 0 | /: | /: |
| COLU POWER GROUND FAULT | MN | OK | 0 | /: | /: |
| RT HDSL LOSW | MN | OK | 1 | 04/25 09:09 | 04/25 09:09 |
| RT HDSL ES 15 MIN THRESH | MIN | OK | 0 | /: | /: |
| RT HDSL ES 24HR THRESH | MN | OK | 0 | /: | /:- |
| RT HDSL UAS 15 MIN THRESH | MN | OK | 0 | /: | /: |
| RT HDSL UAS 24HR THRESH | MN | OK | 0 | /: | /: |
| RT HDSL LOW MARGIN | MIN | OK | 1 | 04/25 09:10 | 04/25 09:10 |
| HDSL ALARM HISTOR | Y WILL | BE CLEARE | D. CON | TINUE (Y/N)? | |
| HDSL ALARM HISTOR | Y LAST | CLEARED: | // | :::- | - |
| | | | | | |
| 4/25/2000 Syste | m ID: P | G-PLUS PO | TS SYST | 388 | 09:15: |



Clearing the alarm history clears the RT and the COLU alarm history, whether you clear it from the COLU or the RT page of the history screen. If there is an active alarm, the count is set to 1 and the value in the LAST date and time field is set to the FIRST date and time field.

a.1. To clear the current history, press **Y**.

| MAIN PERFORMAN | ICE ALARMS HDSL HI | <u>C</u> ONFIG story | TEST | INFO | |
|-------------------|-----------------------|-------------------------|-------------|--------------|------|
| ALARMS | <u>TY</u> | PE CURR | ENT COUNT | FIRST | LAST |
| COLU HDSL LOSW | М | IN OK | 0 | /: | /:- |
| COLU HDSL ES 15 M | IIN THRESH M | IN OK | 0 | /: | /:- |
| COLU HDSL ES 24HF | THRESH M | IN OK | 0 | /: | /:- |
| COLU HDSL UAS 15 | MIN THRESH M | IN OK | 0 | /: | /:- |
| COLU HDSL UAS 24H | IR THRESH M | IN OK | 0 | /: | /:- |
| COLU HDSL LOW MAR | RGIN M | IN OK | . O | /: | /:- |
| COLU POWER FEED C | DPEN M | IN OK | 0 | /: | /:- |
| COLU POWER FEED S | SHORT M | IN OK | 0 | /: | /:- |
| COLU POWER GROUND | FAULT M | IN OK | 0 | /: | /:- |
| RT HDSL LOSW | м | IN OK | 0 | /: | /:- |
| RT HDSL ES 15 MIN | I THRESH M | IN OK | 0 | /: | /:- |
| RT HDSL ES 24HR 7 | THRESH M | IN OK | 0 | /: | /:- |
| RT HDSL UAS 15 MI | IN THRESH M | IN OK | 0 | /: | /:- |
| RT HDSL UAS 24HR | THRESH M | IN OK | . O | /: | /:- |
| RT HDSL LOW MARGE | IN M | IN OK | 0 | /: | /:- |
| | CLEAR HDSL | ALARM H | ISTORY (Y)? | | |
| HDSL # | LARM HISTORY LA | ST CLEAR | ED: 04/25/ | 2000 09:15:5 | 56 |

- all HDSL history 24-hour interval registers are set to zero.
- the time and date that the history was last cleared is updated.

- **a.2.** To retain the current history, press N.
- **a.3.** To return to the screen, press **ESC**.
- 3. Press **ESC** to return to the main screen.

| Alarm | Values | Alarm Description | Default |
|--------------------------------|-----------------------|---|---------|
| COLU HDSL LOSW | CR, MJ, MN, NA, NR | COLU cannot synchronize with the RT and is out of service | MN |
| COLU HDSL ES 15 MIN THRESH | CR, MJ, MN, NA, NR | HDSL 15-minute errored second alarm threshold reached or exceeded | MN |
| COLU HDSL ES 24HR THRESH | CR, MJ, MN, NA, NR | HDSL 24-hour errored second alarm threshold reached or exceeded | MN |
| COLU HDSL UAS 15 MIN THRESH | CR, MJ, MN, NA, NR | HDSL 15-minute errored second alarm threshold reached or exceeded | MN |
| COLU HDSL UAS 24HR THRESH | CR, MJ, MN, NA, NR | HDSL 24-hour errored second alarm threshold reached or exceeded | MN |
| COLU HDSL LOW MARGIN | CR, MJ, MN, NA, NR | Margin at or below the current threshold value | MN |
| COLU POWER FEED OPEN | CR, MJ, MN, NA, NR | COLU cannot power the RT due to an open circuit | MN |
| COLU POWER FEED SHORT | CR, MJ, MN, NA, NR | COLU cannot power the RT due to a short circuit. | MN |
| COLU POWER GROUND FAULT | CR, MJ, MN, NA, NR | COLU cannot power the RT due to HDSL Tip or Ring Fault to GND | MN |
| RT HDSL LOSW | CR, MJ, MN, NA, NR | COLU cannot synchronize with the RT and is out of service | MN |
| RT HDSL ES 15 MIN THRESH | CR, MJ, MN, NA, NR | HDSL 15-minute errored second alarm threshold reached or exceeded | MN |
| RT HDSL ES 24HR THRESH | CR, MJ, MN, NA, NR | HDSL 24-hour errored second alarm threshold reached or exceeded | MN |
| RT HDSL UAS 15 MIN THRESH | CR, MJ, MN, NA, NR | HDSL 15-minute unavailable second alarm threshold reached or exceeded | MN |
| RT HDSL UAS 24HR THRESH | CR, MJ, MN, NA, NR | HDSL 24-hour unavailable second alarm threshold reached or exceeded | MN |
| RT HDSL LOW MARGIN | CR, MJ, MN, NA, NR | Margin at or below the current threshold value | MN |

Table 7.HDSL History Alarms

CONFIGURATION SUBMENU

Provides access to system provisioning screens, and an easy means of resetting all options to factory defaults.

1. At the COLU main screen, select CONFIG, and press ENTER to view the submenu.

| | WATN | DEDEODMANCE | PG-Plus POTS CO Line Unit #3 | |
|-------|--------------|-------------|--------------------------------|----------|
| ***** | <u>n</u> x m | FERFORMANCE | System Options | |
| | | | System Alarm Types | |
| | | | HDSL Alarm Thrshlds | |
| | | | HDSL Alarm Types | |
| ~~~~ | | | Set Factory Defaults | |
| ~~~~ | | | ۱۱ | |
| ~~~~ | | | | |
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| | | | | |
| **** | | | | |
| | 04/25/2 | 000 | System ID: PG-PLUS POTS SYSTEM | 09:16:08 |
| 1 | 1 | | | |

2. From the *CONFIG* submenu you can perform the following tasks:

| Submenu | Allows you to |
|-----------------------|---|
| System Options | provision system options. |
| System Alarm Types | provision COLU alarm types. |
| HDSL Alarm Thresholds | provision HDSL alarm thresholds. |
| HDSL Alarm Types | provision HDSL alarm types. |
| Set Factory Defaults | reset the provisionable items to the original factory settings. |

3. Press **ESC** to return to the main screen.

System Options Screen

System Options screen allows the provisioning of options such as ringing frequency, SDT, HDSL Periodic Power Up, and a System ID. Table 8 shows the configured system option and the factory default value.

1. At the CONFIG submenu, select System Options, and press ENTER to view the screen.

| MAIN PERFORMANCE | PG-Plus POTS CO Line Un ALARMS <u>CONFIG</u> <u>TEST</u> System Optic | nit #3 F _INFO pns |
|-------------------------|---|------------------------------|
| POTS Ringing Frequency | : 20 HZ | (20 HZ, 25 HZ, 30 HZ, 50 HZ) |
| Subscriber Drop Test Co | ompatibility : MLT | (OFF, MLT) |
| HDSL Power Up | : ENABLED | (ENABLED, DISABLED) |
| HDSL Fallback to Metal. | lic : ENABLED | - (ENABLED, DISABLED) |
| PG-Plus System ID (24) | chars max) : PG-PLUS H | POTS SYSTEM |
| = | ACCEPT SYSTEM OPTION CH | ANGES |
| 04/25/2000 | System ID: PG-PLUS POTS | SYSTEM 09:16:12 |

- 2. You can perform the following tasks:
 - **a.** To change the POTS Ringing Frequency, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - **b.** To change the Subscriber Drop Test Compatibility value, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - **c.** To change the HDSL Power Up value, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - **d.** To change the HDSL Fallback to Metallic value, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - e. To change the PG-Plus System ID, move to the field and type in a unique System ID name.

f. To accept the changes, select the ACCEPT SYSTEM OPTION CHANGES button, and press **ENTER**. At the SYTEM OPTIONS WILL BE CHANGED. CONTINUE (Y/N)? prompt, you have the following options:

| | PG-Plus P(| DTS CO Line Uni | t #3 |
|--------------|------------------------|-----------------|------------------------------|
| MAIN PERF | ORMANCE ALARMS | CONDIG TEST | INFO |
| | | System Uption | S |
| POTS Ringing | [Frequency | : 20 HZ | (20 HZ, 25 HZ, 30 HZ, 50 HZ) |
| Subscriber D | rop Test Compatibility | y: MLT | (OFF, MLT) |
| HDSL Power U | p] | : ENABLED | (ENABLED, DISABLED) |
| HDSL Fallbac | k to Metallic | : ENABLED | (ENABLED, DISABLED) |
| PG-Plus Syst | em ID (24 chars max) | : PG-PLUS PO | TS SYSTEM |
| | ACCEPT SYS | TEM OPTION CHAN | GES |
| | SYSTEM OPTIONS WILL I | BE CHANGED. CO | NTINUE (Y/N)? |
| 04/25/2000 | System ID: | PG-PLUS POTS S | YSTEM 09:16:25 |

f.1. To accept the system option changes, press $\underline{\mathbf{Y}}$.



If you have a List 1 POTS RT attached to this COLU, the following error message displays.

| PG-Plus P(| DTS CO Line Unit #3 |
|------------------------------------|---|
| MAIN PERFORMANCE ALARMS | CONFIG TEST INFO |
| | System Options |
| | |
| POTS Ringing Frequency | : <u>20 HZ</u> (20 HZ, 25 HZ, 30 HZ, 50 HZ) |
| Subscriber Drop Test Compatibility | y: MLT (OFF, MLT) |
| HDSL Power Up | : ENABLED (ENABLED, DISABLED) |
| HDSL Fallback to Metallic | : ENABLED (ENABLED, DISABLED) |
| PG-Plus System ID (24 chars max) | : PG-PLUS POTS SYSTEM |
| | |
| ACCEPT SYST | TEM OPTION CHANGES |
| SUSTEN OFTIG | NO HAUE DEEM CHANCED |
| MARNING: CURRENT HARDWARE DO | DES NOT SUPPORT PROVISIONAL FALLBACK. |
| | |
| | |
| | |
| 04/25/2000 System ID: | PG-PLOS POTS SYSTEM 09:16:33 |

- **f.2.** To retain the current system options, press \mathbb{N} .
- **f.3.** To return to the screen, press **ESC**.
- **3.** Press **ESC** to return to the main screen.

| Options | Description | Default |
|-------------------------------|--|--|
| POTS Ringing Frequency | 20 Hz 25 Hz 30 Hz 50 Hz. | The ringing frequency sent from the RT to the subscriber. |
| Subscriber Drop Test | OFF | System will not initiate nor operate with MLT loop test systems. |
| Compationity | MLT | The system will initiate and operate with MLT loop test systems. |
| HDSL Power Up | Enabled | In Metallic Fallback the system attempts to power up the HDSL line every five minutes or anytime the HDSL pair is shorted for two seconds and then opened. |
| | Disabled | inhibits the power-up sequence under any circumstances and the system remains in Metallic Fallback |
| HDSL Fallback to Metallic | Enabled | The system provides fallback to metallic operation on POTS channel 1 during system failures. |
| | Disabled | The system provides no metallic connection during system failures. |
| PG-Plus System (24 chars max) | This string can be up to 24 characters, can be any printable character, including space. | Configurable identification string for system. There are no special rules for changing the System ID. |

Table 8.System Options Configuration Fields

System Alarm Types Screen

Allows the provisioning of the alarm types of all system alarms. Table 9 shows the System Alarm fields and their default settings. You can view the results of these settings from the "Main Summary Screen" on page 18.

1. At the CONFIG submenu, select System Alarm Types, and press ENTER to view the screen.

| | | PG-Plus | POTS CO | Line Un: | it #3 | | |
|----------|----------------|-------------|-----------|----------|-----------|---------|----------|
| MAIN | PERFORMANCE | ALARMS | CONFIG | TEST | INFO | | |
| - | - | - | | m Alarm | Types | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | SYSTE | M ALARMS | | TYPE | | | |
| | COLU-RT Mismat | ch (MISMAT | СН) : | MIN | (NR, NA, | MN, MJ | , CR) |
| | No RT S/W | (NORT: | SW) : | MIN | (NR, NA, | MN, MJ | , CR) |
| | EEPROM Failur | e (BKUPME) | MP) : | MIN | (NR, NA, | MN, MJ | , CR) |
| | | | | | | | |
| | [MN = Minor | Alarm, MJ | = Major | Alarm, (| CR = Crit | ial Ala | rm] |
| | | [NA = Not A | larmed, N | R = Not | Reported |] | |
| | | | | | | | |
| | | | | | | | |
| | - | | | | | | |
| | - | ACCEPT SY | STEM ALAR | M TYPE (| CHANGES | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 04/25/20 | 000 | System I | D: PG-PLU | S POTS : | SYSTEM | | 09:17:23 |
| | | | | | | | |

- 2. You can perform the following tasks:
 - **a.** To change the COLU-RT MISMATCH value, select the field, and press the **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - **b.** To change the No RT S/W value, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.
 - **c.** To change the EEPROM Failure value, select the field, and press **SPACEBAR** to toggle to the desired value, or use a directional key to move to the next option.

d. To accept the changes, select the ACCEPT SYSTEM OPTION CHANGES button, and press **ENTER**. At the SYTEM OPTIONS WILL BE CHANGED. CONTINUE (Y/N)? prompt, you have the following options:

| | PG-Plus POTS CO Line Unit #3 |
|---------|--|
| MAIN | PERFORMANCE ALARMS CONFLC TEST INFO |
| | System Alarm Types |
| | |
| | |
| | |
| | SYSTEM ALARMS TYPE |
| | COLU-RT Mismatch (MISMATCH) : <u>MN</u> (NR, NA, MN, MJ, CR) |
| | No RT S/W (NORTSW) : <u>MN</u> (NR, NA, MN, MJ, CR) |
| | EEPROM Failure (BKUPMEMP) : (NR, NA, MN, MJ, CR) |
| | |
| | [MN = Minor Alarm, MJ = Major Alarm, CR = Critial Alarm] |
| | [NA = Not Alarmed, NR = Not Reported] |
| | |
| | |
| | |
| | ACCEPT SYSTEM ALARM TYPE CHANGES |
| | CARTER MARK THER HILL DE CHANCED CONTINUE (V/M) 2 |
| | SYSTEM ALARM TYPES WILL BE CHANGED. CONTINUE (1/N)? |
| | |
| | |
| | |
| 04/25/2 | 2000 System ID: PG-PLUS POTS SYSTEM 09:17:32 |
| | |
| | |

d.1. To accept the system option changes, press $\underline{\mathbf{Y}}$.

| | PG-Plus POTS CO Line Unit #3 |
|---------|--|
| MAIN | PERFORMANCE ALARMS CONFIG TEST INFO |
| | System Alarm Types |
| | |
| | |
| | SYSTEM ALARMS TYPE |
| | COLU-RT Mismatch (MISMATCH) : <u>MN</u> (NR, NA, MN, MJ, CR) |
| | No RT S/W (NORTSW) : <u>MN</u> (NR, NA, MN, MJ, CR) |
| | EEPROM Failure (BKUPMEMP) : <u>MN</u> (NR, NA, MN, MJ, CR) |
| | [MN] = Minor Alerm MJ = Mejor Alerm (D = Critiel Alerm] |
| | [NA = Not Alarmed, NR = Not Reported] |
| | . , |
| | |
| | |
| | ACCEPT SYSTEM ALARM TYPE CHANGES |
| | SYSTEM ALARM TYPES HAVE BEEN CHANGED. |
| | |
| | |
| | |
| | |
| 04/25/2 | 2000 System ID: PG-PLUS POTS SYSTEM 09:17:38 |
| | |

- **d.2.** To retain the current system options, press **N**.
- d.3. To return to the screen, press ESC.
- 3. Press **ESC** to return to the main screen.

| Alarm | Value | Description | Default |
|--------------------------------|--------------------|--|---------|
| COLU-RT Mismatch (MISMATCH) | NR, NA, MN, MJ, CR | Incompatible COLU and RT units have been installed. For example, a Dual 2 POTS COLU has been connected to a 2 ISDN RT. | MN |
| No RT S/W (NORTSWA) | NR, NA, MN, MJ, CR | RT has no application software and is awaiting software download. | MN |
| EEPROM Failure (BKUPMEMP) | NR, NA, MN, MJ, CR | EEPROM failure. | MN |

| Table 9. | System Alar | m Types |
|----------|-----------------|---------|
| | ~ , > , > , > , | i jpes |

HDSL Alarm Thresholds Screen

Provides a means to provision the threshold crossing values for the 24-hour ES count and low margin dB. Table 10 lists the fields of the HDSL alarm thresholds and the default factory values.

1. At the CONFIG submenu, select HDSL Alarm Thrshlds, and press ENTER to view the screen.

| | | DC_D1v | a DOTS | C0 1 | ing Unit | | |
|----------|-----------------|-----------|---------|-------|--------------|-----------|----------|
| MAIN | PERFORMANCE | ALARMS | CON | FIG | TEST | INFO | |
| - | - | - | н | DSL A | Larm Thr | shlds | |
| | | | | | | | |
| | | | | COLU | ALARM | RT ALARM | |
| | HDSL ALAR | MS | | THF | ESHOLD | THRESHOLD | |
| Erro | red Seconds (ES | 15 Min) | : | | 017 | 017 | (0900) |
| Erro | red Seconds (ES | 24 Hr) | : | | 0170 | 00170 | (086400) |
| Unava | ailable Seconds | (UAS 15 | Min): | | 240 | 240 | (0900) |
| Unava | ailable Seconds | (UAS 24 | Hr) : | | 0600 | 00600 | (086400) |
| Low 1 | Margin (MAR) | | : | | 06 | 06 | (025) |
| | | | | | | | |
| | | Use "Tab' | to mo | ve be | tween co | lumns | |
| | | | | | | | |
| | | | | | | | |
| | A | CCEPT HDS | SL ALAR | M THF | ESHOLD C | CHANGES | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 04/25/20 | 000 | System | ID: PG | -PLUS | POTS SY | | 09:17:47 |

- 2. You can perform the following tasks:
 - **a.** To set the 15-minutes errored seconds threshold for the COLU, select the Errored Seconds (ES 15 Min) field in the COLU ALARM THRESHOLD column, and type in the desired value.
 - **b.** To set the 24-hour errored seconds threshold for the COLU, select the Errored Seconds (ES 24 Hr) field in the COLU ALARM THRESHOLD column, and type in the desired value.
 - **c.** To set the 15-minutes unavailable seconds threshold for the COLU, select the Unavailable Seconds (UAS 15 Min) field in the COLU ALARM THRESHOLD column, and type in the desired value.
 - **d.** To set the 24-hour unavailable seconds threshold for the COLU, select the Unavailable Seconds (UAS 24 Hr) field in the COLU ALARM THRESHOLD column, and type in the desired value.
 - e. To set the low margin threshold for the COLU, select the Low Margin (MAR) field in the COLU ALARM THRESHOLD column, and type in the desired value.

- **f.** To set the 15-minutes errored seconds threshold for the RT, select the Errored Seconds (ES 15 Min) field in the RT ALARM THRESHOLD column, and type in the desired value.
- **g.** To set the 24-hour errored seconds threshold for the RT, select the Errored Seconds (ES 24 Hr) field in the RT ALARM THRESHOLD column, and type in the desired value.
- **h.** To set the 15-minutes unavailable seconds threshold for the RT, select the Unavailable Seconds (UAS 15 Min) field in the RT ALARM THRESHOLD column, and type in the desired value.
- i. To set the 24-hour unavailable seconds threshold for the RT, select the Unavailable Seconds (UAS 24 Hr) field in the RT ALARM THRESHOLD column, and type in the desired value.
- **j.** To set the low margin threshold for the RT, select the Low Margin (MAR) field in the RT ALARM THRESHOLD column, and type in the desired value.
- **k.** To accept the changes, select the ACCEPT SYSTEM OPTION CHANGES button, and press **ENTER**. At the HDSL SYSTEM THRESHOLDS WILL BE CHANGED. CONTINUE (Y/N)? prompt, you have the following options:

| - | | | | | | | |
|---------|-----------------|------------|--------|--------|---------|---------------|----------|
| | | PG-Plus | POTS | CO Li | ne Unit | #3 | |
| MAIN | PERFORMANCE | ALARMS | CONT | FIG | TEST | INFO | |
| - | - | - | | DSL AI | arm Thr | shlds | |
| | | | | | | | |
| | | | | COLU | ALARM | RT ALARM | |
| | HDSL ALAF | MS | | THRE | SHOLD | THRESHOLD | |
| Erro | red Seconds (ES | 15 Min) | : | | 017 | 017 | (0900) |
| Erro | red Seconds (ES | 24 Hr) | : | 00 | 170 | 00170 | (086400) |
| Unav | ailable Seconds | (UAS 15 M | (in): | | 240 | 240 | (0900) |
| Unav | ailable Seconds | (UAS 24 H | ir) : | 00 | 600 | 00600 | (086400) |
| Low | Margin (MAR) | | : | | 06 | 06 | (025) |
| | | | | | | | |
| | | Use "Tab" | to mov | ve bet | ween co | lumns | |
| | | | | | | | |
| | | | | | | | |
| | A | CCEPT HDSL | ALARI | I THRE | SHOLD C | HANGES | |
| | | | | | | | _ |
| | HDSL ALARM T | HRESHOLDS | WILL 1 | BE CHA | NGED. | CONTINUE (Y/N | N) ? |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 04/25/2 | 000 | System I | D: PG- | -PLUS | POTS SY | 599931 | 09:18:00 |
| 1 | | | | | | | |

| | PG-Plus POTS | CO Line Unit | #3 | |
|-----------------------|----------------|---------------|-----------|----------|
| MAIN PERFORMANCE | ALARMS CON | FIG TEST | INFO | |
| | H | DSL Alarm Thr | shlds | |
| | | | | |
| | | COLU ALARM | RT ALARM | |
| HDSL ALARMS | 5 | THRESHOLD | THRESHOLD | |
| Errored Seconds (ES 1 | .5 Min) : | 017 | 017 | (0900) |
| Errored Seconds (ES 2 | (4 Hr) : | 00170 | 00170 | (086400) |
| Unavailable Seconds (| UAS 15 Min): | 240 | 240 | (0900) |
| Unavailable Seconds (| UAS 24 Hr) : | 00600 | 00600 | (086400) |
| Low Margin (MAR) | : | 06 | 06 | (025) |
| | | | | |
| Us | se "Tab" to mo | ve between co | lumns | |
| | | | | |
| | | | | |
| ACC | EPT HDSL ALAR | M THRESHOLD C | HANGES | |
| | | | | |
| HDSL A | LARM THRESHOL | DS HAVE BEEN | CHANGED. | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 04/25/2000 | System ID: PG | -PLUS POTS SY | STEM | 09:18:11 |
| 1 | | | | |

k.1. To accept the system option changes, press **Y**.

- **k.2.** To retain the current system options, press **N**.
- **k.3.** Press **ESC** to return to the main screen.
- **3.** Press **ESC** to return to the main screen.

| Threshold | Values | Description | Default |
|-------------------------------------|------------|--|---------|
| Errored Seconds (ES 15 Min) | 0 to 900 | Value for the HDSL 15 minute interval ES alarm. | 17 |
| Errored Seconds (ES 24 Hr) | 0 to 86400 | Value for the HDSL 24 hour interval ES alarm. | 170 |
| Unavailable Seconds (UAS 15 Min) | 0 to 900 | Threshold value for the HDSL 15 minute interval UAS alarm. | 240 |
| Unavailable Seconds (UAS 24 Hr) | 0 to 86400 | Threshold value for the HDSL 24 hour interval UAS alarm. | 600 |
| Low Margin (MAR) | 0 to 25 | Value at which alarm is set active if margin drops equal to or less than this threshold. | 06 |

 Table 10.
 HDSL Alarm Threshold Fields

HDSL Alarm Types Screen

Allows the provisioning of the alarm types for all HDSL Alarms. Table 10 lists the Alarm Reports and Table 12 shows the HDSL Alarms, the possible alarm Types, and the default factory settings. You can view the results of these settings from the "HDSL History Screen" on page 30.

1. At the CONFIG submenu, select HDSL Alarm Types, and press ENTER to view the screen.

| MAIN | PERFORMANCE | PG-Plus POTS Alarms <u>C</u> OP | S CO Line U TE: <u>T</u> E: | Jnit #3 5T <u>I</u> NF | 0 | | | | |
|---------|------------------|------------------------------------|--------------------------------|----------------------------------|--------------|-----|-----|-----|-------|
| | | | (DSL Alarm | Types | | | | | |
| | | | COLU | RT | | | | | |
| | HDSL ALARI | IS | TYPE | TYPE | | | | | |
| Loss | of Sync Word | (LOSW): | MN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | red Seconds | (ES 15 Min): | MIN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | red Seconds | (ES 24 Hr): | MIN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unava | ailable Seconds | (UAS 15 Min): | MIN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unava | ailable Seconds | (UAS 24 Hr): | MIN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Low 1 | Margin | (MAR): | MIN | MN | (NR, | NA, | MN, | MJ, | CR) |
| Powe: | r Feed Open | (PFO) : | MIN | | (NR, | NA, | MN, | MJ, | CR) |
| Powe: | r Feed Short | (PFS): | MN | | (NR, | NA, | MN, | MJ, | CR) |
| Powe: | r Feed Ground Fa | ault (PGF): | MIN | | (NR, | NA, | MN, | MJ, | CR) |
| | [MN = Minor | Alarm, MJ = Ma IA = Not. Alarma | ajor Alarm, ed. NR = No | , CR = Cr | itial edl | Ala | rm] | | |
| | - | | , | | | | | | |
| | - | ACCEPT HDSL | LARM TYPE | CHANGES | _ | | | | |
| | - | | | | _ | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 04/25/2 | 000 | System TD: P(| | SYSTEM | | | | 0.0 | 18:30 |

- 2. You can perform the following tasks:
 - **a.** To change the value of the COLU alarm Loss of Sync Word, select the field in the COLU TYPE column, and press the **SPACEBAR** to toggle to the desired value.
 - **b.** To change the value of the COLU alarm Errored Seconds (ES 15 Min), select the field in the COLU TYPE column, and press the **SPACEBAR** to toggle to the desired value.
 - **c.** To change the value of the COLU alarm Errored Seconds (ES 24 Hr), select the field in the COLU TYPE column, and press the **SPACEBAR** to toggle to the desired value.
 - **d.** To change the value of the COLU alarm Unavailable Seconds (UAS 15 Min), select the field in the COLU TYPE column, and press the **SPACEBAR** to toggle to the desired value.

- e. To change the value of the COLU alarm Unavailable Seconds (UAS 24 Hr), select the field in the COLU TYPE column, and press the **SPACEBAR** to toggle to the desired value.
- **f.** To change the value of the COLU alarm Low Margin (MAR), select the field in the COLU TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option.
- **g.** To change the value of the COLU alarm Power Feed Open (PFO), select the field in the COLU TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option.
- **h.** To change the value of the COLU alarm Power Feed Short (PFS), select the field in the COLU TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option.
- i. To change the value of the COLU alarm Power Feed Ground Fault (PGF), select the field in the COLU TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option.
- **j.** To change the value of the RT alarm Loss of Sync Word, select the field in the RT TYPE column, and press the **SPACEBAR** to toggle to the desired value.
- **k.** To change the value of the RT alarm Errored Seconds (ES 15 Min), select the field in the RT TYPE column, and press the **SPACEBAR** to toggle to the desired value.
- **I.** To change the value of the RT alarm Unavailable Seconds (UAS 24 Hr), select the field in the RT TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option
- **m.** To change the value of the RT alarm Unavailable Seconds (UAS 15 Min), select the field in the RT TYPE column, and press the **SPACEBAR** to toggle to the desired value.
- **n.** To change the value of the RT alarm Errored Seconds (ES 24 Hr), select the field in the RT TYPE column, and press the **SPACEBAR** to toggle to the desired value.
- **o.** To change the value of the RT alarm Low Margin (MAR), select the field in the RT TYPE column, press the **SPACEBAR** to toggle to the desired value, or press a directional key to move to the next option
- **p.** To accept the changes, select the ACCEPT HDSL ALARM TYPE CHANGES button, and press **ENTER**. At the HDSL ALARM TYPES WILL BE CHANGED. CONTINUE (Y/N) ? prompt, you have the following options:

| | | PG-PIUS | DDS | cu Line | UNI | c #4 | | | | | |
|---------|------------------|------------|-------|---------|-------|---------|-------|------|-----|-----|-------|
| MAIN | PERFORMANCE | ALARMS | | \$11G | TEST | INF | 0 | | | | |
| | | | н | DSL Ala | rm Ty | ypes | | | | | |
| | | | | | | | | | | | |
| | | | | COLU | | RT | | | | | |
| I — | HDSL ALAR | MS | | TYPE | | TYPE | - | | | | |
| Loss | s of Sync Word | (LC | SV): | MN | - | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | ored Seconds | (ES 15 M | in): | MN | - | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | ored Seconds | (ES 24 | Hr): | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unav | vailable Seconds | (UAS 15 M | in): | MN | _ | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unav | vailable Seconds | (UAS 24 | Hr): | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Low | Margin | (M | AR): | MIN | - | MN | (NR, | NA, | MN, | MJ, | CR) |
| Powe | er Feed Open | (P | FO): | MIN | - | | (NR, | NA, | MN, | MJ, | CR) |
| Powe | er Feed Short | (P | FS): | MIN | | | (NR, | NA, | MN, | MJ, | CR) |
| Powe | er Feed Ground F | ault (P | GF): | MIN | | | (NR, | NA, | MN, | MJ, | CR) |
| | | | | | | | | | | | |
| | [MN = Minor | Alarm, MJ | = Ma | jor Ala | rm, (| CR = Cr | itial | Ala | rm] | | |
| | - [] | NA = Not A | larme | d, NR = | Not | Report | ed] | | | | |
| | | | | | | - | - | | | | |
| | | ACCEPT H | DSL A | LARM TY | PE CI | ANGES | | | | | |
| | HDSL MLAR | M TYPES NT | LL BE | CHANGE | D. 1 | CONTINU | | M) 2 | | | |
| | MUDI ADAN | | | onnaoh. | | | (1). | .,. | | | |
| | | | | | | | | | | | |
| 07/11/6 | 000 | Sughan | TD | | C.r. | - | | | | 15 | 54.56 |
| 07/11/2 | 2000 | system | TD: 1 | PG-PIUS | sys | cent | | | | 15 | 94:96 |
| 1 | | | | | | | | | | | |

p.1. To accept the system option changes, press **Y**.

| | | PC-D1ue | DDS CO | lline | Ini | F 44.4 | | | | | |
|---------|---|------------|--------|-------|--------|----------|------|-----|-----|-----|--------|
| MAIN | PERFORMANCE | ALARMS | CONFI | G | TEST | IN | FO | | | | |
| | | | HDS | L ALa | urm Ty | ypes | | | | | |
| | | | | | | | | | | | |
| | | | | COLU | | RT | | | | | |
| | HDSL ALARM | IS | | TYPE | | TYPE | _ | | | | |
| Loss | of Sync Word | (LOS | W): | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | red Seconds | (ES 15 Mi | n): _ | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Erro | red Seconds | (ES 24 H | ir): _ | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unav | ailable Seconds | (UAS 15 Mi | n): _ | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Unav | ailable Seconds | (UAS 24 H | ir): _ | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Low | Margin | (MA | .R): _ | MN | | MN | (NR, | NA, | MN, | MJ, | CR) |
| Powe | r Feed Open | (PF | o): _ | MN | - | | (NR, | NA, | MN, | MJ, | CR) |
| Powe | r Feed Short | (PF | s): _ | MN | - | | (NR, | NA, | MN, | MJ, | CR) |
| Powe | r Feed Ground Fa | ault (PG | F): _ | MN | - | | (NR, | NA, | MN, | MJ, | CR) |
| | [MN = Minor Alarm, MJ = Major Alarm, CR = Critial Alarm] [NA = Not Alarmed, NR = Not Reported] ACCEPT HDSL ALARM TYPES HAVE REEN CHANGED. | | | | | | | | | | |
| 07/11/2 | 000 | System | ID: PG | -Plus | Syst | tem | | | | 15 | :55:19 |

- **p.2.** To retain the current system options, press **N**.
- **p.3.** Press **ESC** to return to the main screen.
- **3.** Press **ESC** to return to the main screen.

| Settings | Reporte d | Fault LED Lit | Main Summary Listing | History Updated |
|----------------------|--------------|------------------|-------------------------|--------------------|
| CR Critical | Yes | Yes | Yes | Yes |
| MJ Major | Yes | | Yes | Yes |
| MN Minor | Yes | | Yes | Yes |
| NA Not Applicable | No | No | No | No |
| NR Not Reported | No | Yes | Yes | Yes |

Table 11. Alarm Reports

| Table 12. | HDSL Alarm | Types |
|-----------|------------|-------|
|-----------|------------|-------|

| Туре | Values | Description | COLU Default | RT Default |
|----------------------------------|--------------------|---|-----------------|---------------|
| Loss of Sync Word (LOSW) | NR, NA, MN, MJ, CR | HDSL link has lost synchronization. | MN | MN |
| Errored Seconds (ES -15 Min) | NR, NA, MN, MJ, CR | Active if the 15 minute ES count equals or exceeds the threshold in the current 15 minute interval. | MN | MN |
| Errored Seconds (ES-24 Hr) | NR, NA, MN, MJ, CR | Active if the count equals or exceeds the threshold in the current 24 hour interval. | MN | MN |
| Unavailable Seconds (UAS-15 Min) | NR, NA, MN, MJ, CR | Active if the count equals or exceeds the threshold in the current 15 minute interval. | MN | MN |
| Unavailable Seconds (UAS-24 Hr) | NR, NA, MN, MJ, CR | Active if the count equals or exceeds the threshold in the current 24 hour interval. | MN | MN |
| Low Margin (MAR) | NR, NA, MN, MJ, CR | Active if the margin equals or drops below the threshold. | MN | MN |
| Power Feed Open (PFO) | NR, NA, MN, MJ, CR | Open circuit detected on the HDSL span. | MN | |
| Power Feed Short (PFS) | NR, NA, MN, MJ, CR | Short circuit detected on the HDSL span. | MN | |
| Power Feed Ground Fault (PGF) | NR, NA, MN, MJ, CR | Ground fault condition detected on the HDSL span. | MN | |

Set Factory Defaults

This screen allows setting all configuration data back to factory default values.

1. At the CONFIG submenu, select Set Factory Defaults, and press ENTER to view the screen.



2. You have the following options:



If you have custom factory defaults, then these custom defaults will be restored if you select Set Factory Defaults.

a. To set the configuration data to the factory defaults, press $\underline{\mathbf{Y}}$.



- **b.** To retain the current system options, press **N**.
- **c.** Press **ESC** to return to the main screen.
- **3.** Press **ESC** to return to the main screen.

TEST SUBMENU

This screen allows testing of a subscriber drop by selecting it from the TEST menu. The relays in the COLU and RT provide a path for performing a SDT.

1. From the COLU main screen, select *TEST* to view the submenu.



- 2. You can perform the following tasks:
 - **a.** To test a circuit, select the desired circuit and press **ENTER**.



b. The message POTS-1 CHOSEN FOR TEST. CALLS IN PROGRESS ON TEST CIRCUIT WILL BE TERMINATED is displayed. At the CONTINUE WITH TEST (Y/N) ? prompt, you have the following options:

b.1. To continue with the test, press **Y**. A Test In Progress message displays on the screen throughout the test.

| MAIN | PERFORMANCE | PG-Plus <u>A</u> larms | POTS CO CONFIG | Line Unit <u>T</u> EST | #3 _INFO | |
|----------|---------------|----------------------------------|-------------------|---------------------------|--------------------|----------|
| Select | circuit to te | est: | | | | |
| | POISI | | P0153 | | POISS | |
| | | ** POTS | 51 TEST IN | PROGRESS | ** | |
| | | | | | | |
| | | | | | | |
| 04/25/20 | 000 | System I | ID: PG-PLU | S POTS SY | STIRM | 09:20:04 |



Performing a SDT on one of the POTS channel interrupts service on the line under test. The remaining lines on the PG-Plus system remains in service.

When the tests are complete, the Drop Tests Results screen displays. The results contains Subscriber Test, Failure Condition, and Test Status. Tests are performed in the order of display. If a test fails, the remaining tests are not performed (as per TR-909). It takes approximately seven to eight seconds for all tests to complete.

| | PG-P1u | s POTS CO | Line Unit | #3 | |
|----------------------|------------------|--------------------------|------------------------|---------------|-------------|
| MAIN PERFORMANCE | ALARMS | CONFIG | TEST | INFO | |
| | | | | | |
| Select circuit to te | st: | | | | |
| POTS1 | POTS2 | POTS3 | POTS4 | POTS5 | POTS6 |
| SUBSCRIBER TEST | FAILURE | CONDITION | I | | TEST STATUS |
| Hazardous Potential | T-G or | R-G > 50 V | rms | | PASSED |
| Foreign Voltage | T-G or T-G or | R-G > 135 R-G AC vol | Vdc .t. > 10 V: | rms | PASSED |
| | T-G or | R-G DC vol | .t. > 6 Vd | c | |
| Resistive Fault | T-G, R- | G, or T-R | resist. < | 150 Kohms | PASSED |
| Receiver Off-Hook | Phone i | s Off-Hook | : | | PASSED |
| Ringers Test | Ringer Ringer | Load acros Load acros | s T-R > 5 s T-R < 0 | REN .1 REN | FAILED |
| 04/25/2000 | System | ID: PG-PLU | S POTS SY | STEM | 09:20:10 |
| | | | | | |

- **b.2.** To retain the current system options, press N.
- **b.3.** Press **ESC** to return to the main screen.
- **3.** Press **ESC** to return to the main screen.

INFORMATION SUBMENU

The Information submenu provides access to the technical information about the system and contact information for this product.

1. From the COLU main screen, select *INFO* and press **ENTER** to display the submenu.

| 1 | | | | | | | |
|---|---------|-------------|----------|------------|----------|---------------|----------|
| | | | PG-Plus | POTS CO L | ine Unit | #3 | |
| | MAIN | PERFORMANCE | ALARMS | CONFIG | TEST | INFO | |
| | | | _ | | | Tryentory | |
| | | | | | | Event Log | |
| | | | | | | I Event Log I | |
| | | | | | | Help | |
| | | | | | | II | |
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| | | | | | | | 00.00.05 |
| | 04/25/2 | 000 | System I | D: PG-PLUS | PUTS SY | N91901 | 09:20:36 |
| | 1 | | | | | | |

2. Press ESC to return to the main screen.

Inventory Screen

Displays all the critical information about the COLU and RT.

1. At the *INFO* submenu, select *Inventory*, and press **ENTER** to view the screen.

| | PG- | Plus POTS CO Line Unit | #3 |
|---------------------|------|--------------------------------|--------------------|
| MAIN PERFORMANCE | ALAR | MS <u>C</u> ONFIG <u>T</u> EST | INFO |
| | | | Inventory |
| | | COLU | RT |
| Model Number | : | PLL-721 | PRL-771 |
| List Number | : | 02 | 1B |
| CLEI | : | \$????????? | S9MSBBOARB |
| Serial Number | : | 03017000008 | 002089001871 |
| H/W Part Number | : | 150-1621-02 | 150-1671-21 |
| H/W Revision | : | E30 | R15 |
| FPGA Type | : | ASIC | ASIC |
| FPGA Version | : | 8 | 1 |
| BOOT PROGRAM | | | |
| S/W Program Type | : | COLU POTS/UVG BOOT | RLU POTS-ISDN BOOT |
| S/W Version | : | R1.0 | R1.5 |
| APPLICATION PROGRAM | | | |
| S/W Program Type | - : | COLU POTS/UVG | RLU POTS-ISDN |
| S/W Version | : | R1.0 | R1.11 |
| | | | |
| | | | |
| 04/25/2000 | Syst | em ID: PG-PLUS POTS SY | STEM 09:20:42 |
| | | | |

2. Press **ESC** to return to the main screen.

COLU Event Log

This screen provides information on events that occurred but are not Alarmed events. The two Events that can be logged are:

1. From the INFO submenu, select Event Log and press ENTER to view the screen:

| | | PG-Plus POTS | CO Line | Unit #3 | | |
|-------------------------|--------------|-------------------|-----------------|----------|---------|----------|
| <u>MAIN</u> <u>P</u> EF | RFORMANCE A | LARMS <u>C</u> ON | IFIG <u>T</u> E | ST INFO | | |
| | | | | Eve | ent Log | |
| | | | | | | |
| | | COLU | EVENT LOG | ; | | |
| | | No | Entries | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | RT E | VENT LOG | | | |
| | | No | Entries | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | c | LEAR EVENT L | OG HISTOR | RY (Y)? | | |
| | EVENT LOG HI | STORY LAST C | LEARED: | // | :: | |
| | | | | | | |
| 04/25/2000 | S | ystem ID: PG | -PLUS POT | S SYSTEM | | 09:20:56 |
| | | | | | | |
| | | | | | | |

- **2.** You can perform the following tasks:
 - **a.** To clear the alarm history information, at the CLEAR EVENT LOG HISTORY (Y) prompt, you have the following options:
 - **a.1.** To clear the event log history, press **Y**.

| | | PG-Plus | POTS CO Li | ne Unit | #3 | |
|---------|-------------|-----------|-------------|----------|------------------|----------|
| MAIN | PERFORMANCE | ALARMS | CONFIG | TEST | INFO | |
| | | | | | Event Log | |
| | | | | | | |
| | | | COLU EVENT | LOG | | |
| | | | No Entrie | 3 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | RT EVENT L | OG | | |
| | | | No Entrie | 3 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | CLEAR EV | ENT LOG HIS | TORY (Y) | 2 | |
| | EVENT LOG | HISTORY L | AST CLEARED | • 04/25 | /2000 09:21:17 | |
| | 212111 200 | | | . 01/10 | , 20000 00.21.21 | |
| 04/25/2 | 000 | Svetom T | | DULC CAC | ጥደአለ | 00.21.21 |
| 04/23/2 | 000 | System 1 | D. FO-PLUS | -015 515 | | 09.21.21 |
| | | | | | | |

- a.2. To retain the current system options, press N.
- **a.3.** Press **ESC** to return to the main screen.
- **3.** Press **ESC** to return to the main screen.

| <i>Tuble 13.</i> COLU Event Log | Table 13. | COLU Event Log |
|---------------------------------|-----------|----------------|
|---------------------------------|-----------|----------------|

| Event | Description | Action Required |
|--------|--|---------------------------------|
| MEMVER | A provisioning database conversion occurred when a software download occurred. MEMVER is informational only. This event is cleared if you reseat the COLU, however it is not required. | No customer action is required. |
| MEMCHK | The provisioning factory defaults were restored due to a corrupted database. MEMCHK is informational only. To clear the MEMCHK alarm, go to the CONFIG submenu option <i>Set Factory Defaults</i> and Accept the Set Factory Defaults prompt. | No customer action is required. |

Help Screen

Provides information on using the screens and menus. The Help screen also lists the ADC Customer Support and Bulletin Board telephone numbers.

1. At the *INFO* submenu, select *Help*, and press **ENTER** to view the screen.

| MAIN <u>P</u> ERFORMAN | PG-Plus CO Line Unit CE <u>A</u> LARMS <u>C</u> ONFIG <u>T</u> ES | t ≢i ST <u>I</u> NFO <u>H</u> elp |
|---|--|---|
| | Menu Operating Instruc | ctions: |
| <u>Keypress</u> | Effect on Menu | Effect on Screen |
| ENTER ARROW LEFT/RIGHT ARROW UP/DOWN SPACE ESCAPE CTRL-R | Moves to submenu or screen Moves across main menu Moves to submenu of screen No effect Moves up a menu level Returns to Main Menu | Confirms changes or selections Moves the cursor LEFT/RIGHT Moves the cursor UP/DOWN Cycles through choices Returns to menus Returns to Main Menu |
| 01/01/1970 | SYSTEM ID: PG-PLUS S | rsten 05.10.38 |

2. Press ESC to return to the main screen.

FAULT ISOLATION

COLU AND RT FAULT INDICATORS

At the CO, you can use the Craft interface to initiate a SDT to determine the cause of any of the following problems. The SDT performs Hazardous Potential, Foreign Voltage, Resistive Faults, Receiver Off-Hook, and Ringers Tests. At the customer site, the following sections provide procedures for isolating faults indicated by the COLU LEDs.

| LED | Mode | Condition | Pı | rocedure |
|------------|----------|---|----|--|
| None | On | processor in the COLU stopped | 1 | Remove and re-insert the COLU. |
| | | | 2 | At the VT-100 interface, go to the COLU Main screen to view the Performance report to verify that no alarms exist. If the COLU Main screen cannot be viewed, a communication error exists, indicating a faulty COLU. |
| | | | 3 | If the LEDs do not illuminate, replace the COLU. |
| Fault | On | indicates an existing alarm condition on the COLU | 1 | At the VT-100 interface, go to the COLU Main screen to view the Performance report to determine the cause of the alarm. Correct the condition, if possible. If the COLU Main screen cannot be viewed, a communication error exists. |
| | | | 2 | Remove and re-insert the COLU. |
| | | | 3 | If the communication error still exists, replace the COLU. |
| Margi n | On | distance limitation exceeded | 1 | At the VT-100 interface, go to the COLU Main screen to view the Performance report to verify that no alarms exist. |
| | | fault in HDSL line | 2 | Initial installation, check engineering records for distance between COTS and RT. |
| | | faulty COLU | 3 | If existing installation, measure loss of HDSL line to ensure that the maximum attenuation value has not been exceeded. |
| | | | 4 | Replace COLU or the RT or both. |
| Margi n | Flashing | distance limitation exceeded | 1 | Initial installation, check engineering records for distance between COTS and RT. |
| | | fault in HDSL line | 2 | If existing installation, measure loss of HDSL line to ensure that the maximum attenuation value has not been exceeded. |
| | | faulty RT | 3 | Replace the COLU or the RT or both. |
| SYNC | Off | HDSL line has lost synchronization | 1 | Initial installation, check engineering records for distance between COTS and RT. |
| | | distance limitation may have been exceeded | 2 | If existing installation, measure loss of HDSL line to ensure that the maximum attenuation value has not been exceeded. |
| | | COLU is faulty | 3 | Replace the COLU or the RT or both. |
| PWR | Off | no input power | 1 | Ground fault condition exists. |
| | | on-board fuse is blown on COLU | 2 | Check input power at COTS backplane with COLU removed. |
| | | | 3 | If power is present at COTS backplane, replace the COLU. |
| PWR | Flashing | HDSL line open | 1 | Check line continuity and resistance. |
| | | an overload exists | 2 | COLU power supply or RT may be faulty. |

SUBSCRIBER REPORTED FAULTS

At the CO, you can use the Craft interface to initiate a SDT to determine the cause of any of the following problems. The SDT test performs Hazardous Potential, Foreign Voltage, Resistive Faults, Receiver Off-Hook, and Ringers Tests. At the customer site, the following sections provide procedures for isolating faults, based on subscriber reports.

| Conditions | Causes | Procedures |
|-----------------------------|---|--|
| no dialtone, cannot dial | Short-circuit or open-circuit | 1 At the CO using the Craft interface, select <i>TEST</i> option, and view the test results. The tests run are for Hazardous Potential, Foreign Voltage, Resistive Fault, and CPE Termination. |
| | faulty COLU or RT | 2 At the RT, lift the subscriber pair at the RT by opening the RJ-11 connector on the Integrated Protector Module. If dialtone is present at the RT and calls can be placed, the fault is in the subscriber side. Check for shorts or opens towards the subscriber or on the customer premise. |
| | | 3 If dialtone is not present with the RJ-11 test connector lifted, lift the jumper in the CO between the CO switch and the COTS. If dialtone is present at the switch, replace the COLU. |
| | | 4 If after replacing the COLU the dialtone is still not present, the fault is in the RT. Replace the RT. |
| Phone does not ring | high-resistance short on subscriber drop (REN load exceeded, see Specifications) | 1 At the CO, using the Craft interface, go to the COLU Main screen to verify the correct operation of the COLU. If you cannot view the COLU Main screen, a communication error exists indicating a faulty COLU. Remove and re-insert the COLU. |
| | faulty RT or COLU | 2 Go to the <i>Test</i> option, and select the desired circuit to test. |
| | | 3 View the SDT results. Refer to the Test Submenu section for specific results. |
| | | 4 At the RT, check for ringing at the RT with the RJ-11 test jack open. If ringing is not present, check for ringing on another line terminated on the same RT. If ringing is present on other lines, check for high-resistance shorts on the subscriber drop. If no high resistance shorts, replace the RT. |
| | | 5 If ringing is not present on another circuit terminated on the RT, lift the jumper between the CO switch and the COTS. If ringing is present, replace the COLU. If ringing is not present, the fault is in the switch. |
| Phone does not stop | faulty subscriber station instrument | 1 If phone stops ringing when using a butt set at the subscriber location, the subscriber's station internal resistance is too high. Replace phone. |
| ringing | loop length too long | 2 If phone does not stop ringing when using a butt set at the subscriber location, one or both of these conditions exist: |
| | faulty RT | • loop length is too long (refer to Specifications) |
| | | • or the RT is faulty |
| Cannot hear,cannot | subscriber problem | 1 Open the RJ-11 test jack at the RT. If audible level is acceptable, the problem is with subscriber equipment. |
| be heard | faulty COLU or RT | 2 If audible level is too low at the RT with the RJ-11 test jack lifted, lift the jumper in the CO between the CO switch and the COTS. |
| | | • If audible level is acceptable, replace the COLU or RT |
| | | otherwise, the problem is in the CO switch |

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.
 - The shipping address to which ADC should return the repaired equipment.
 - The original purchase order number.
 - A 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.
 - The 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 another 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. 14352 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.

ACRONYMS

| ACO | Alarm Cut-off |
|------------------|---------------------------------------|
| AWG | American Wire Gauge |
| BER | Bit Error Ratio |
| CEV | Controlled Environmental Vault |
| СО | Central Office |
| COLU | PG-Plus Central Office Line Unit |
| COTS | PG-Plus Central Office Terminal Shelf |
| CPE | Customer Premises Equipment |
| CR | Critical |
| dB | decibels |
| ES | Errored Seconds Count |
| FCC | Federal Communications Commission |
| HDSL | High Bit-rate Digital Subscriber Line |
| LCFO | Loop Current Feed Open |
| LED | Light Emitting Diode |
| LOSW | Hdsl Loss Of Sync Word |
| mA | Milli-amps |
| mV _{pp} | Milli-volts Peak-to-peak |
| MAR | Hdsl Line Margin |
| MISPWRA | Power A Missing |
| MISPWRB | Power B Missing |
| MJ | Major |
| MLT | Mechanized Loop Test |
| MN | Minor |
| NA | Not Alarmed |
| NORLUSW | No Rt Software |
| NR | Not Reported |
| NT1 | Network Termination Type-1 |
| PAU | PG-Plus Alarm Unit |
| PFO | Power Feed Open |
| PFS | Power Feed Short |
| PGF | Power Feed Ground Fault |
| PMX | PG-Plus Multiplexer Unit |
| POTS | Plain Old Telephone Service |
| RLU | PG-Plus Remote Line Unit |
| RMA | Return Material Authorization |
| RT | PG-Plus Remote Terminal |
| SDT | Subscriber Drop Testing |
| SES | Severely Errored Seconds |
| SYNC | Synchronization |
| UAS | Unavailable Seconds Count |

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For Technical Assistance:

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