360-80 Intelligent Channel Bank Craft Terminal for T1 User's Guide

CONTENTS PAGE

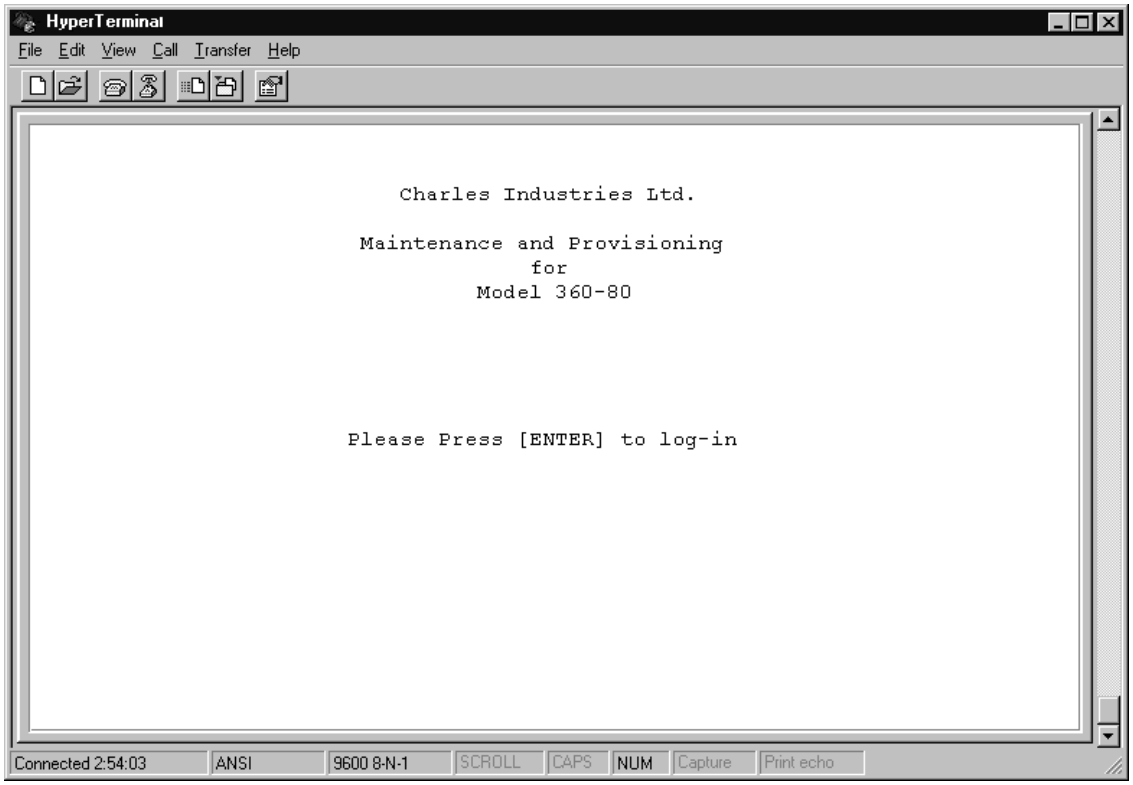


Figure 1. Startup Screen

1. GENERAL

1.1 Document Purpose

This document describes how to use the Charles 360-80 Intelligent Channel Bank (ICB) Craft Terminal to monitor and provision a local system.

Note: This document's issue number follows the equipment issue number of the T1 controller unit with SNMP (T1-S).

1.2 Software Function

Use this software to manage a single ICB shelf. This interface will not allow the user to communicate with any ICB system other than the one it is connected to. This interface uses standard VT-100 emulation software on a PC to provision, control and monitor the 360-80 ICB.

1.3 Features

- Provision all the cards in the local ICB through on-screen menus
- Performance monitoring data and testing capabilities

1.4 Reference Documents

- Network Management System And ICB Management System Software User's Guide (LT360-381-S02)
- 360−80 SNMP Network Node Manager (NNM) Setup Guide (LT360-381-N02)
- 3603−81 T1 Controller with SNMP (LT360-381-202)
- 3608−80 Secondary T1 Unit (LT360-880-202)

2. GETTING STARTED

2.1 Requirements

- VT100 terminal or personal computer running communications software
- 9600 baud rate
- 8-bit, no parity, 1 stop bit
- RJ11 adaptor to PC terminal

2.2 Connecting to the ICB

Using a 9-pin to RJ11 adaptor (PN 03-200542-0), connect the ASCII terminal or PC serial port (COM1 or COM2) to the jack labeled **MGMT** on the front of the T1 controller. See the documentation for the T1-S card for instructions.

2.3 Terminal Emulation Communication Software

When using terminal emulation communication software, such as Hyperterminal, the following settings should be established from the pull-down menu:

- File ▶ Properties ▶ Settings ▶ Terminal Keys
- File ▶ Properties ▶ Settings ▶ Emulation ▶ ANSI

2.4 Starting the Craft Terminal Interface

Use the following steps to start the software and log in to the system:

Step	Action	System Response
1.	If using a PC, open your terminal emulator software. If using an ASCII terminal, press <Enter>	Opens the startup window (see Figure 1).
2.	Press <Enter>	Opens the login window (see Figure 2).
3.	Type the default user name, `piad` and press <Enter>	Password prompt is displayed.
4.	Type the default password, `1234` and press <Enter>	Opens the main menu (see Figure 3).

Note: The user name and password should be changed from the default as soon as possible. See the User Administration section, in this document, for instructions.

2.5 Navigating Through the Menus

To select a menu item, use the navigation keys (arrow up/down) to highlight the menu item you want; then press <Enter> to open the menu for that item.

Key	Use to...
Arrow up ↑	Move the highlight bar up
Arrow down ↓	Move the highlight bar down
Arrow right →	Move the highlight bar to the right
Arrow left ←	Move the highlight bar to the left
<Enter>	Select the currently-highlighted menu item
<r>	Reload the screen. This usually clears any currently-selected parameters
<q>	Quit out of the current screen without saving

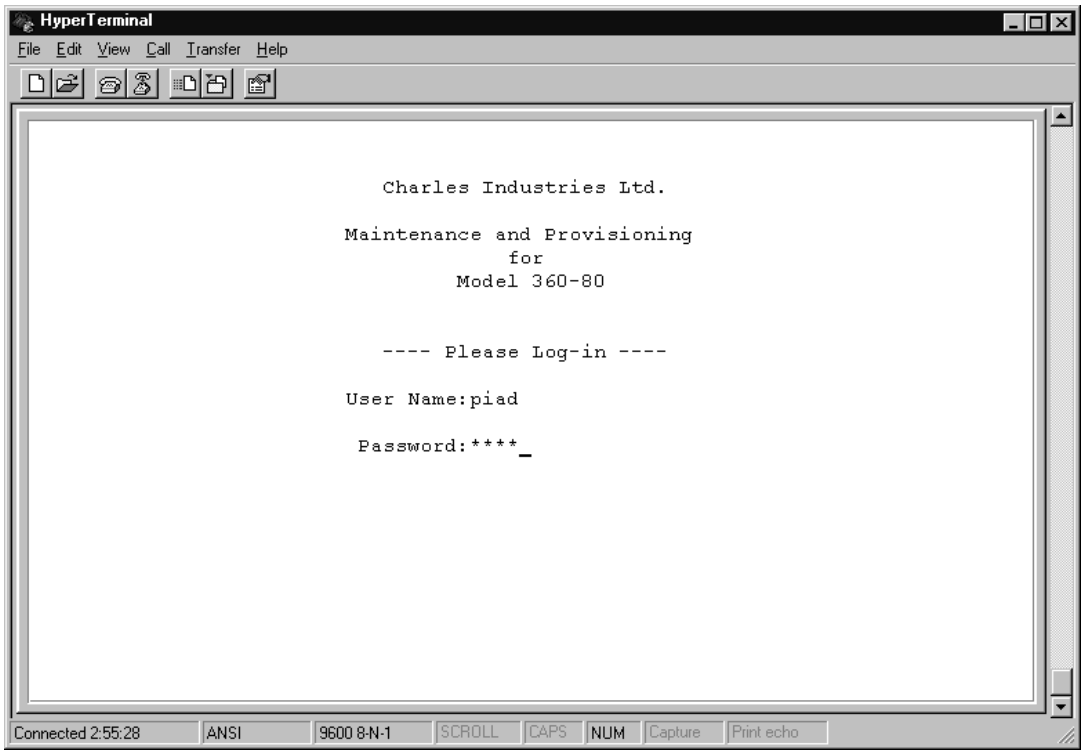


Figure 2. Login Screen

3. MAIN MENU

3.1 Equipment Status

Once logged-in to the craft interface, communication is established with the T1-S allowing the status of the cards in the shelf to be displayed. The status information is displayed on the Main Menu screen as shown in Figure 3. if the user name used is defined as a “super user”, the system can be managed and the ICB card parameters modified from this screen.

Figure 3. Main Screen

Menu Selection	Use to...
Primary T1 Module	Set parameters for the primary T1 module
Half-size Module	Set parameters for the half-size module (channels 25−30)
Channel Card 1	Set parameters for channel card 1 (channels 1−12)
Channel Card 2	Set parameters for channel card 2 (channels 13−24)
User Administration	Add, delete, and list users
Card Inventory Data	Obtain general information about any of the cards in the system
SNMP Community Table	Set parameter for SNMP Management
Trap IP Table	Set parameters for SNMP traps

Menu Selection	Use to...
IP Address/Subnet Mask/MAC Gateway Address Message	Set IP address, subnet mask and gateway address
Logout	Log out of the system.

4. T1 MODULES

4.1 Primary T1 Modules

Most settings can be found under the *Primary T1 Module* heading.

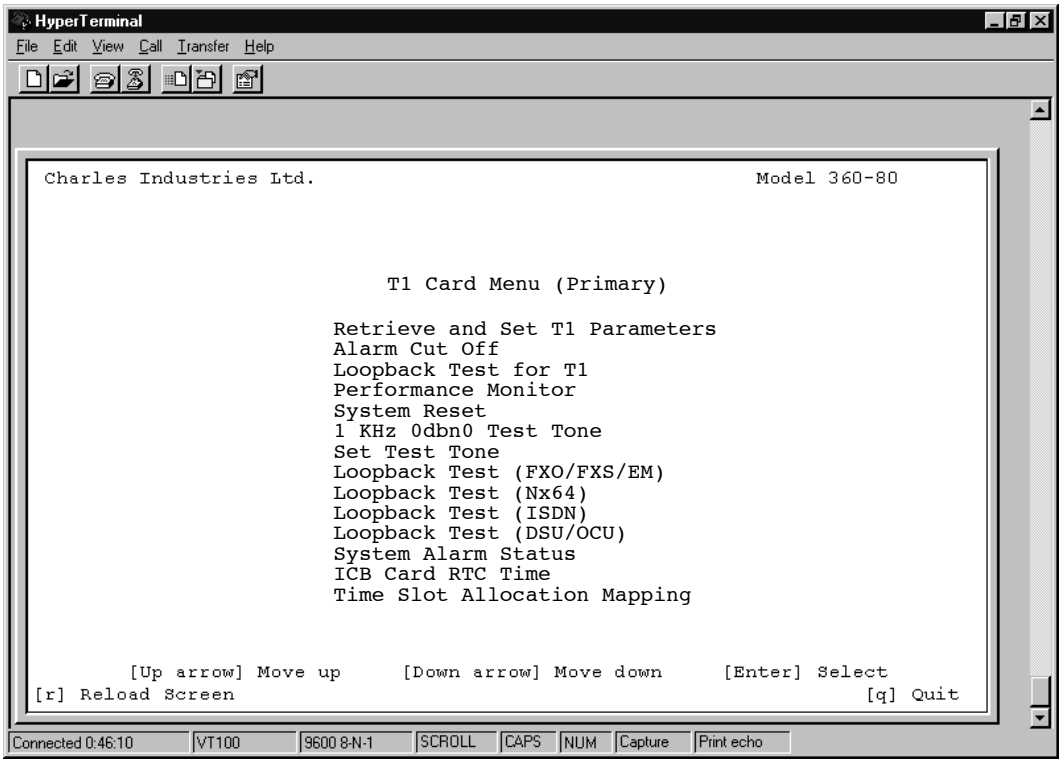


Figure 4. Primary T1 Menu

Menu Selection	Use To...
Retrieve & Set T1 Parameters	Retrieve and set the T1 parameters
Alarm Cut Off	Turn off current audible alarm
Loopback Test for T1	Run a T1 loopback test
Performance Monitor	Retrieve performance information
System Reset	Reset the system parameters either to default or to a previous setting
1 KHz 0dbm0 Test Tone	Apply an internally-generated test tone to 1 or more channels (FXO/FXS/EM)
Set Test Tone	Apply an internally-generated momentary DTMF tone to a channel
Loopback Test (FXO/FXS/EM)	Loopback test menu for voice cards
Loopback Test (Nx64)	Loopback test menu for Nx64 data cards
Loopback Test (ISDN)	Loopback test menu for ISDN data cards
Loopback Test (DSU/OCU)	Loopback test menu for DSU/OCU data cards

Menu Selection	Use To...
System Alarm Status	Retrieve system alarms (display only)
ICB Card RTC Time	Set the system real-time clock
Time Slot Allocation Mapping	Allocate an available circuit to the T1 time slot

4.1.1. Retrieve and Set T1 Parameters

Use this menu item to display the current parameters and/or change the parameters of the primary T1 card.

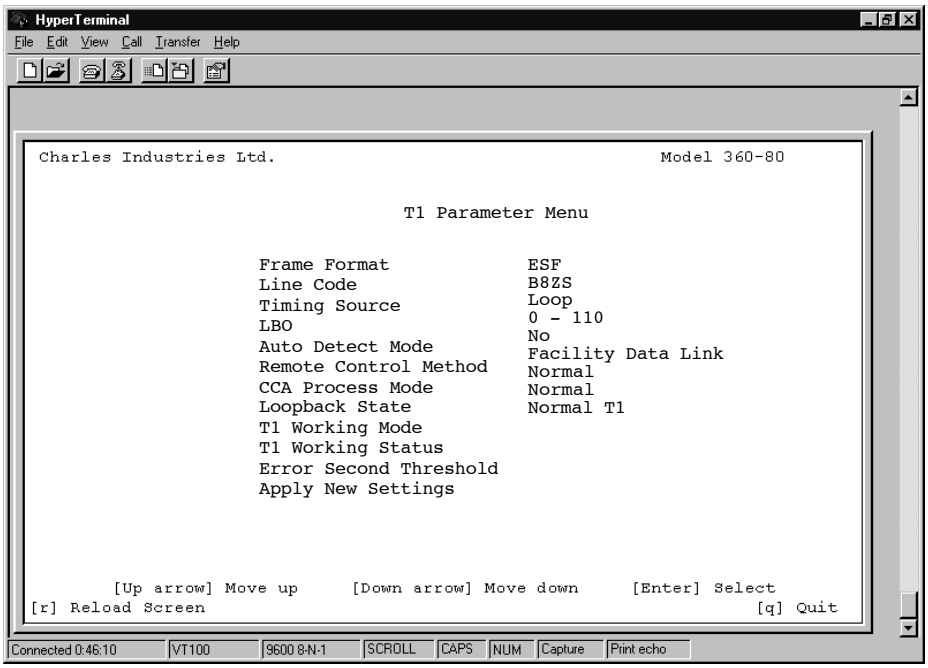


Figure 5. T1 Parameter Options

Parameter	Option	Description
Frame Format	SF	Superframe format
	ESF	Extended Superframe format
Line Code	AMI	Alternate mark inversion
	B8ZS	Bipolar 8 zero suppression
Timing Source	Loop Timing	Internal clock synchronized to incoming T1 signal
	External Timing	Internal clock synchronized to external clock terminals on rear panel
	Internal Timing	Internal clock selected as master clock
LBO (Line Build-Out)	Short Haul: 0−660 ft.	Pre-equalization of signal for line conditions
	Long Haul: 0 to 22.5 dB	Receive gain control for line attenuation
Automatic Detect Mode	No	SF/ESF must be manually selected
	Yes	Auto detection of SF/ESF mode, requires loop timing
Remote Control Method (to remote ICB)	None	No communication to remote unit (non-Charles Industries unit)
	Occupy One Channel	One channel is used for communication
	Facility Data Links	Communication is over FDL (ESF mode only)

Parameter	Option	Description
CGA Process Mode	Normal	Carrier group alarm response characteristics per 43801
	CM2	Carrier group alarm mode 2 (see T1 controller documentation)
	CM3	Carrier group alarm mode 3 (see T1 controller documentation)
Loopback State	Display only. If the unit is in loopback, shows LPBK. Otherwise, shows NORMAL	
T1 Working Mode	Normal T1	Normal T1 or Drop and Reinsert (if secondary T1 is installed)
	Dual T1	Independent primary and secondary T1s (requires secondary T1)
	Protection T1	Secondary T1 acts as protection T1 (requires secondary T1)
T1 Working Status	Display only	Indicates active T1 (available in protection T1 mode only)
Error Second Threshold	1-900	Threshold for switching to protection T1 (available in protection T1 mode only)
Apply New Settings	Select to apply changes made in this menu.	

4.2 Secondary T1 Module

The menu shown in Figure 6 is used to establish the options to use the secondary T1 module.

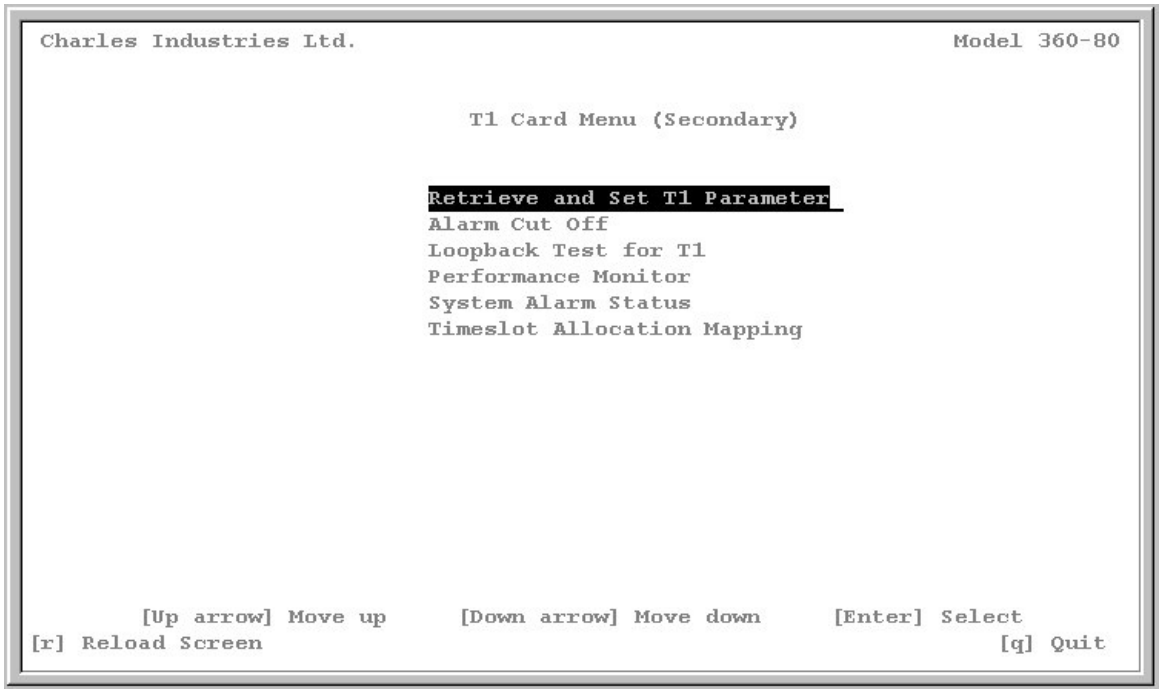


Figure 6. Secondary T1 Menu

Menu Selection	Use To...
Retrieve & Set T1 Parameters	Retrieve and set the T1 parameters
Alarm Cut Off	Turn off current audible alarm
Loopback Test for T1	Run a T1 loopback test
Performance Monitor	Retrieve secondary T1 performance information
System Alarm Status	Retrieve secondary T1 alarm status (display only)
Time slot Allocation Mapping	Allocate available circuits to primary and secondary T1 time slots.

4.2.1. Retrieve and Set Secondary T1 Parameters

The Secondary T1 Parameter Menu, as shown in Figure 7, allows you to specify each option.

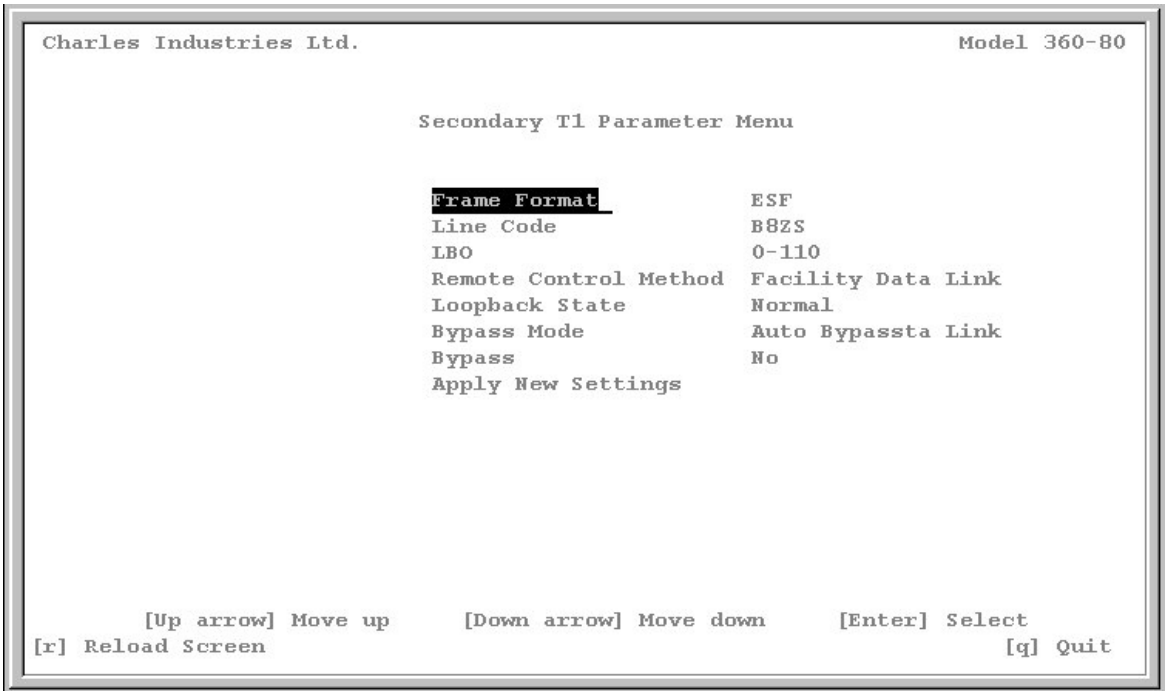


Figure 7. Secondary T1 Parameter Menu

Parameter	Option	Description
Frame Format	SF	Superframe format
	ESF	Extended Superframe format
Line Code	AMI	Alternate mark inversion
	B8ZS	Bipolar 8 zero suppression
LBO (Line Build-Out)	Short Haul: 0−660 ft.	Pre-equalization of signal for line length
	Long Haul: 0 to 22.5 dB	Receive gain control for line attenuation
Remote Control Method (to remote ICB)	None	No communication to remote unit
	Occupy One Channel	One channel is used for remote communication
	Facility Data Links	Communication is over FDL (ESF mode only)
Loopback State	Display only. If the unit is in loopback, shows LPBK. Otherwise, shows NORMAL	
Bypass Mode	Auto Bypass	T1 bypass on alarm or loss of ICB power
	Forced No Bypass	No T1 bypass
Bypass	No	Force no T1 bypass
	Yes	Force T1 bypass
Apply New Settings	Select to apply changes made in this menu.	

4.3 Audible Alarm Cut-Off

This cancels any current audible alarm. Use the arrow keys to move the cursor to this menu item and press <Enter> to stop the alarm.

4.4 Loopback Test for T1

Use the Loopback test to troubleshoot T1 line problems. Be aware that service will be affected by these tests.

Step	Action
1.	Select the loopback state, location and type
2.	To run the loopback, select **Apply New Settings**.

Note: T1 loopbacks will not function if the ICB is in alarm.

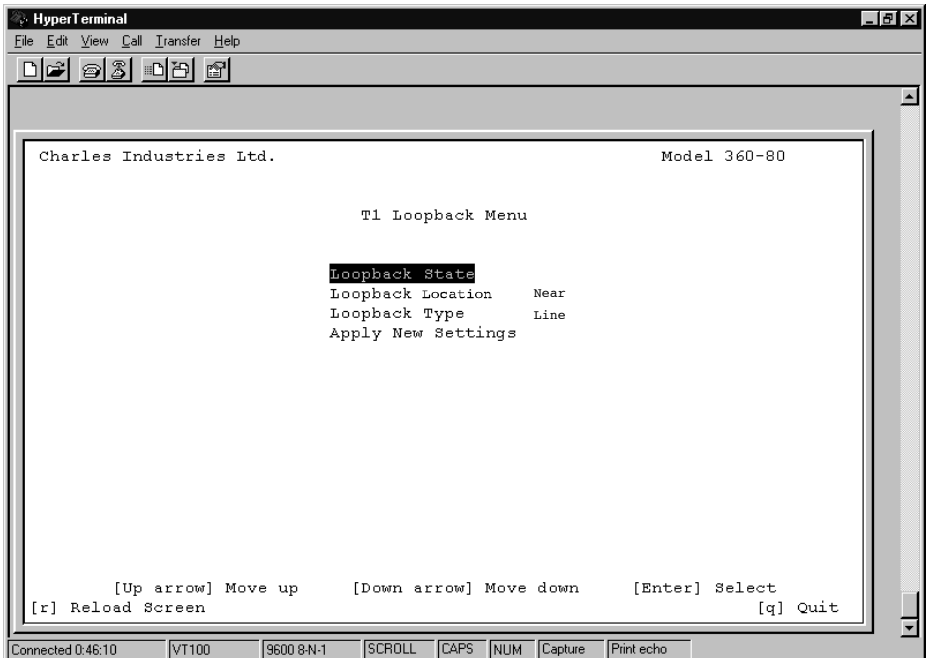


Figure 8. T1 Loopback Test menu

Menu Item	Option	Use to...
Loopback State	Test Loopback	Start loopback
	Release Loopback	Stop loopback
Loopback Location	Near	Loop local channels and send AIS to remote ICB
	Far	Loop T1 at remote ICB toward near ICB
Loopback Type	Line	Loop T1 (24 channels and overhead) (available in ESF mode only)
	Payload (not available for Near)	Loop T1 (24 DS0 only)
Apply New Settings	Save the new parameter settings	
Quit	Quit without saving	

Note: Far line loopbacks will block far end ICB remote management.

4.5 Performance Monitor

The performance monitor displays a history of the line performance. Historical data is available by quarters (15-minute intervals, up to 96 quarters or 24 hours) and days (up to 30 days).

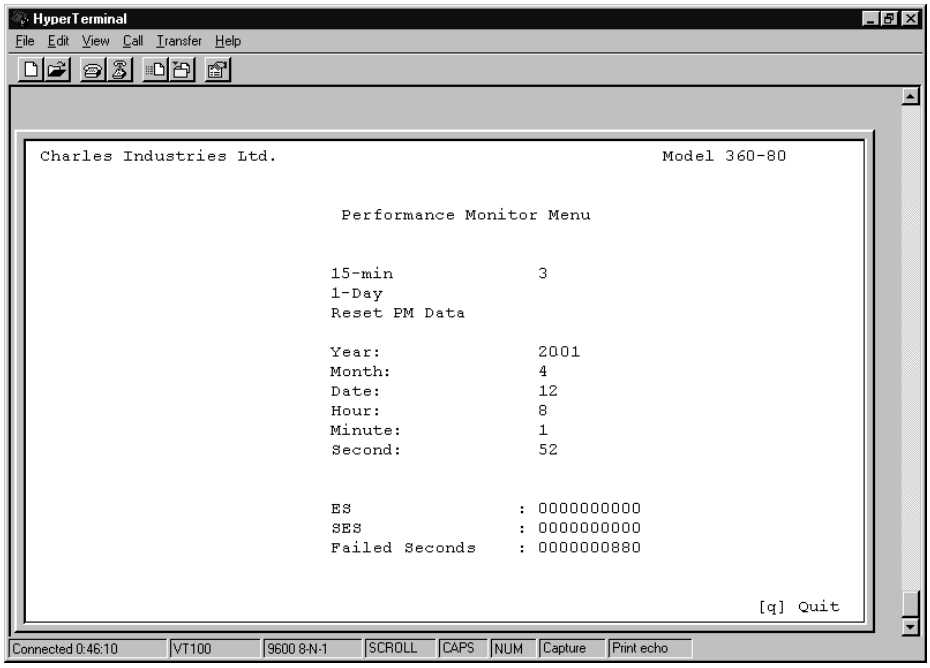


Figure 9. Performance Monitor screen with 15-Minute Performance Data

4.5.1. 15-Minute PM Data

Use the following steps to look at 15 minutes of PM data:

Step	Action	System Response
1.	Select 15-min. and press <Enter>. (Figure 9 shows the third 15-minute segment)	Asks you what 15 minute period you want to look at. Choices are 0 to 96, with 0 specifying the current 15 minutes, and 96 specifying 96 quarters (24 hours) prior. The actual date on which the data was gathered is also displayed
2.	Select a 15-minute interval and press <Enter>	Retrieved data (errored seconds, severe errored seconds and unavailable second count) is displayed at the bottom of the screen
3.	Press <Enter> to look at more data (another 15-minute period or update current status), or <q> to quit.	

4.5.2. One Day PM Data

Use the following steps to look at one day of PM data:

Step	Action	System Response
1.	Select 1-day and press <Enter>	Asks you what day you want to look at. Choices are 0 to 30, with 0 specifying the current day, and 30 specifying 30 days prior
2.	Select a day interval and press <Enter>	Retrieved data (errored seconds, severe errored seconds and unavailable second count) is displayed at the bottom of the screen. The actual date on which the data was gathered is also displayed.
3.	Press <Enter> to look at more data (review current or previous day), or <q> to quit.	

4.5.3. Reset PM Data

Use to clear stored data. Select **Now** to reset data at the current time, or select **Today** to reset data from the start of the current day.

4.6 System Reset (Primary T1 Only)

4.6.1. Reset to Stored Values

Performs a system reset using the T1 and card configuration at the time of the reset.

4.6.2. Reset to Factory Default Values

Perform a system reset using the factory default T1 and card parameters. A system reset will clear all configuration information from the Community table and the Trap IP table. Refer to the documentation for each individual unit for default values.

4.7 1 KHz 0dbm0 Test Tone (Primary T1 Only)

Applies a 1 KHz 0dbm0 test tone for channel setup procedures.

Note: This test is valid for voice cards only.

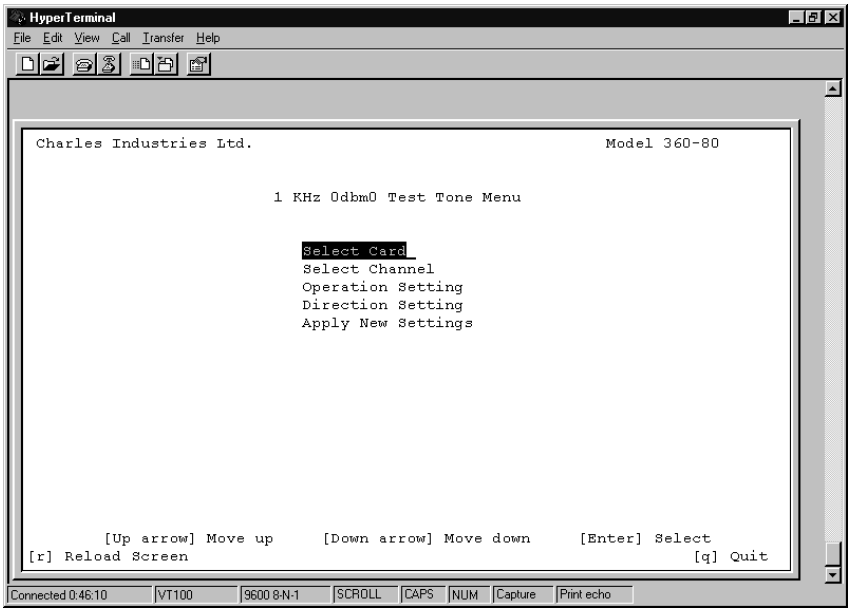


Figure 10. 1 KHz 0db Test Tone Menu

Use the following steps to enable/disable the tone test.

Step	Action	System Response
1.	Select which card you want to test (Card 1, Card 2 or half-size module)	Displays your choice
2.	Select the channel number you want to test. Use the <Tab> key to highlight the channel number and <Enter> to select the channel	Flags the channel
3.	Select the operation setting. Enable starts the test, and Disable stops it *Note: Disable will stop any enabled test tones on the selected channel.*	Displays your choice
4.	Select the direction of the test (XMT or RCV) *Note: XMT is toward the T1.*	Displays your choice
5.	Select **Apply New Settings** to save your choices and enable/disable the test tone Press <q> to exit the menu without saving your changes	If you have chosen to enable the tone test, this will start the test. You will have to go back into this menu and select Disable to end the test.

4.8 Set Test Tone (Primary T1 Only)

Use this screen to select a channel to be tested with a momentary tone.

Note: This test is valid for voice cards only.

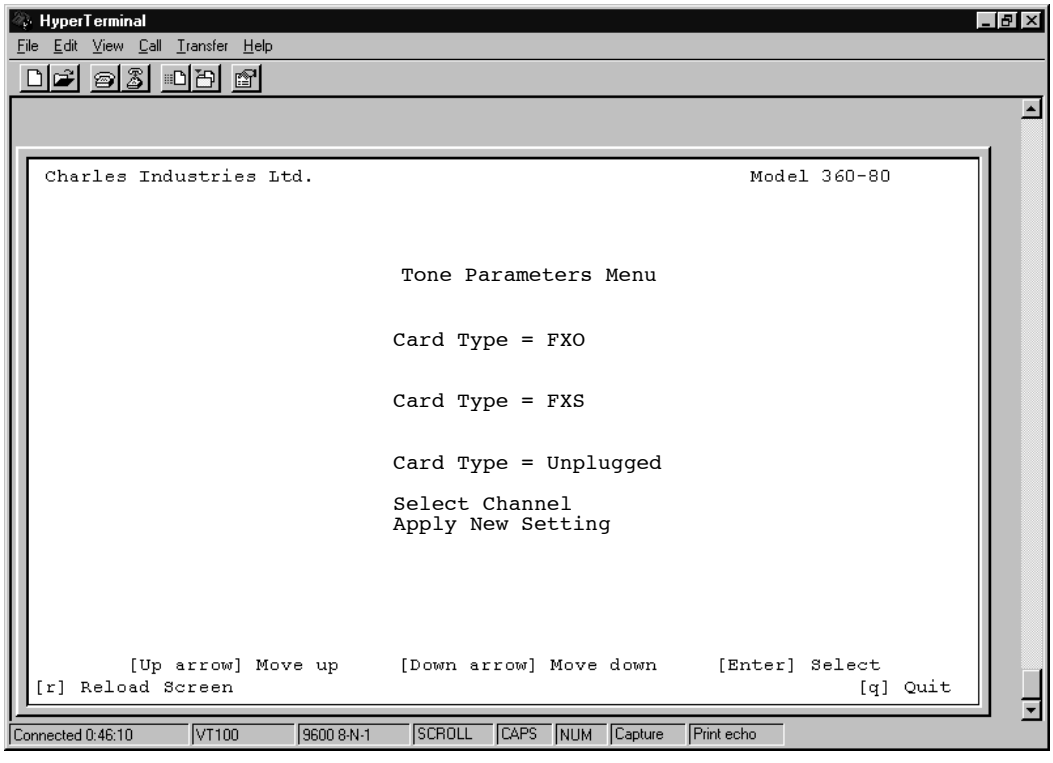


Figure 11. Tone Parameters Menu

Use the following steps to enable/disable the test.

Step	Action	System Response
1.	Select the channel number(s) on any card you want to test. Use the <Tab> key to highlight the channel and <Enter> to select the channel	Flags the channel you have selected. Only channels capable of using this test will be shown
2.	Select **Apply New Settings** to enable the test. Press <q> to exit the menu without saving your changes	The test tone is applied momentarily to the selected channel to validate the channel operation.

4.9 Loopback Test (FXO/FXS/EM – Primary T1 Only)

Use the Loopback tests to check where on the line problems are occurring when an alarm is reported on the card. This test loops the drop input back toward the network (network loopback), for FXS and FXO cards. E&M card loopbacks are bidirectional (both local and network loopbacks).

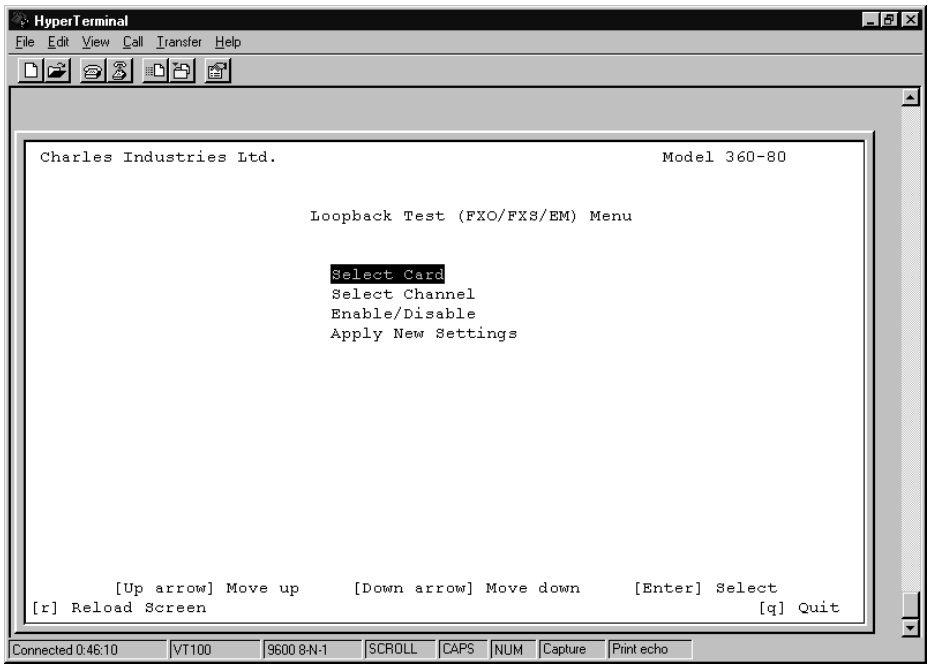


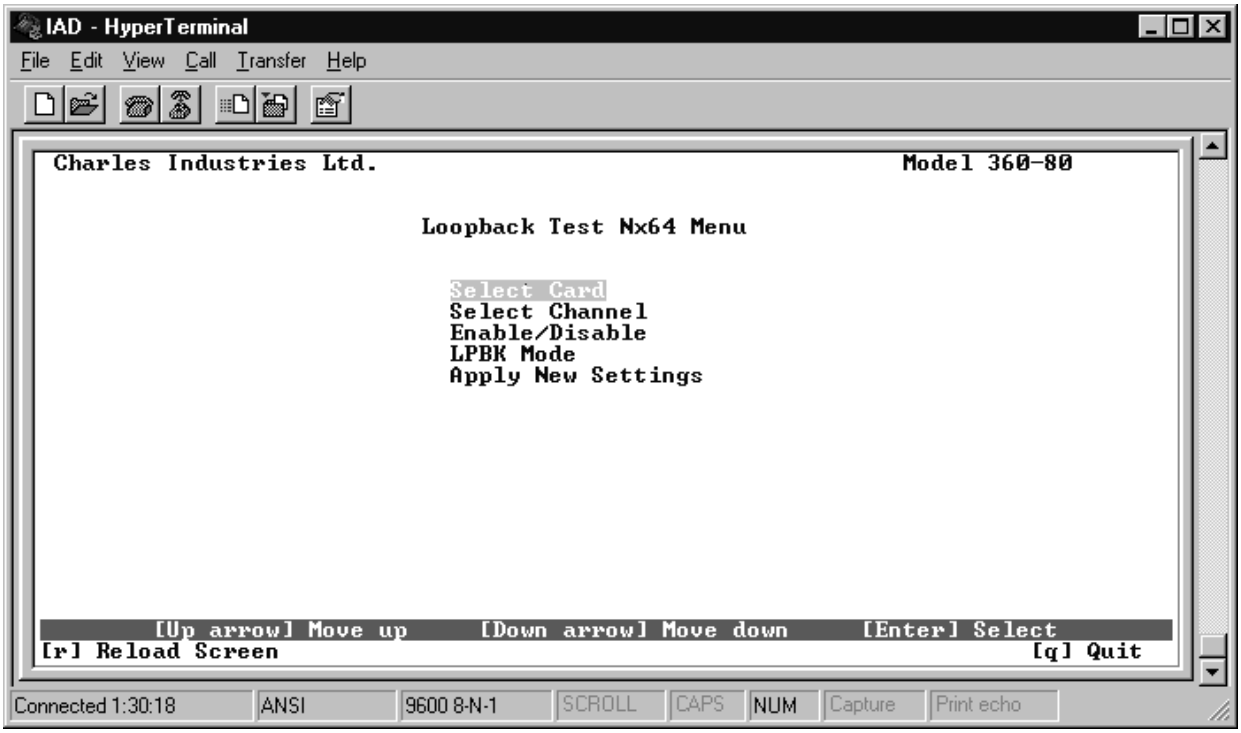
Figure 12. Loopback Test menu

Use the following steps to enable/disable the card loopback.

Step	Action	System Response
1.	Select which card you want to test (Card 1, Card 2 or half size module)	Displays your choice
2.	Select the channel number you want to test. Use the <Tab> key to highlight the channel number and <Enter> to select the channel	Flags the channel
3.	Select to enable or disable the test. Enable starts the test, and Disable stops it	Displays your choice
4.	Select **Apply New Settings** to save your choices. and enable/disable the loopback	If you have chosen to enable the loopback, this will start the test. You will have to go back into this menu and select Disable to end the test.

4.10 Loopback Test (Nx64 – Primary T1 Only)

Use the Loopback test to check where on the line problems are occurring when an alarm is reported on the card. See the Nx64 documentation for additional loopback information.

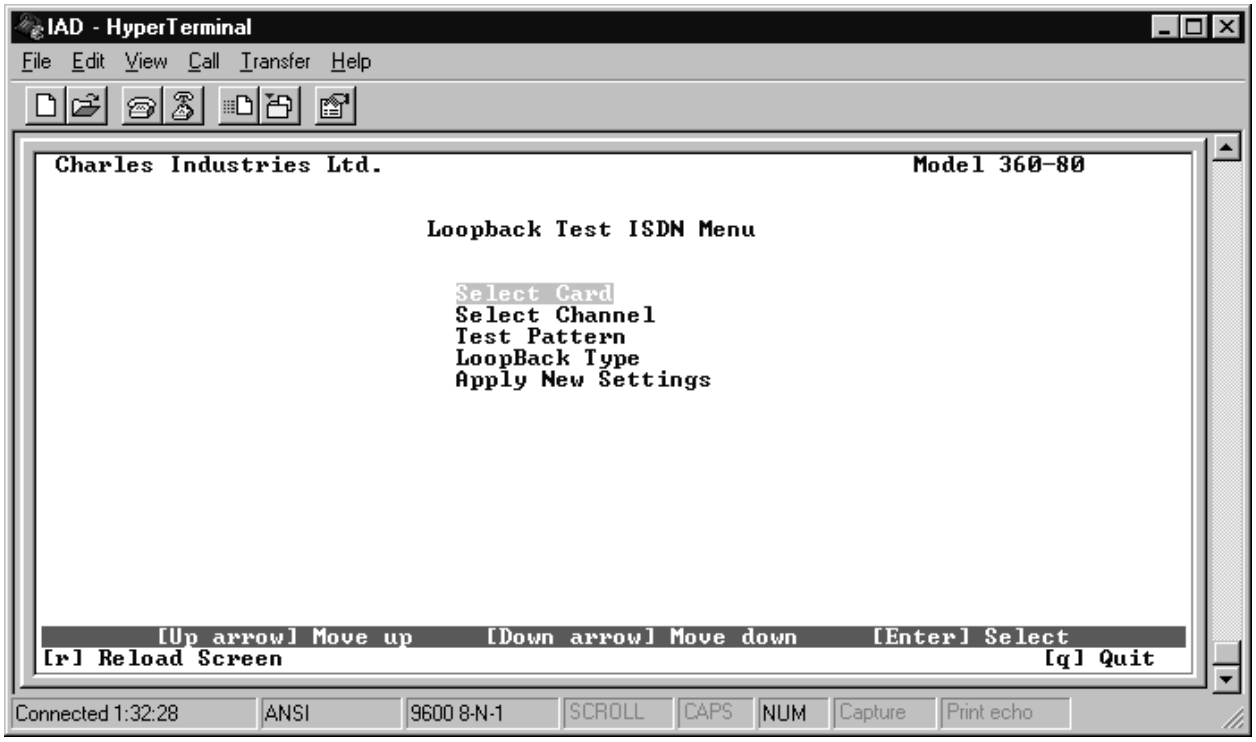


Use the following steps to enable/disable the card loopback.

Step	Action	System Response
1.	Select which card you want to test (Card 1, Card 2 or half size)	Displays your choice
2.	Select the channel number you want to test. Use the <Tab> key to highlight the channel number and <Enter> to select the channel	Flags the channel
3.	Select to enable or disable the test. Enable starts the test, and Disable stops it	Displays your choice
4.	Select the loopback mode (local, network or remote)	Displays your choice. V.54 must be enabled on 64xN settings to use remote loopback
5.	Select **Apply New Settings** to save your choices. and enable/disable the loopback	If you have chosen to enable the loopback, this will start the test. You will have to go back into this menu and select Disable to end the test.

4.11 Loopback Test (ISDN – Primary T1 Only)

Use the Loopback test to check where on the line problems are occurring when an alarm is reported on the card. This test applies only when the channel mode is set to LUNT. See the ISDN documentation for additional loopback information.

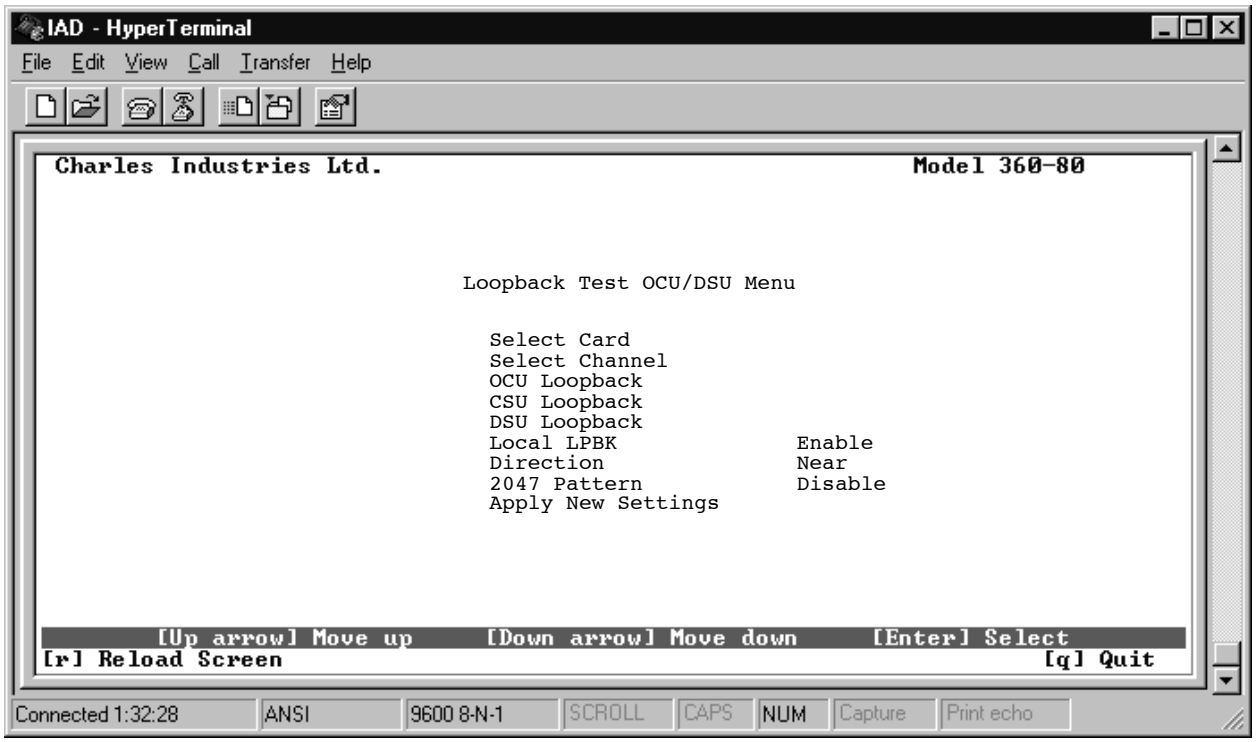


Use the following steps to enable/disable the card loopback.

Step	Action	System Response
1.	Select which card you want to test (Card 1, Card 2 or half size)	Displays your choice
2.	Select the channel number you want to test. Use the <Tab> key to highlight the channel number and <Enter> to select the channel	Flags the channel
3.	Select the test pattern (NO or YES)	Displays your choice (*for future use*)
4.	Select the loopback type (local, LULT or NT1) or select to release loopback	Displays your choice
5.	Select **Apply New Settings** to enable/disable the loopback	If you have chosen to enable the loopback, this will start the test. You will have to go back into this menu and select Disable to end the test. Verify that loopback is enabled by looking at the front panel of the card you are testing. The LB LED should be ON.

4.12 Loopback Test (DSU/OCU − Primary T1 Only)

Use the Loopback test to check where on the line problems are occurring when an alarm is reported on the card. See the DSU documentation and the OCU documentation for additional information on loopbacks.



Use the following steps to enable/disable the card loopback.

Step	Action	System Response
1.	Select which card you want to test (Card 1, Card 2 or half size)	Displays your choice
2.	Select the channel number to test. Use the <Tab> key to highlight the channel number and <Enter> to select the channel	Flags the channel
3.	OCU Loopback. Select latching or unlatching (unlatching is not available at the 64K rate)	Displays selection
4.	CSU Loopback. Select latching or unlatching (unlatching is not available at the 64K rate)	Displays selection
5.	DSU Loopback. Select latching or unlatching (unlatching is not available at the 64K rate)	Displays selection
6.	Local LPBK. Select enable or disable	Displays selection
7.	Direction. Select near or far	Displays selection
8.	2047 Pattern. Select enable or disable	Displays selection
9.	Select **Apply New Settings** to save your choices and enable/disable the loopback	If you have chosen to enable the loopback, this will start the test. You will have to go back into this menu and select Disable to end the test.

Note: DSU/OCU, near and far end loopback generators, do not function when the ICB is equipped with a secondary T1 card operating in the T1 protect mode.

4.13 System Alarm Status

Use this selection to retrieve current alarms in the system. Highlight System Alarm Status and press <Enter> to retrieve the alarms. To update the status, press “r” to reload the screen.

4.14 ICB Card RTC Time (Primary T1 Only)

Use this selection to set the real-time clock on the ICB.

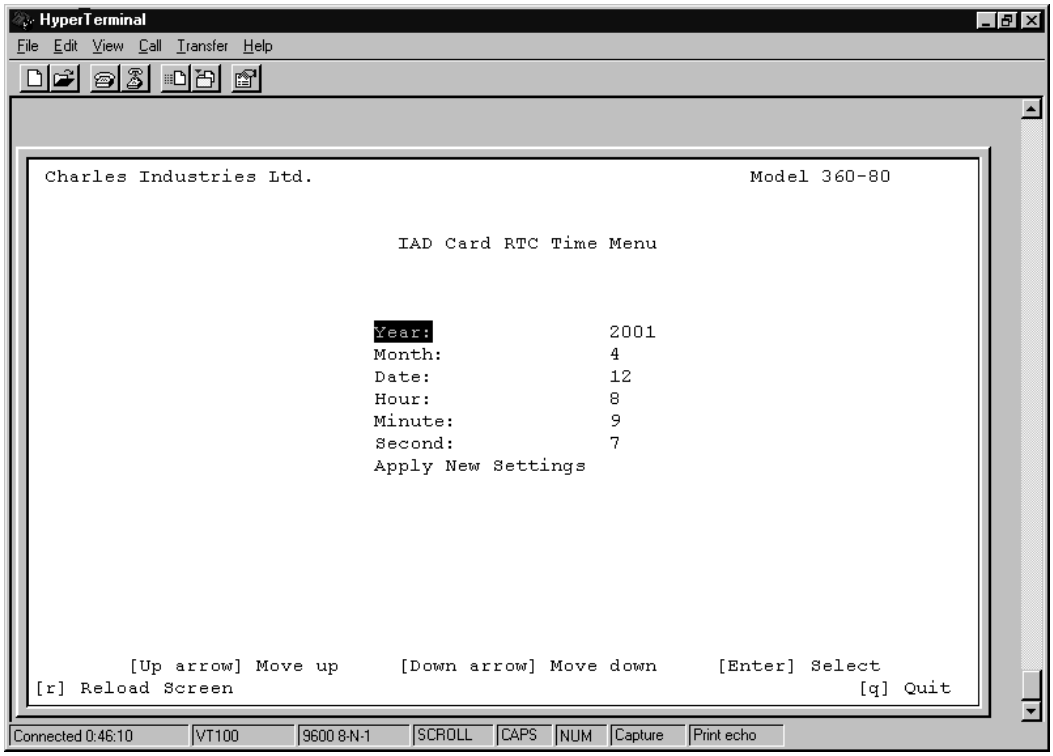


Figure 13. Real-Time Clock menu

To set the real-time clock, use the up/down arrows to move between the selections and press <Enter> to make changes. When you are done, select **Apply New Settings** and press <Enter> to save your changes. Press <q> to quit without saving.

4.15 Time Slot Allocation

Use the time slot allocation menu to change the time slot location of a channel within the primary or secondary T1 signal time slots. This menu is also used for drop and reinsert applications.

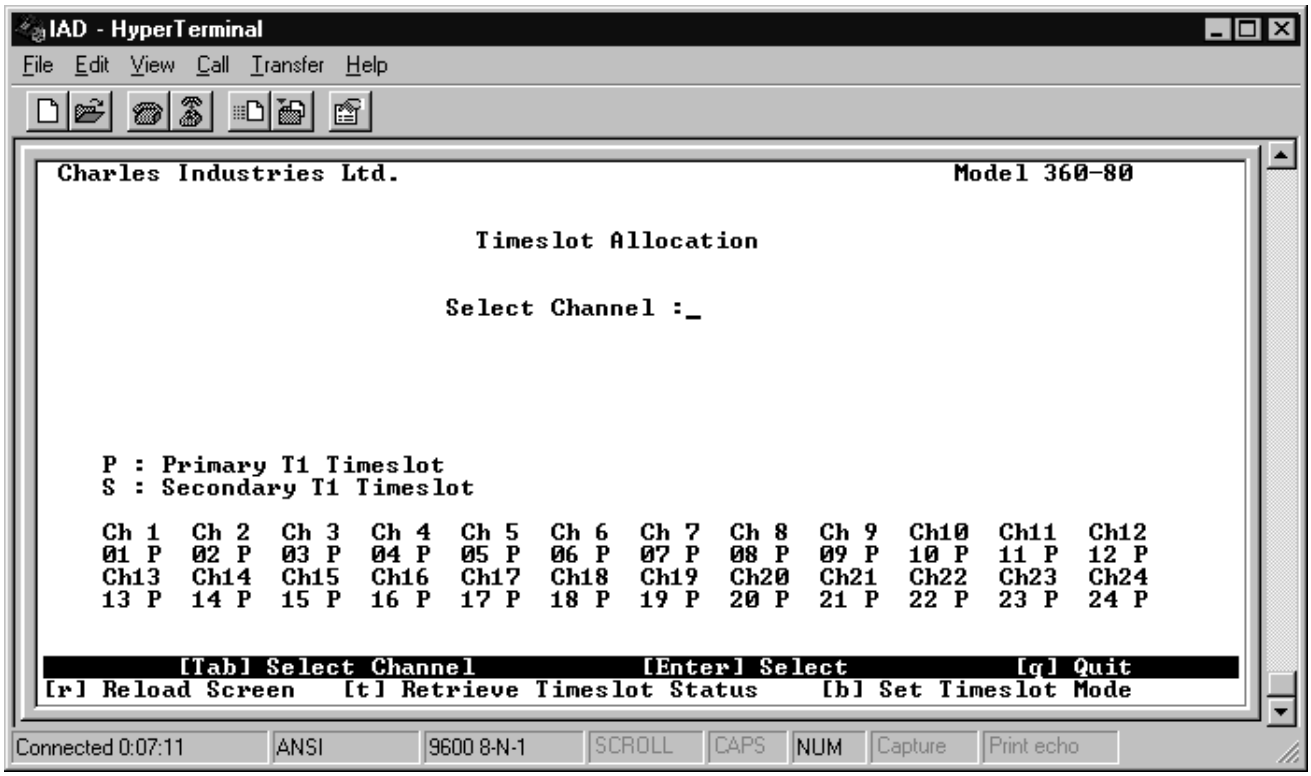


Figure 14. Setting the Time Slot Allocation

4.15.1. Time Slot Mapping

Use the following steps to change the time slot mapping. Steps 1 through 3 unallocate channels from time slots. Steps 4 through 7 allocate channels to time slots. Time slots/channels must be unallocated before they can be allocated.

Step	Action	System Response
1.	Display the channel to edit by pressing the <tab> key	Channel is displayed.
2.	Press <Enter>	Channel is selected.
3.	When asked, “Clear time slot?” Use the arrow keys to select yes, and then press <Enter> to un-allocate the channel from its allocated time slot.	Channel is unallocated.
4.	Repeat steps 1 and 2 for all channels to be unallocated	
5.	Press <tab> to highlight an unallocated channel and then press <Enter>	Prompted to map the selected channel to a prima-ry or secondary (if the equipment exists) T1 time slot.
6.	Select primary or secondary and then press <Enter>	Map direction is selected.
7.	Press <tab> to select the time slot to map to the selected channel and then press <Enter>	The time slot is allocated appropriately for the card type and card provisioning.
8.	Press <t> to select the retrieve time slot status screen	This screen displays a green square under all time slots that have been allocated to a channel.

Step	Action	System Response
9.	Repeat steps 4 and 5 to map any other channels that are not allocated	Channels are mapped.
10.	Press <b> to enter the time slot mode menu. This selection is only available if the secondary T1 card is installed.	

Note: Retrieve Time Slot Status is only visible if the property emulation mode is set to ANSI. This status indicates the time slots that have been allocated.

4.15.2. Time Slot Allocation Mode (Only with a Secondary T1 Unit Installed)

Use this menu to choose whether unallocated slots on either T1 unit will be sent broadcast data or idle code. Selecting **Idle** fills the slot with idle code; **Broadcast** fills the slot with the data sent by the other T1.

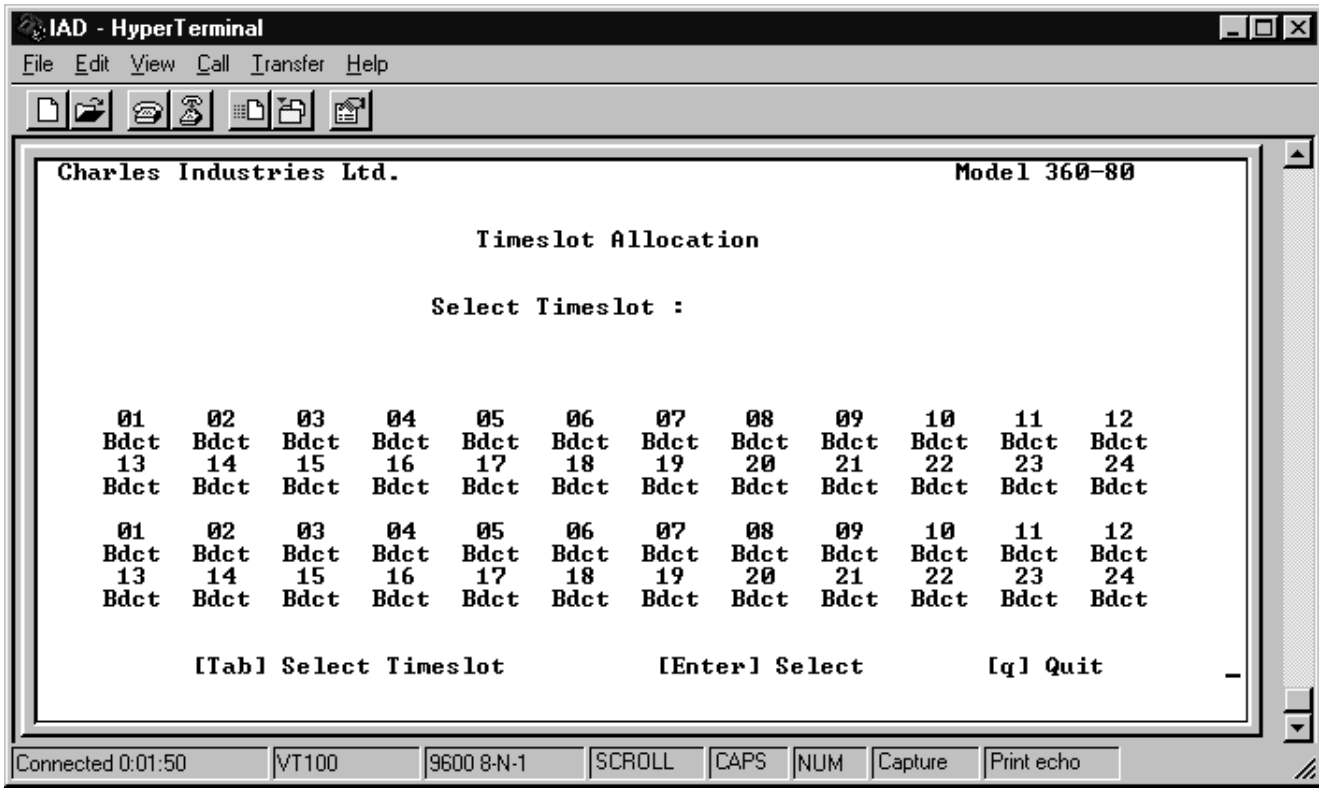


Figure 15. Setting the Time Slot Mode

Note: This menu is only available if a secondary T1 unit is in the normal (Drop/Reinsert) mode. Slots that are not dropped must be set to broadcast on both the primary and secondary T1s to pass data from one T1 to the other T1. Changing the time slot provisioning does not affect the operation of the ICB if the mode is not set to normal.

Use the following steps to change the time slot mode:

Step	Action	System Response
1.	Select Time Slot Mode and press <Enter>	Refreshes the screen to show the time slot modes
2.	Press <tab> to display the time slot you want to edit	Displays the time slot.
3.	Press <Enter> to select the time slot	Asks you the direction you want to modify.

4.	Use the arrow keys to highlight the desired direction and press <Enter>	Asks you which mode you want to set—Bdct=broadcast or Idle=idle
5.	Use the arrow keys to highlight the desired mode and press <Enter>	Applies the mode to the selected time slot.

5. CHANNEL CARDS 1 & 2 AND HALF SIZE MODULE

Parameters available on these dialog boxes will depend upon what cards you are using in the Card 1, Card 2 and half size slots.

Note: For complete descriptions of the card parameters, refer to the documentation for the individual cards you are using.

5.1 FXO Parameters (for 3658-80 12 Channel FXO/DPT Unit)

Use this screen to retrieve and/or change the parameters of the FXO/DPT unit.

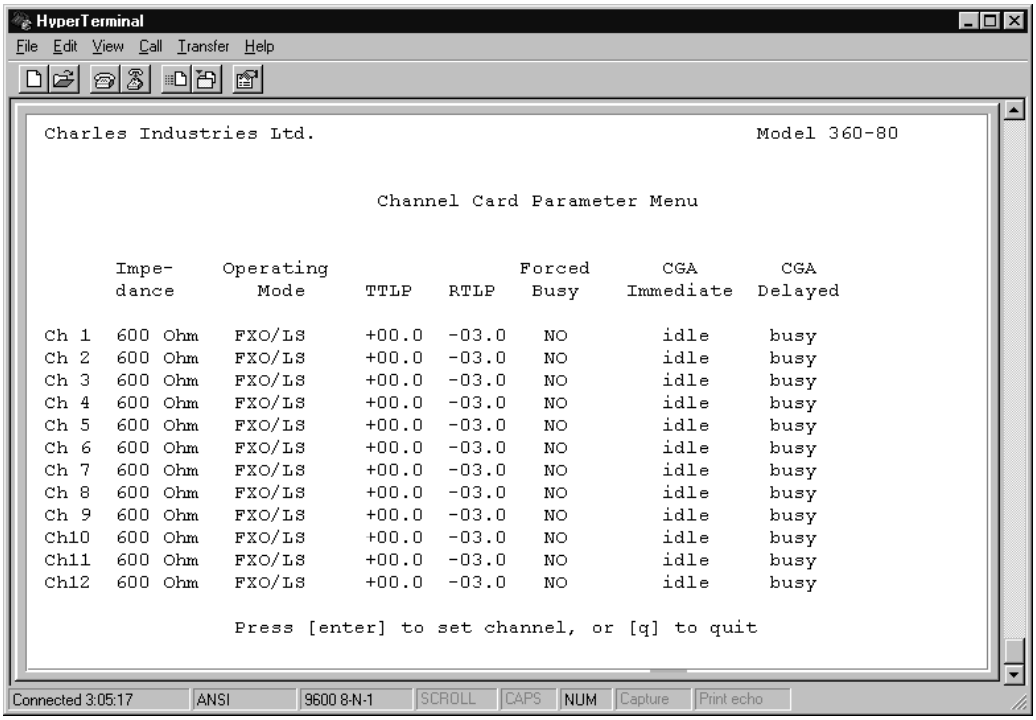


Figure 16. FXO Parameter Settings

Parameter	Option	Description
Channel Selection	1−12 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13−24 (if in Card 2 slot)	
	25−30 (if in half size slot)	
Channel Impedance	600 ohms	Loop matching impedance
	900 ohms	
Operating Mode	FXO/GS	FXO—ground start
	FXO/LS	FXO—loop start
	DPT/NORMAL	DPT—Normal
	DPT/WINK	DPT—Automatic wink

Parameter	Option	Description
TTLP Level (dBm)	–10.0 to +6.0 dBm	Transmit TLP level
RTLP Level (dBm)	–10.0 to +6.0 dBm	Receive TLP level
Forced Busy	YES or NO	Select YES to force busy
CGA Immediate	Idle or Busy	CGA—immediate conditioning
CGA Delayed	Idle or Busy	CGA—conditioning after alarm delay

5.2 FXS Parameters (for 3657-80 12 Channel FXS/DPO Unit)

Use this screen to retrieve and/or change the parameters of the FXS/DPO unit.

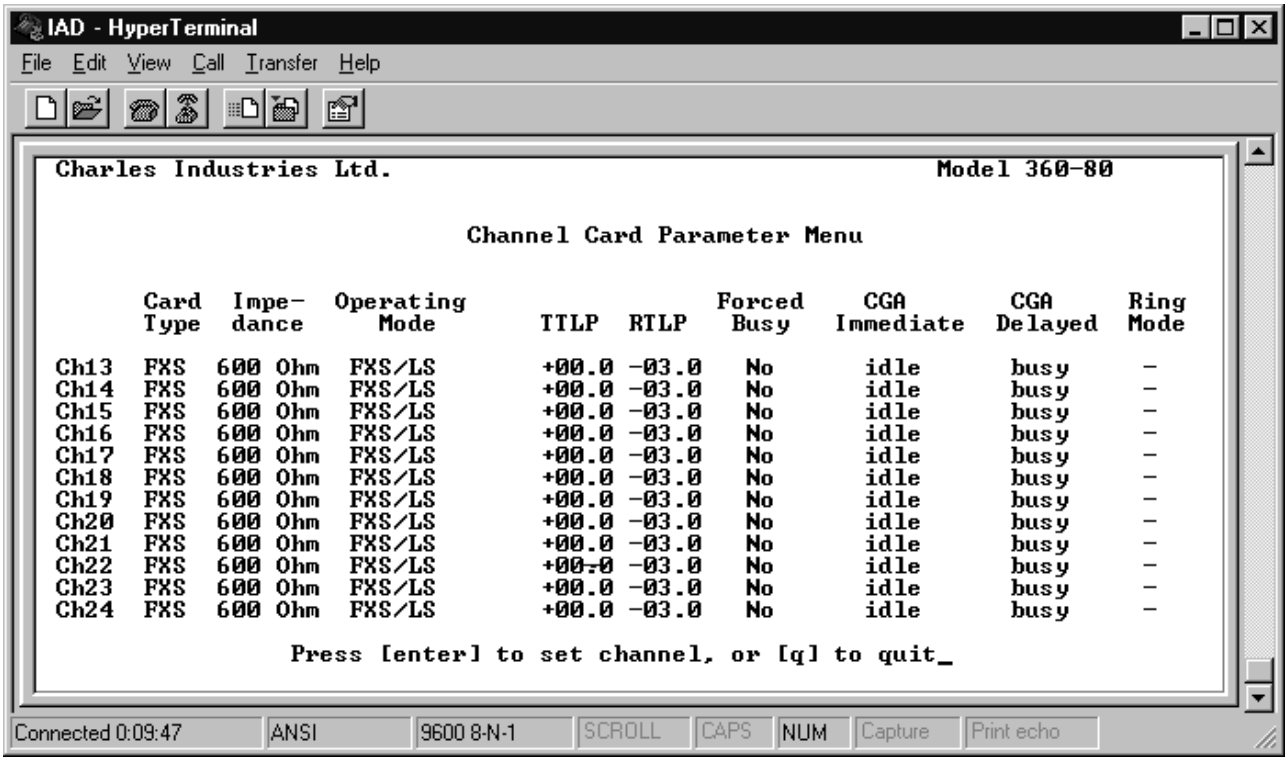


Figure 17. FXS Parameter Settings

Parameter	Option	Description
Channel Selection	1–12 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13–24 (if in Card 2 slot)	
	25–30 (if in half size slot)	
Channel Impedance	600 ohms	Loop matching impedance
	900 ohms	

Parameter	Option	Description
Operating Mode	FXS/GS	Ground start
	FXS/LS	Loop start
	PLARD/D3	Private line automatic ringdown
	PLARD/D4	Private line automatic ringdown
	MEGACOM/GS/immediate	AT&T Megacom—ground start
	MEGACOM/GS/wink	AT&T Megacom—ground start
	MEGACOM/LS	AT&T Megacom—loop start
	DPO	Dial pulse originate
TTLP Level (dBm)	–10.0 to +6.0 dBm	Transmit TLP level
RTLP Level (dBm)	–15.0 to +1.0 dBm	Receive TLP level
Forced Busy	YES or NO	Select YES to force busy.
CGA Immediate	Idle or Busy	CGA—immediate conditioning
CGA Delayed	Idle or Busy	CGA—conditioning after alarm delay
Ring Mode	Burst, continuous, interrupted	Select ringing mode (PLARD only)

5.3 E&M Parameters (for 3652-80 12 Channel E&M Unit)

Use this screen to retrieve and/or change the parameters of the E&M unit.

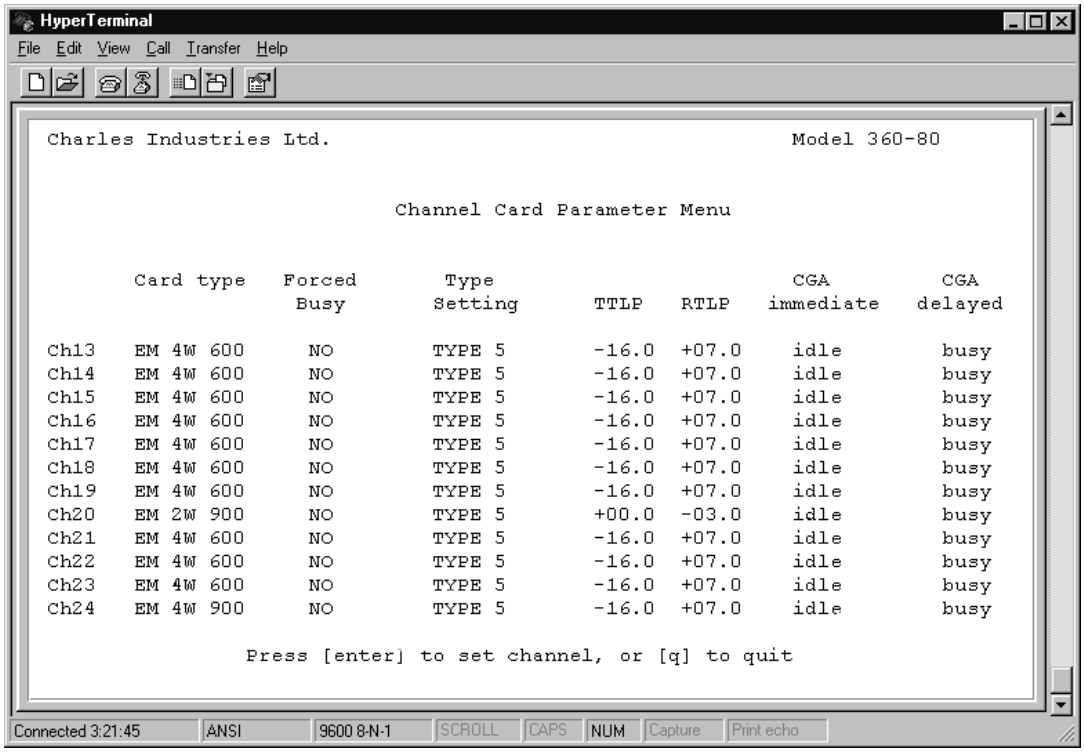


Figure 18. E&M Parameter Settings

Parameter	Option	Description
Channel Selection	1–12 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13–24 (if in Card 2 slot)	
	25–30 (if in half size slot)	
Card Type	2W/4W and 600/900	Indicates 2W/4W jumper settings and 600/900 jumper settings
Forced Busy	YES or NO	Select YES to force busy
Channel Type	Type 1–5	Select E&M signaling lead type
	Transmission Only	No signaling leads used
TTLP Level (dBm)	–19.0 to +13.0 dBm	Transmit TLP level
RTLP Level (dBm)	–19.0 to +13.0 dBm	Receive TLP level
CGA Immediate	Idle or Busy	CGA immediate conditioning
CGA Delayed	Idle or Busy	CGA conditioning after alarm delay

5.4 OCU-DP Parameters (for 3632-80 12-Channel Office Channel Unit – Data Port)

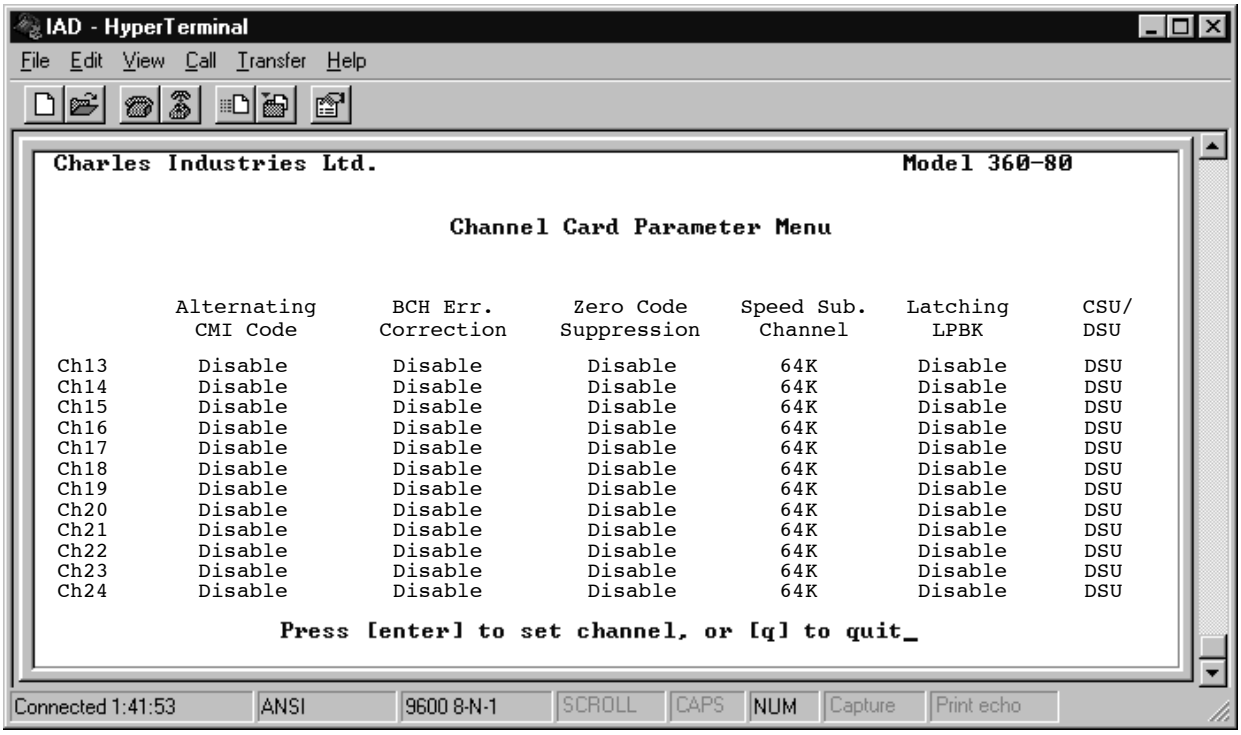


Figure 19. OCU-DP Parameter Settings

Parameter	Option	Description
Channel Selection	1–12 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13–24 (if in Card 2 slot)	
	25–30 (if in half size slot)	
Alternate CMI Code	Enable/Disable	Available for SW 56K data rate
BCH Error Correction	Enable/Disable	Enables error correction. Available for 19.2K, 56K and 64K data rates

Parameter	Option	Description
Zero Code Suppression	Enable/Disable	Select to transmit a code if an all-zero byte is detected
Speed Sub. Channel	2.4K, 4.8K, 9.6K, 19.2K, 56K, 64K, SW56	Select transmission data rate for any or all channel slots
Latching LPBK	Enable/Disable	Available for all data rates
CSU/DSU	CSU	Converts DSU loopback codes from network to CSU loopback codes
	DSU	Normal operation. Allows DSU loopback codes to be sent.

5.5 DSU-DP Parameters (for 3633-80 12 Channel Data Service Unit—Data Port)

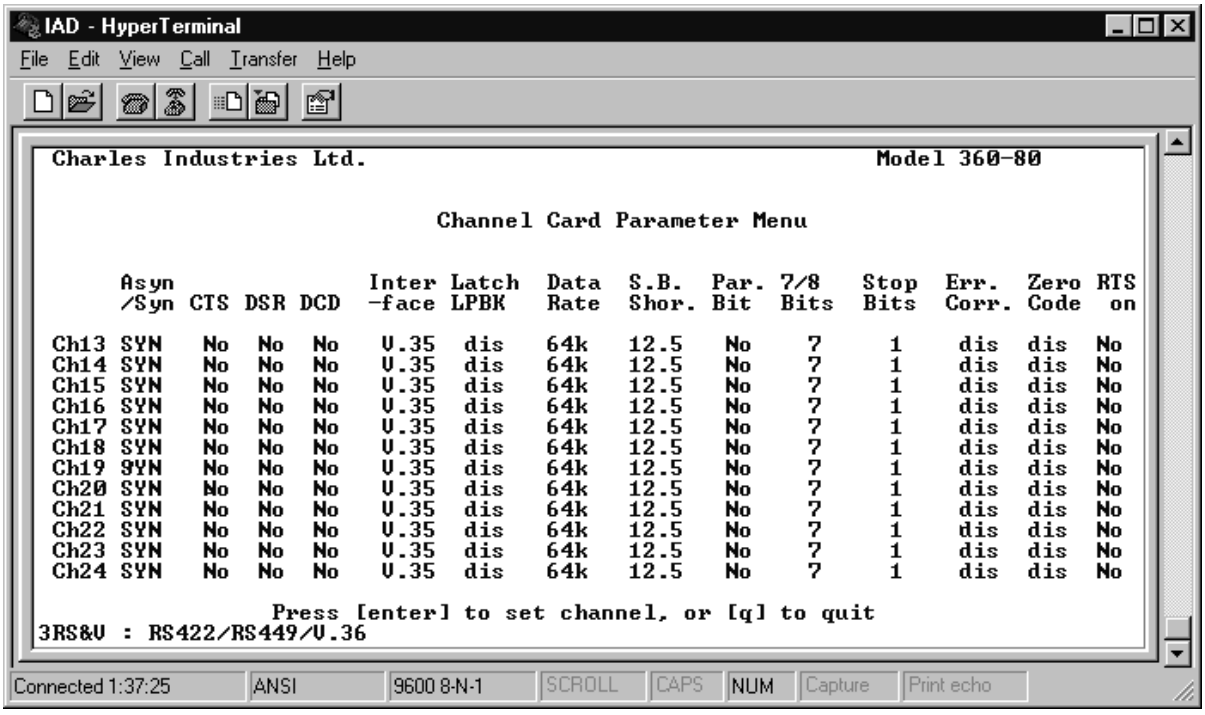


Figure 20. DSU-DP Parameter Settings

Note: Availability of some options depends on the data rate chosen. The maximum data rate for an RS-232 interface is 19.2K.

Parameter	Option	Description
Channel Selection	1−12 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13−24 (if in Card 2 slot)	
	25−30 (if in half size slot)	
ASYNC/SYNC Mode	ASYNC or SYNC	Synchronous or asynchronous data transmission *Note: This mode must be selected to set the data rate.*
CTS Control	Yes	Force clear-to-send
	No	Normal

Parameter	Option	Description
DSR Control	Yes	Force data set ready
	No	Normal
DCD Control	Yes	Force data carrier detect
	No	Normal
Interface Mode	3RS+V/V.35/RS232	Select the interface mode. 3RS+V selects the following: RS449, RS530, V.36
Latching Loopback	Enable/Disable	Enable/disable detection of latching loopback codes
Data Rate	2.4K, 4.8K, 9.6K, 19.2K, 56K, 64K	Transmission data rate. 56K and 64K available in synchronous (SYN) mode only
Stop Bit Shortened	12.5% or 25%	Asynchronous (ASYN) mode shortened stop bits
Parity Bit	Yes/No	Asynchronous (ASYN) mode only
7/8 Bits Mode	7 or 8	Asynchronous (ASYN) mode only
Stop Bit	1 or 2	Asynchronous (ASYN) mode only
Error Correction	Enable/Disable	BCH error correction
Zero Code Suppression	Enable/Disable	Converts zero byte to control code (18 Hex) toward the network
RTS Force On	Yes/No	Force request to send ON.

5.6 ISDN Parameters (for 3638-80 Quad Circuit ISDN)

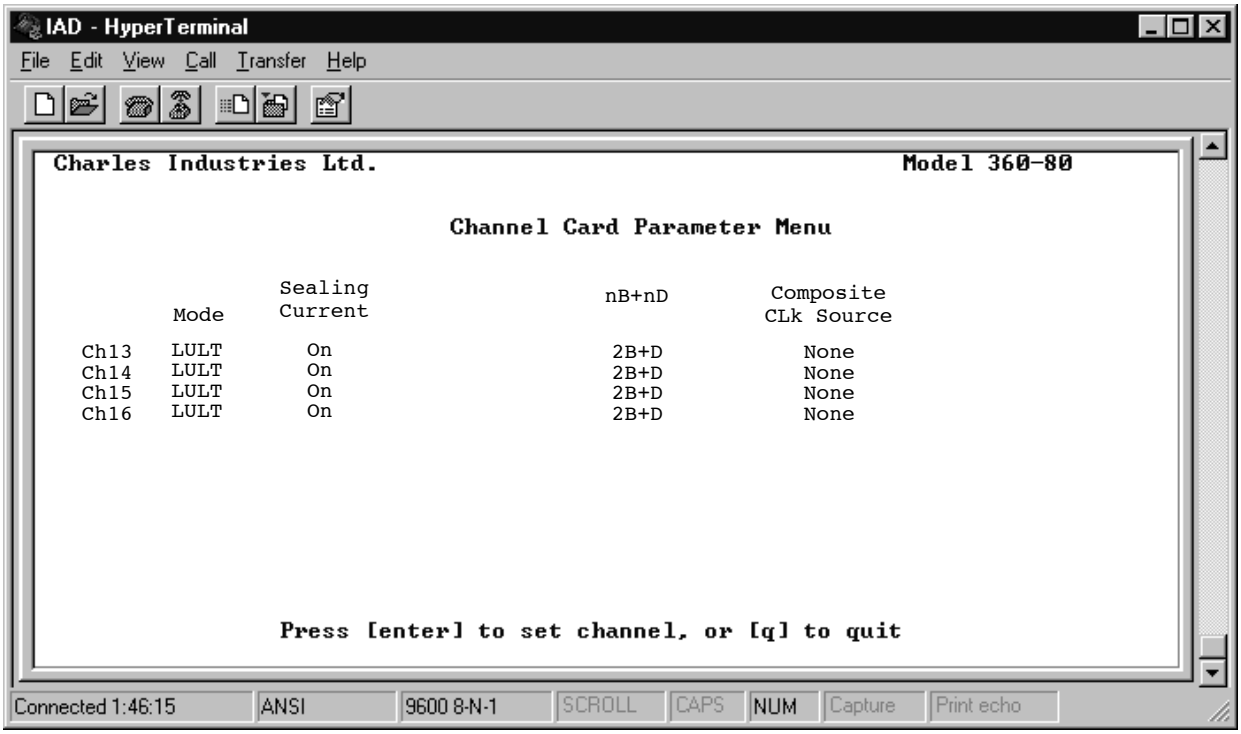


Figure 21. ISDN Parameter Settings

Parameter	Option	Description
Channel Selection	1−4 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13−16 (if in Card 2 slot)	
	25−26 (if in half size slot)	
Mode	LULT	RT mode
	LUNT	COT mode
Sealing Current	ON/OFF	Status (LULT only)
nB + nD	D	Overhead channel only
	1B + D	One data/voice channel plus overhead
	2B + D	Two data/voice channels plus overhead
Composite Clock Source	None	Select composite clock output source. Applies only to LUNT mode.
	1−4 (If in card 1 slot)	
	13−16 (if in card 2 slot)	
	25, 26 (if in half size slot)	

5.7 56/64xN Parameters (for 3634-80 6-Circuit 56/64xN Data Service Unit—Data Port)

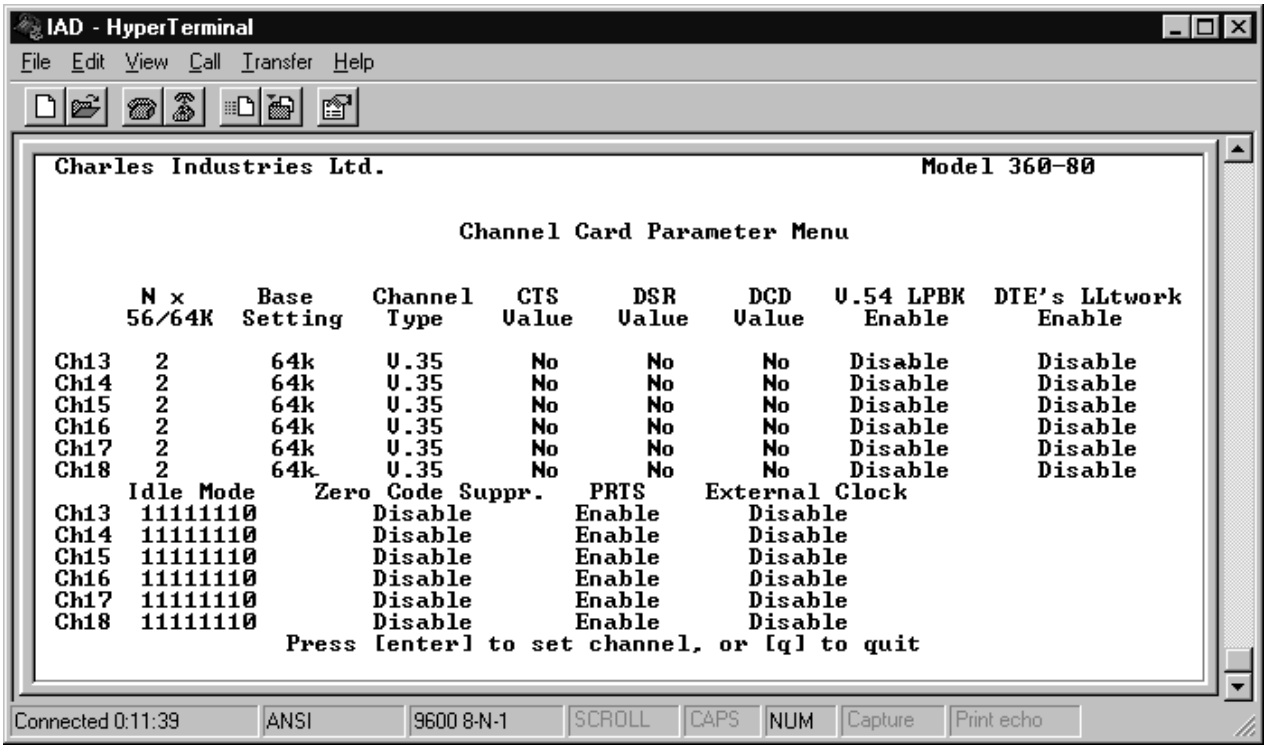


Figure 22. 56/64xN DSU-DP Parameter Settings

Parameter	Option	Description
Channel Selection	1−6 (if in Card 1 slot)	Select the channel the parameters will be applied to. Each channel can be configured individually
	13−18 (if in Card 2 slot)	
	25−27 (if in half size slot)	
Nx56/64K	1 thru 24	Depends on bandwidth desired and time slots allocated
Base Setting	56K or 64K	Base data rate

Parameter	Option	Description
Channel Type	RS530	Select the serial interface connection type
	V.35	
	V.36 (RS–449/422)	
	RS232	
	HIZ (factory test mode)	
CTS Value	Yes	Force clear-to-send on
	No	Normal
DSR Value	Yes	Force data set ready on
	No	Normal
DCD Value	Yes	Force data carrier detect on
	No	Normal
V.54 LPBK Enable	Enable/Disable	Enable or disable V.54 loopback
DTE LL Loopback	Enable/Disable	Enable or disable DTE local loopback
Idle Mode	11111110 or 11111111	Select idle mode pattern
Zero Code Suppression	Enable/Disable	Force control code (18 Hex) if zero byte detected toward the network
PRTS	Enable/Disable	Force request to send ON and continually send data
External Clock	Enable/Disable	Select an external input as a clock source.

5.8 Ethernet Router Parameters (for 3641-80 or 3648–80)

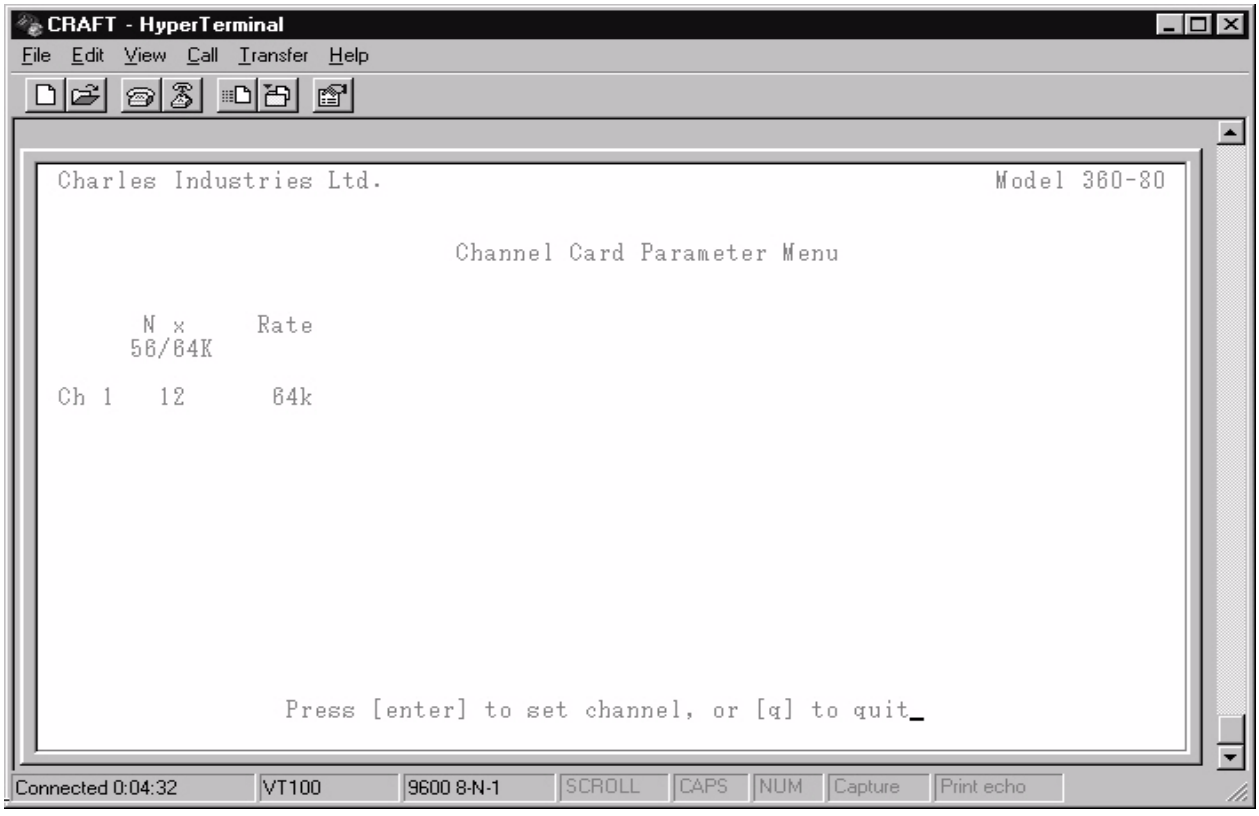


Figure 23. Ethernet Router Parameter Settings

Parameter	Option	Description
Nx56/64K	1 thru 24	Depends on bandwidth desired and time slots allocated
Base Setting	56K or 64K	Base data rate

6. USER ADMINISTRATION

Use the User Administration menu to add and delete users.

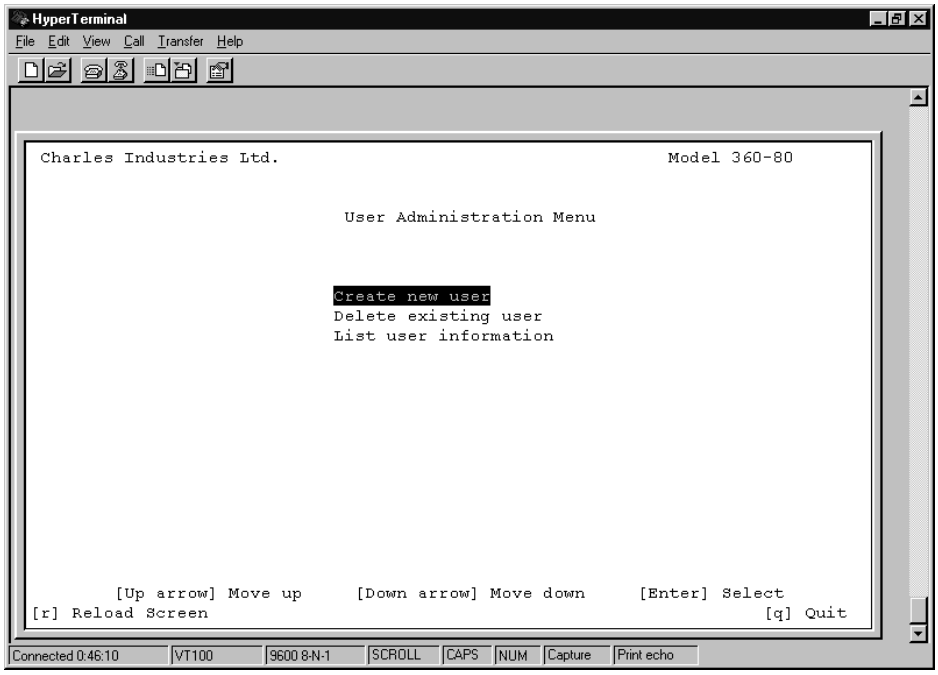


Figure 24. User Administration Menu

6.1 Create a New User

Use the following steps to create a new user on the system.

Note: User names and passwords must not contain blank spaces, and should be limited to eight characters.

Step	Action	System Response
1.	Select Create New User and press <Enter>	Asks for the new user's name
2.	Type the new user's name and press <Enter>	Asks for the new user's password
3.	Type a password for the new user and press <Enter>	Asks to verify the new user's password
4.	Type the new user's password a second time and press <Enter>	Asks you to select the new user's security level
5.	Select the new user's security level Guest= Allows access to status and performance data User= Full system access except for user maintenance Super user= Full system access and press <Enter>	Adds the new user to the system.

6.2 Delete User

Use the following steps to remove a user from the system:

Step	Action	System Response
1.	Select Delete Existing User and press <Enter>	Ask for the user's name
2.	Type in the user's name and press <Enter>	Deletes the user.

6.3 Editing User Information

There is no provision for editing user information directly. If you want to change a user's password or access level, you must delete the user and then add the user to the system again with the changes.

6.4 List Users

Use the following steps to list the current users in the system:

Step	Action	System Response
1.	Select List User Information and press <Enter>	Retrieves and displays a list of the current users.

7. CARD INVENTORY

Retrieve information about any of the cards in the system.

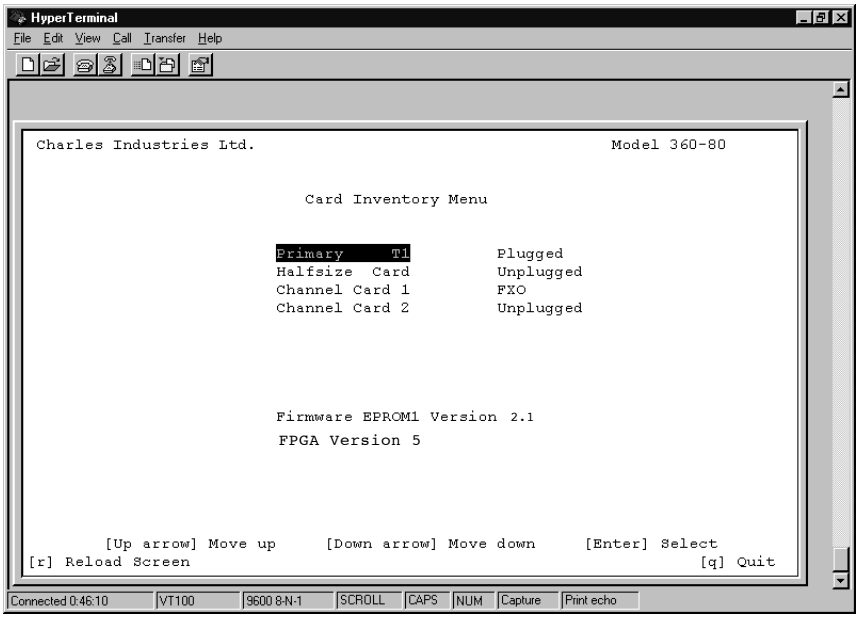


Figure 25. Card Inventory Data After Primary T1 Selected

Use the following steps to retrieve card information.

Step	Action	System Response
1.	Select Card Inventory and press <Enter>	Opens the Card Inventory menu
2.	Select the card you want to see data for and press <Enter>	Retrieves the card firmware and FPGA version inventory data (see Figure 25)
3.	When you are done, press <q> to quit.	

8. SNMP CONFIGURATION

8.1 SNMP Community Table

For SNMP management, the T1-S is addressed using a combination of the following:

- IP Address
- Community Name
- Address ID Switch Setting

A “Reset to Factory Settings” will clear the table configuration. Only locally managed shelves need the SNMP community table set. A locally managed shelf is any ICB that is connected to a manager via an Ethernet LAN regardless of where the shelf is physically located. A remotely managed shelf is an ICB that is managed over a T1 through a locally managed shelf. The SNMP Network Node Manager documentation provides additional information.

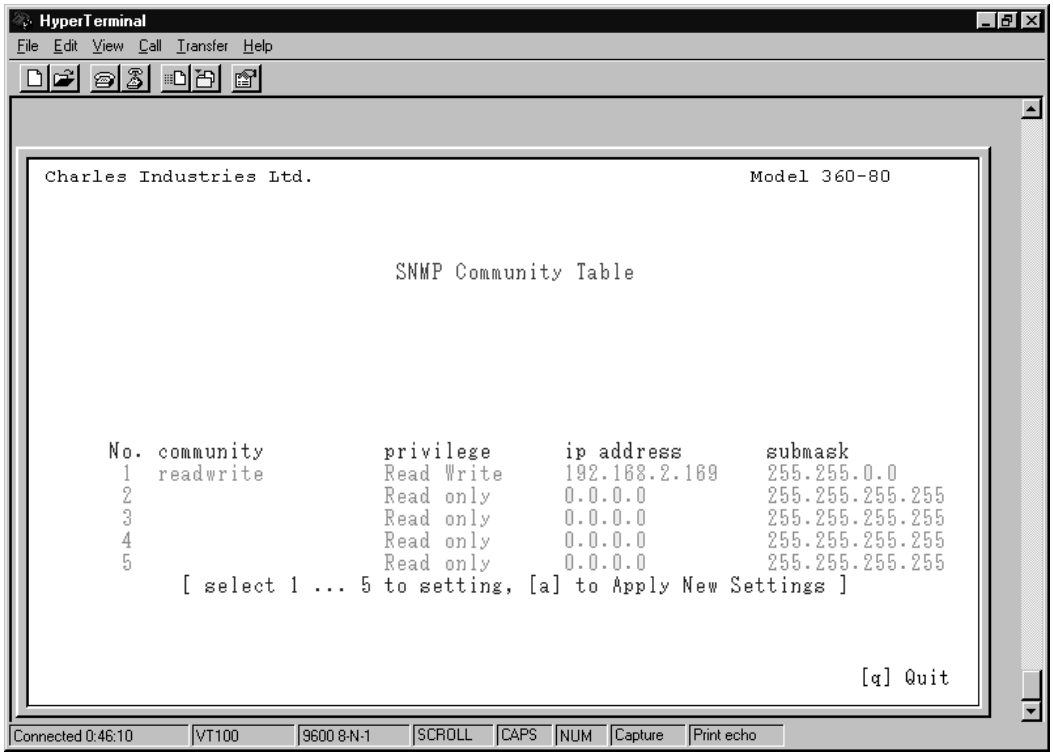


Figure 26. SNMP Community Table

Parameter	Description
Community	Enter the name to be used to refer to this equipment
Privilege	Use Read for monitoring and Read/Write for monitoring and provisioning
IP Address	Enter the IP address of the SNMP manager
Submask	Enter the appropriate subnet mask.

Warning

Applying changes to this table will initiate a warm start and momentarily disrupt T1 service.

Note: New settings must be applied after changes are made to activate the changes to this table.

8.2 Trap IP Table

Traps must be enabled in this table and through the MIB (instance *iadTrapSetProxy* under *iadTrapMgt*) to be generated by the ICB.

Traps must be enabled using the SNMP manager.

Traps will only be generated based on local system conditions. A local system is any system that is directly connected via an Ethernet LAN to the management network. A “Reset to Factory Settings” will clear the table configuration. The SNMP Network Node Manager documentation provides additional information.

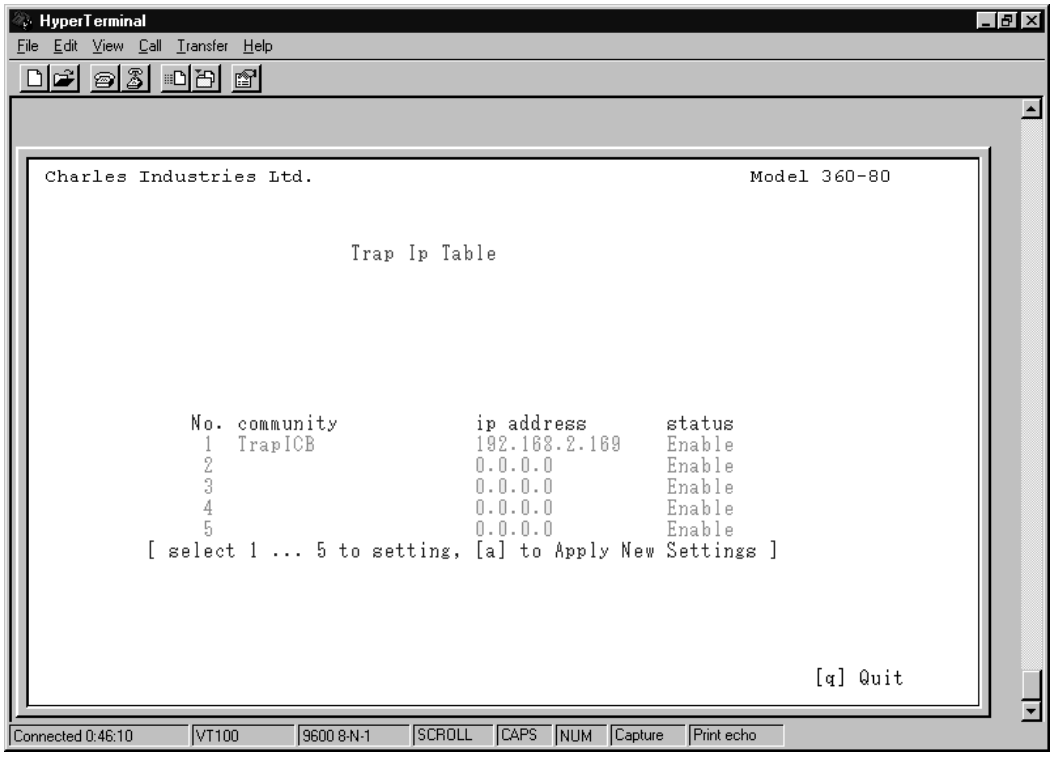


Figure 27. Trap IP Table

Parameter	Description
Community	Enter the name to be used to refer to this equipment
IP Address	Enter the IP address of the Trap recipient
Status	Traps must be Enabled to be generated.

Warning

Applying changes to this table will initiate a warm start and momentarily disrupt T1 service.

Note: Note: The following eight traps are supported by this equipment:

ACTLPBKLF alarm trap (T1 Line far–end loopback)
ACTLBKP alarm trap (T1 payload far–end loopback)
AIS alarm trap
LOF alarm trap
LOS alarm trap
YEL alarm trap
warm start
authentication trap

Far−End loopback traps will be generated at the far−end equipment.

9. ADDRESSING/SUBNET MASK/GATEWAY//MAC ADDRESS MENU

For the NMS/GUI software (Ethernet GUI) only the IP address and the address ID switch setting of the T1-S card are required. (The IP address and the community name can only be viewed using the Craft interface.) If a remote ICB does not require an IP address, use IP address 0.0.0.0 with a subnet of 255.255.255.255.

Only locally managed shelves need to have an IP address set. A locally managed shelf is any ICB that is connected to a manager via an Ethernet LAN regardless of where the shelf is physically located. A remotely-managed shelf is an ICB that is managed over a T1 through a locally managed shelf.

The gateway address is the IP address of the router on the LAN that is located between the shelf and the manager.

See the Network Management Software documentation for GUI addressing.

Warning

All remotely managed systems must have a unique address ID switch setting that is different from the local system's address ID switch setting and must be greater than zero.

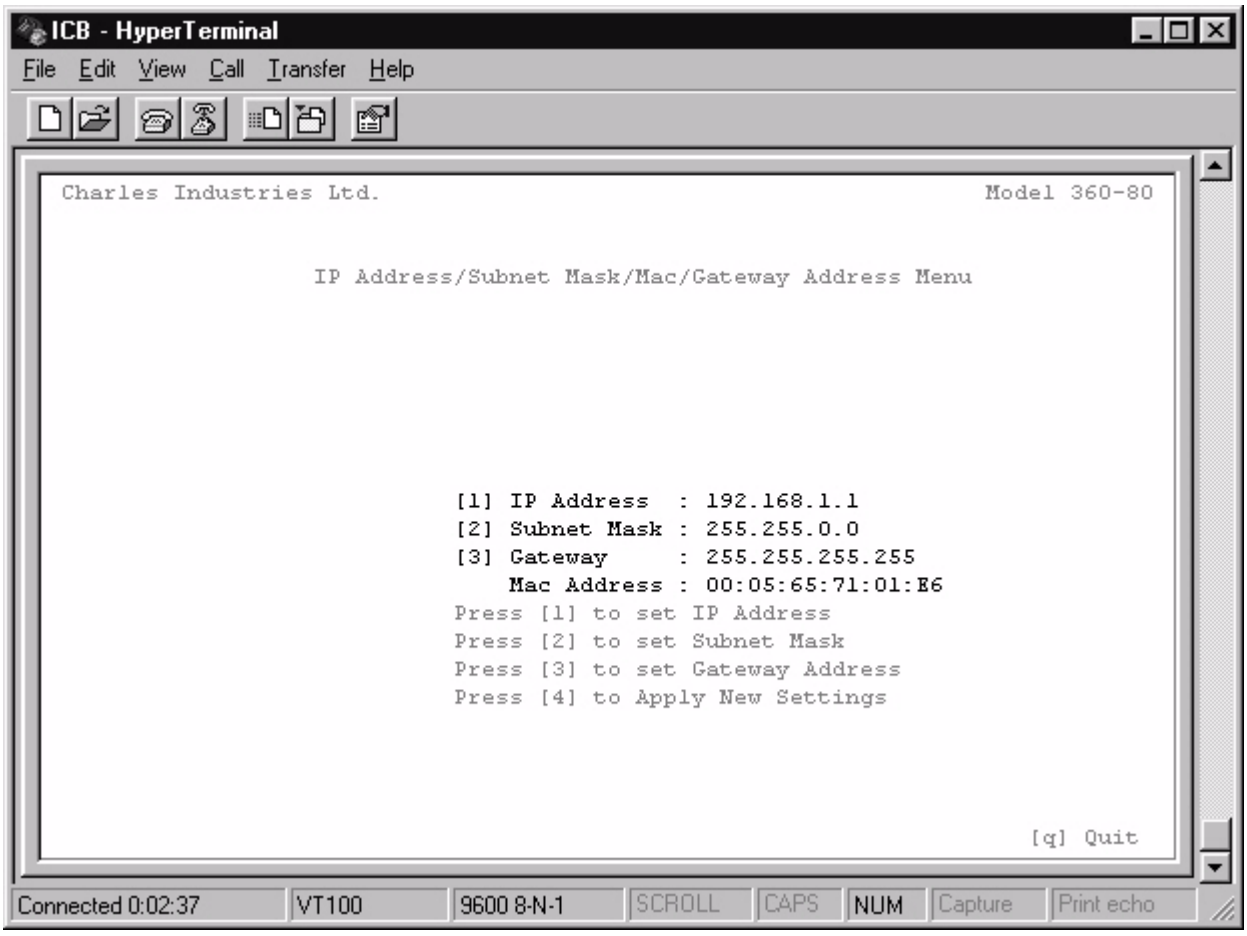


Figure 28. IP Address/Subnet Mask/MAC Address Menu

Enter the appropriate IP address and subnet mask for the network connected to the ICB. SNMP and Graphical User Interface Network Management is NOT possible over the Ethernet interface unless a unique IP address is assigned to the local shelf.

WARNING

Applying changes to this table will initiate a warm start and momentarily disrupt T1 service.

The MAC address is unique for each ICB and cannot be changed.

9.1 SNMP Management using Charles MIB

Provided on the CD included with the T1 Controller with SNMP (T1-S) is the Charles MIB for management of the 360–80 system. Only a system with a T1-S card as the controller can be managed using an SNMP manager.

Note: See the Network Node Manager documentation for more information.

10. TECHNICAL ASSISTANCE

If technical assistance is required, contact Charles Industries' Technical Services Center at:

847-806-8500
847-806-8556 (FAX)
800-607-8500
techserv@charlesindustries.com (e-mail)