SCON-20L/22L/25L/28L Console Concentrator

Configuration Manual

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Read This First

This is the SCON-20L/22L/25L Configuration Manual. Information on the LINCS Operating System can be ordered separately. Please visit our website, www.visara.com, to access all manuals online.

1. From your Internet browser type http://www.visara.com
2. Select Service Support
3. Select Product Manuals Online
4. Select one of the following:
   - *SCON-20L/22L Hardware Reference Manual*
   - *SCON-25L/28L/1174-25S Hardware Reference Manual*
   - *SCON-20L/22L/25L/28L Configuration Manual*
   - *SCON-20L/22L/25L Installation Guide*
   - *1174 LINCS Features*
   - *1174 LINCS Problem Determination*
   - *1174 LINCS Configuration*
   - *1174 LINCS Central Control*

Product Safety

The SCON-2XL Console Concentrator complies with relevant product safety standards, such as the UL and CSA, and TUV-GS Rules and Regulations.

FCC and CDC Regulatory Statements

This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment has been certified to comply with the limits for a Class A computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cable must be used with this equipment. Operation with nonapproved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate this equipment. The user may find the following booklet prepared by the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems

This booklet is available from the U.S. Government Printing Office, Washington DC 20402, Stock No. 004-000-00345-4.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appereil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Table of Contents

Chapter 1. Getting Started

The SCON-20L allows console attachment for up to 16 coax terminals, 16 TN3270 clients, and 16 Telnet clients, providing up to 96 console sessions to 3 LPARS, through one ESCON interface.

The SCON-22L allows console attachment for up to 32 coax terminals, 32 Telnet clients, and 256 TN3270 sessions, providing up to 256 console sessions to as many as 16 LPARs, through one ESCON interface.

The SCON-25L allows console attachment for up to 128 coax terminals, 256 Telnet clients, and 512 TN3270 sessions, providing up to 512 console sessions to as many as 32 LPARs, through a pair of ESCON interfaces.

The SCON-28L allows console attachment for up to 128 coax terminals, 256 Telnet clients, and 512 TN3270 sessions, providing up to 512 console sessions to as many as 128 LPARs, through a pair of ESCON interfaces

For simpler reading, SCON-2XL and 2XL will be used throughout the remainder of this book to represent the models SCON-20L, SCON-22L, SCON-25L, and SCON-28L, except as noted.

Although the LINCS operating system has been pre-installed on the hard drive of your SCON-2XL, it must be configured for your environment before you can operate it for the first time. You can reconfigure the LINCS operating system anytime you like, from any non-DFT coax display or workstation connected to the 2XL, or through a Telnet client. If you create a new configuration, it will be effective when you IML (Initial Microcode Load) the 2XL, which can be done immediately or scheduled for a later time. The hardware manual for the 2XL describes attaching a display for configuring.

The initial configuration may be done from a directly attached coax display or over a LAN connection using a Telnet client terminal. Although you may configure from any display port, only one operator may configure the 2XL at one time. If another operator attempts to enter the configuration program, an error message appears and the attempt is prevented.

For security reasons, it is recommended that you configure a Supervisor Password initially to disallow unauthorized access to the configuration process.

This section explains some basic concepts about the LINCS operating system and Central Control mode that will help you in configuring the SCON-2XL; how to use Central Control mode, how to identify the boards in your 2XL, and presents the Product Definition Panel.

Once you have completed a working configuration, it is important to back your configuration up for disaster recovery.

Configuring From a Coax Display

Attach a 3270 coax terminal to the SCON by using RG62AU coaxial cable to any of the first 16 ports of the SCON-20L or SCON-22L, or to any of the coaxial ports of the SCON-25L or SCON-28L. You may also use twisted pair cable along with appropriate baluns to connect the coax terminal to the 2XL.

Configuring From a Telnet Client

To configure the SCON-2XL from a Telnet client you must have a configured network interface. Configuring the Telnet interface can be accomplished within the configuration utility itself, or by creating a configuration for the interface within an ASCII text file (may be done to perform the initial configuration). To do the initial configuration through Telnet, you must first create a text file on a PC that will be loaded onto the SCON-2XL, to configure the IP interface. The name of the text file must be 'acc$data.sys' in order to be loaded. The information is contained in the file in the form of parameter equates. An example of the contents of such a file is shown below.

Lineid=fet1
Ip=198.14.23.192
Tcp=1083
Router=198.14.23.100
Subnet=255.255.255.0
Mac=0200268bce19

Not all parameters are required. You must however, include the LINEID, IP, and TCP parameters as a minimum. The LINEID parameter refers to the name of the network interface card used in the SCON-2XL, and is typically 'FET1' unless more than one FET card is installed, and one of the FETs other than the first one is to provide the network access for Telnet. Refer to the appropriate Hardware Reference manual for the numbering of the interfaces if more than one FET card is installed. The IP parameter of course refers to the IP address that is being assigned to the SCON. The SCON does not make use of DHCP, and must therefore be assigned a real IP address. The TCP parameter refers to the TCP port to be used for Telnet. Although you can use the default TCP port for Telnet (not recommended for security reasons), you must define which port you intend to use (port 23 is not assumed).

The router parameter is not needed if your client is to be located on the same subnet as the SCON. You do not need the subnet parameter if subnet masking is not being used. You can omit the mac parameter if the default (burned in hardware) MAC address is being used (recommended).

Furthermore, the order of the parameters is not important in the file. The file is not case sensitive. Parameters that are not used can be omitted. Do not leave any white space in the file (spaces or blank lines). White space will be interpreted as the end of the file.

The file should be placed on a floppy and inserted into the floppy drive, prior to booting the SCON-2XL.

Because the keys on a Telnet client are not the same as those on a 3270 terminal, some keyboard mapping is used the SCON-2XL to provide the 3270 key functionality. Among the more commonly used key definitions supported by most Telnet terminal emulations are:

PF1-PF9 = <ESC><1> - <ESC><9>
PF10 = <ESC><0>
PF11 = <ESC> <->
PF12 = <ESC> <=>
Keyboard Reset = <CTRL><R>
Test Mode Toggle = <ESC> <t>
Toggle between status row and 24th row (for most Telnet emulations) = <ESC><?>

Using Central Control Mode

There are three types of panels you will see throughout Central Control. They are:

- **Menu Panels** - The menu and submenu panels allow you to select which options to customize, either by menu selection or direct path selection. Some menu selections may also accept an optional update parameter.

- **Data Entry Panels** - Data entry panels are used to select specific options. Some fields require you to enter data, while others allow you to press the **Enter** key to toggle forward through a set of choices, or to press **Alt** + **Enter** to toggle backward through the choices.

- **Information Panels** - Information panels display instructions, status information, or warnings. Messages about the status of the configuration, for example, are displayed on information panels.

You may use PF keys to move from panel to panel. To find out what the PF keys do, see the descriptions of PF keys for that series of panels (usually displayed in the 24th row of the display).

Please remember that this document represents the panels as closely as possible. The actual content of the panel and flow between panels may not always be the same as the panels content and panel flow you would see during configuration, particularly if you are running a code version other than the one represented in the panel.

Menu selection

When any Central Control mode menu is displayed, enter the desired item number at the **'Select item:'**-prompt, then press the **Enter** key. If an item has input parameters (refer to individual item descriptions), these are entered following the item select character, using a comma to separate item parameters.

For example, entering "Select: 1,MCC1.002" selects Item 1 (Terminal test) with a parameter of MCC1.002 (for Port 2 on MCC1). Entering this item selection executes the Terminal test for that port.

Direct Path Selection

Some items display submenus that provide further item selections. If submenu selections are known, direct pathing may be used to execute the item. All items are separated by a slash (/) with a comma following the final item selection to separate any input parameters. All item parameters are separated by commas.

For example, entering "Select Item: 4/2,MCC1.001" displays the Vital Product Data (Item 4 from the Main Central Control menu) on the attached port (Item 2 - Port VPD from the VPD menu) selected as Port 1 on board MCC1.

If the first character input at the Select Item prompt is a slash (/), input will be parsed as if the Main menu is being displayed. For example, if the Vital Product Data menu is being displayed on the screen, /6/2 can be entered at the Select Item prompt (Select Item: /6/2) to select the Display Device Status item from the Main menu.

Optional Update Parameter

Some menu items allow an optional update, denoted by ,u after the item number on the menu. Updates require the supervisory password, so after entering item,u , the password prompt (Enter Password:) will be displayed above the Select Item: prompt. Entering the password and pressing Enter will execute the selected item.

For example, from the Central Control menu, 4/2,u,1 can be entered to update VPD for Port 1. If the test input is specified as 4/2,1 the password prompt will not be displayed and no update will be allowed.

If an incorrect password is entered, " X-f " is displayed in the input inhibit area of the status row. After pressing the **Reset** key, the password may be re-entered, and a new menu item may be selected.

If no supervisory password was established during configuration, the password prompt will not be displayed, and updates may be performed without the password.

The supervisory password is defined and set on the General Options panel of Configuration.

Boards in the System

The SCON-2XL supports a number of boards that provide host and client connections. Boards supported by the 2XL are:

- **ESC** – ESCON Host Interface

- **ESX** – ESCON Host Interface (SCON-28L only)

- **FET** – Fast Ethernet 100/10 Mbps

- **TRC** – 16/4 Mbps Token Ring (available on a limited basis)

- **CDA** – Coax Device Adapter (SCON-20L and SCON-22L)

- **MCC** – Multiplexed Coax Controller (SCON-25L only)

Board Number and Connector Numbering

Since it is possible to support multiple boards of the same type, and it is possible that there are multiple connectors on some of the boards, the following format was devised to identify specific connections to the 2XL:

brd#.con where:

brd represents the 3 character board mnemonic described above.

represents a number 1-9 or letters a-d, identifying the instance of the board that you are referring to.

A period (.) used as a separator.

con representing a three digit number representing the connector number on the board.

Examples:

ESC1	(first ESCON interface card)
MCC1.003	(port 3 on the first MCC board)

Keys for Configuration

The following PF key descriptions apply to most of the Configuration panels. Some panels have special keys which will be described in the section for that panel.

- **PF1 - Menu** – This PF key moves configuration processing back to the previous menu. This key is available on all configuration panels, and may be used to back out.

- **PF7 - Back** – Pressing PF7 moves you to the previously displayed panel.

- **PF8 - Forw** – Pressing PF8 moves you to the next panel.

- **PF9 - Default** – Assign default values to the fields in the current panel.

- **PF10 - Done** – This signals the end of the configuration process. It will bring you to the Configuration Complete panel.

- **Enter** – These keys toggle through available options, when the cursor is on a field with multiple options.

Configuring the SCON-2XL for the First Time

Power on the 2XL with an appropriate user display attached for purposes of configuration. The following panel should appear.

Host Connection Menu Panel

```
Host Connection Menu

Item           Connection Type

1              3270
2              ASCII
3              TCP/IP
4              LAT Class
5              LAT Dynamic

Select Item:
PF:
```

From this initial panel, on a coax display press and hold the <Alt> key and press the <Test> key. The resulting panel should appear. If configuring from a Telnet Client connected through the network, once you have selected the proper emulation for your client the following panel should appear.

Main Menu Panel

```
Main Menu                              LINCS C8.2 Central Control

Item           Description

1              Customization Data Menu
2              Supervisor Functions Menu
3              Media Management Menu
4              Vital Product Data Menu
5              Network Management Menu
6              Device Menu
7              Event Log Menu
8              Communications Menu

Select Item:               Depress Enter
```

The Main Menu panel is the first panel you will see when you enter Central Control Mode. From this panel you can follow the menu prompts to bring up any Central Control Mode panel that you need to.

At the "Select Item:" prompt, type the sequence "1/1,u" and press <Enter>. This will take you through the Customization Data Menu to select the "Display/Update Configuration" selection. The next panel to appear will look like this:

```
Configuration                                LINCS C8.2 Central Control

Customization Data Source:        Default

PF:  1-Menu                                        10-Process
```

This panel allows you to select the source of the configuration that you wish to modify. For a first time configuration, the Customization Data Source is set to "Default". Other options that may be selected are to read in a configuration file from "Drive A", "Drive C", or "Currently Loaded". The "Currently Loaded" and "Drive C" would not be valid offerings on a unit that has never been configured before. Currently Loaded allows you to modify the configuration that is currently running (normally used after the first configuration is saved). Selecting "Default" will bring up the configuration based on the hardware installed in the unit, as if the unit has never been configured before.

Press <PF10> to continue into configuration. From the Configuration Menu (Submenu List) shown below select item 1 and press <Enter>. This should take you to the Product Definition panel.

```
Configuration Menu (Submenu_List)            LINCS C8.2 Central Control

Item       Description

  1        Configure All
  2        General Options Menu
  3        TELNET Host Menu
  4        TCP Print Server Menu
  5        Asynchronous Host Menu
  6        3270 Host Menu
  7        TN3270 Server Menu
  8        Network Device Menu
  9        Direct Device Menu

Select Item: 1                  Depress Enter

PF: 1-Menu    3-Panel_List                          10-Done
```

This panel allows you to select a submenu list from which you can configure just a specific feature. Selecting the first item in the list allows you to configure all configuration panels.

Product Definition

The Product Definition panel allows you to customize the hardware definition of the 2XL that is to be used by the software during the configuration process. Initially the panel contains a description of the hardware that is installed on your particular 2XL. It is possible to modify this hardware list, which will affect the number and types of panels that will be offered during the configuration process.

Caution

Caution should be taken when modifying the values on this panel since adding hardware values that do not actually exist on the 2XL will most certainly create a configuration that can not be booted on your unit.

SCON-2XL Product Definition Panel

```
SCON-2XL Product Definition                    LINCS C8.2 Central Control

   Number of Coax Ports:            16
   Number of ESC Boards:            1
   Number of TRC Boards:            0
   Number of FET Boards:            1

   Feature Memory (megabytes):      1

PF: 1-Menu                  7-Back  8-Forw     9-Default    10-Done
```

Changes to this panel are made for primarily three reasons:

1. You are adding hardware to an existing 2XL, and you must identify the new hardware to the 2XL configuration process so that it may be configured.

2. You do not wish to make use of hardware that is already installed on your 2XL, and you wish to disable the hardware for the configuration process, to make your configuration simpler.

3. You are making a configuration for a physically different 2XL. Note that you may make configurations for only the same model with this utility. Use the Central Site Customization Utility to make and store configurations for other SCON and 1174 platforms.

All fields on the Product Definition panel are toggle fields. The panel may not be exited if an invalid board combination is selected. Appropriate messages will be displayed if errors are encountered.

If you decrease the number of boards, then the last line assigned for that board type is deleted. For example, if you reduce the number of FET boards from 2 to 1, FET2 will be deleted. You must then update all other panels which refer to the board/lines you just deleted.

If you make undesired changes to this panel, suspect that undesired changes have been made, or just wish to ensure that all installed hardware is correctly represented on this panel, press the PF9-Default key.

Only the hardware options shown on the SCON-2XL Product Definition panel are available for the SCON-2XL.

Chapter 2. General Options

Proceeding forward through the configuration panels from the Product Description panels, you next encounter the General Options panels.

General Options Panel

```
General Options                              LINCS C8.2 Central Control
Node Name:                    _____
Product Assistance Data:      _____
Unique Machine Identifier:    _____
Supervisor Password:          PASSWORD
Machine Check Options:        Dump and IML
LCD Message when all Comm Links Okay:         1174

3270 LU Number Display:       Hex

Central Site Customization: Enable

PF: 1-Menu                            7-Back 8-Forw 9-Default 10-Done
```

Node Name

This field defines a unique name for this LINCS node. It is used as the Host Name by the LPD protocol in a print request; it is the node requesting the print. If Node Name is left blank, it will default to LINCS. (Note that this is not the node name information returned by SNMP. That information is configured on the TCP/IP Options panel as 'System Name'.)

Product Assistance Data

This field may contain up to 48 characters. You can use it to record the name and telephone number of the person to contact for Customer Service. (Note that this information is not provided to SNMP.)

Unique Machine Identifier

This field is used to identify the LINCS node to Netview via REQMS (Request Maintenance Statistics), Alert, and VPD (Vital Product Data). It is recommended that you use the hardware model's serial number as the unique machine identifier. If the serial number is not available or you prefer not to use it, you may enter your own unique 7 character machine identifier. Valid characters include A-Z, 0-9, or spaces.

Supervisor Password

This field contains up to eight alphanumeric characters. It is used for supervisor functions in LINCS Central Control, such as executing the Configuration Utility and performing Media Management functions. This password is also used as the FTP password if any of the network interfaces are configured for IP protocol.

When LINCS has been IMLed with a default configuration (such as the first time LINCS is IMLed, or if the Config key is pressed at state 500), there will not be a supervisor password defined. You may also choose not to define a password. If no password is in effect, ANY user may enter the password-protected utilities. **Using a password is strongly recommended.**

If the Configuration utility is entered for display purposes only (i.e., not entered for update), then the supervisor password will not be displayed. If entered in update mode, then the password will be displayed, and can be updated.

Machine Check Options

This field determines what LINCS will do if a machine-check condition occurs. Options are:

- **Dump and No IML** (default) - Dump data will be written to the disk, but LINCS will not re-IML.

- **Dump and IML** - Dump data will be written to the disk, and then LINCS will re-IML.

- **No Dump and No IML** - LINCS takes no action.

- **No Dump and IML** - LINCS simply re-IMLs.

It is recommended that you select the **Dump and IML** option in most cases.

The LINCS Operating System will dump to the hard drive C. Up to 8 dumps may reside on the hard drive at on time, each in a separate dump directory. You can copy the dump file to diskette(s) using the Copy Data Objects utility on the Media Management menu in Central Control Mode, or FTP the dumps off through the network interface.

LCD Message When All Comm Links Okay

This message displays when the SCON-2XL is powered up and all configured communications interfaces are communicating as they should.

3270 LU Number Display

This field has the following toggle options:

- **Hex** - This is the default option. If selected, 3270 LU numbers will be displayed in hexadecimal format throughout all Central Control Utilities. This option is recommended when configuring SCON platforms.

- **Decimal** - 3270 LU numbers will be displayed in decimal format throughout all Central Control Utilities.

Central Site Customization

Options are: **Disable**, **Enable**

Enabling this option allows you to use the Central Site Customization Utility to define library members. 512 KB of Feature memory is required for this feature.

Central Site Customization can also be used to configure and store multiple LINCS configurations for a single machine. This may be useful when reconfiguring for new users or hardware.

Central Site Customization is always enabled when you IML with the Default Configuration (at state 500 on the LCD panel).

Language Options Panel

```
Language Options                            LINCS C8.2 Central Control

                        PRIMARY                 SECONDARY

Language:               (01) U.S. English    Disable
Translate Tables:       Default                 Default
Numeric Delimiter:      Period                  Period

Country Extended Code Page:  Enable

PF: 1-Menu              7-Back     8-Forw    9-Default    10-Done
```

This panel allows you to choose which languages and language formats you can assign in subsequent panels. Configuration of the Language Options has no effect on TN3270 Clients. TN3270 Client emulators have their own configuration for language, keyboard translation, and many other features.

Language

The Primary and Secondary Language fields toggle through all the languages listed in the Languages Table. The default Primary Language is (01) US English. The default Secondary Language is Disabled.

To use a Secondary language, you should also:

- Use the 3270 Host Profile panels to select the Primary or Secondary language as the default language for each host.

- Use the Device Profile panel to select a default keyboard table language.

- Optionally use the Keyboard Definition Utility (KDU) or ASCII Definition Utility (ADU) to set up keys (in addition to ExSel + L) for selecting the Primary and Secondary languages, or for toggling between the languages. The KDU Key Acronyms table in the Central Control contains the codes for setting up these keys.

The Primary and Secondary languages can be configured to be the same language, enabling you to define twice the number of keys on the Keyboard Definition Utility (KDU) or ASCII Definition Utility (ADU) layouts. (The layouts can be modified as the Primary language, and also modified as the Secondary language.)

See the following topics for more information on:

- ASCII considerations
- Software Requirements
- Languages Table
- Using Secondary Languages Translate Tables

Translate Tables

For the Primary and Secondary languages you specified, use this field to enter the name of the 3270 translate tables to be created via the Translate Tables Utility (TTU). The options are:

- Default - Standard translate table for the configured language will be used.
- User-Defined 1
- User-Defined 2

If your choice for Secondary Language was **Disabled**, the Translate Table option for Secondary Language must be **Default**.

Note: Use of the Translate Table Utility to create user-defined tables may have an effect on the functioning of the ASCII Definition Utility and on ASCII character translation. If you plan to create User-Defined Translate Tables, and your network includes ASCII, refer to Effects on ASCII for additional information.

Numeric Delimiter

In this field, toggle to select the numeric delimiter that can be used in Numeric Lock field. The choices are: **Period** or **Comma**.

Country Extended Code Page (CECP)

Toggle to **Enable** or **Disable** Country Extended Code Page (CECP) support. A code page contains the graphic characters that support a language. The characters are assigned to code point positions on a country code page. Different languages use different characters, different numbers of characters, and different arrangements of code points on their country code page. Most country code pages contain unallocated code points.

A Country Extended Code Page uses these unallocated code points to provide additional characters. The unallocated code points are assigned characters from the CECP universal character set (Character Set 697), which contains 190 characters and a space.

Once CECP is enabled, you can use the Keyboard Definition Utility (KDU) to assign to your keyboards any character from this universal character set.

The CECP supported languages are marked in the Languages Table with a plus sign.

Unless you plan carefully, use of CECP can have unexpected effects on the data in your network. You should consider the following before choosing to enable CECP:

- Whether the devices in your network support CECP

- Whether your host's applications can process CECP data

- Whether filters in host applications could reject or erroneously translate CECP data

- Whether the host is using previously undefined code points from the original country code page

ASCII considerations

Certain languages (identified in the Languages Table) are available for use with ASCII devices.

The ADU contains Primary and Secondary language translate tables for ASCII devices and hosts if further definition is necessary.

Software Requirements

The following languages have their own character generators. To correctly display all the characters in a particular language, that language's character generator must be installed in the display station. Languages followed by an asterisk (*) are supported by both 3270 hosts and ASCII hosts. Languages that are not followed by an asterisk are supported only by 3270 hosts.

Cyrillic	ROECE Latin
Greek	Thai
Icelandic	Yugoslav
Spanish *	Turkish

All other languages supported by LINCS use the Base character generator. If two languages are configured that have different character generators, one of the languages may not display characters correctly. For example, if German and Icelandic are configured and the terminal has only a Base character generator, the Icelandic characters that differ from the characters on the Base character generator will not display correctly.

Languages Table

The Languages Table shows the options available for primary and secondary. There are special Latin options for Greek, Cyrillic, and Thai.

Language	Language Code	Language	Language Code
US English	01*+	French AZERTY (105-character)	30*+
US English (ASCII)	02	US ASCII International	33
Austrian/German	03*+	US ASCII-8	34
Belgian	04*	Cyrillic	35
Brazilian	05	Greek	36
French Canadian	06*	Icelandic	37
Danish	07*+	ROECE	38
Finnish	09*+	Turkish	39
International	14	Yugoslavic	40
Italian	15*+	New Swiss French	41*+
Japanese English	16	New Swiss German	42*+
Spanish	19*+	New Belgian	43+
Spanish Speaking	21*+	Thai	46
English (UK)	22*+	Netherlands	47*+
Norwegian	23*+	Belgian French	60+
Swedish	24*+	Latin/Cyrillic	61
EBCDIC (WT)	25	Latin/Greek	62
Portuguese	28+	Latin/Thai	63
Canadian (Bilingual)	29+	Old Portuguese	64

* ASCII version included for use with ASCII (Telnet) hosts and devices.

+ Country Extended Code Page (CECP) supported Greek, Cyrillic, and Thai

Greek, Cyrillic, and Thai

If you select Greek, Cyrillic, or Thai as either language during configuration, no language toggling is possible unless the Keyboard Definition Utility (KDU) is used during configuration to add a language toggle key.

If you select Greek as the primary language, you can select Latin/Greek as the secondary language. If you select Cyrillic as the primary language, you can select Latin/Cyrillic as the secondary language. If you select Thai as the primary language, you can select Latin/Thai as the secondary language. Each of these secondary languages, Latin/Greek, Latin/Cyrillic, and Latin/Thai, is a special version of Latin that is specific to the primary language, Greek, Cyrillic, and Thai.

Note: You do not have to select Latin as the secondary language for Greek, Cyrillic, or Thai. You can select any of the supported languages as a secondary language, or you can select no secondary language.

Using Secondary Languages

If you select a Secondary language, the **ExSel** + **L** key combination is enabled as the language toggle keys that let you switch between the two languages. If no secondary language is chosen, the key combination is inactive. You can also use the KDU or ADU to define other keys for switching between languages.

The status line displays PR for primary language or SE for secondary language at location 36. If the Dual Language feature has not been configured, PR or SE is not displayed.

See the following for additional information:

* Switching Sessions and Dual Languages

* Examples of Switching Sessions

* Printing and Languages

Switching Sessions and Dual Languages

To switch from one configured keyboard language to the other, you can either press the Language Toggle key (**ExSel** then **L** for either 3270 or ASCII displays or **ESC** then **Control** + **F** for ASCII displays only) or you can press the Primary key (to switch from the secondary language to the primary language) or the Secondary key (to switch from the primary language to the secondary language). If you press the Primary key from the primary language or the Secondary key from the secondary language, nothing happens. Each time you change languages, the keyboard layout switches from one configured language to the other. When the keyboard layout switches, the up, down, and alt shift states remain the same.

* **Primary Key** – For ASCII keyboards, use the **Escape**, then **Control** + **D** key sequence for the Primary key.

* **Secondary Key** – For ASCII keyboards, use the **Escape**, then **Control** + **E** key sequence for the Secondary key.

* **For coax keyboards**, use the Keyboard Definition Utility (KDU) to configure a Primary or Secondary key.

Examples of Switching Sessions

When you switch sessions, the keyboard layout switches to the layout for the language of the new session. The code page used for the new session always corresponds to the default language for the host. The following two examples illustrate what happens when you switch sessions.

Example 1: Switching Sessions, Keyboard Layouts, and Code Pages

1. German is the current keyboard layout.

2. You switch to Session 2. The host for Session 2 has Spanish as the default language.

3. The new code page and keyboard layout are Spanish.

Example 2: Switching Sessions and Code Pages, but not Keyboard Layouts

1. Session 1 is active and its host is configured for German as the default language. Spanish is the current keyboard layout.

2. You switch to Session 2. The host for Session 2 has Spanish as the default language.

3. The new code page is Spanish and the keyboard layout remains Spanish.

Printing and Languages

There are two types of prints, LU1 (SCS) prints and LU3 prints. When an LU3 print is sent to a printer, the printer uses the code page corresponding to the default language for the host associated with the current printer session. An LU1 (SCS) print is not affected by the Dual Language feature because the printer performs the translation for this type of print. Local prints from a DFT are LU1 prints. The following languages have their own character generators, and to correctly print all the characters in the language, you must install the character generator for the language. Languages followed by an asterisk (*) are supported by both 3270 hosts and ASCII hosts. Languages that are not followed by an asterisk are supported only by 3270 hosts:

Cyrillic	Greek
Icelandic	ROECE Latin
Spanish*	Thai
Turkish	Yugoslav

All other languages use the Base character generator.

TTU effects on ASCII

Because translate tables present during configuration are referenced by the ASCII Definition Utility, use of the Translate Table Utility may have effects on the ASCII Definition Utility and on ASCII character translation. If you are using both utilities, it is important to follow this sequence to avoid unexpected results:

1. Use the Language Options panel to select the Primary and Secondary languages, and to specify the translate tables that will be used with each language.

2. Use the Translate Table Utility.

3. Use the ASCII Definition Utility. The ADU will check the Translate Tables selection from the General Options panel and will use the appropriate tables.

Note: If the Translate Table Utility and the ASCII Definition Utility are used, and then the primary and/or secondary languages are changed, it will be necessary to redo the ADU for the changed languages.

Chapter 3. Line Options

A Line Options panel is displayed for each communication board assigned on the Product Description panel. Each board supports different protocols. During configuration, you select the protocol for each line on a particular board. The board types and the protocols they support are listed below:

- **ESC** - ESCON/Non-SNA Console

- **ESX** - ESCON/Non-SNA Console

- **FET** - TCP/IP, Coax/Ethernet Bridge

Dependent on whether the protocol is set to 'Non-SNA' or 'Non-SNA with channel path filter', one of the following two panels will appear.

Line Options/ESC Panel - Non-SNA Protocol

```
Line Options/ESC1                          LINCS C8.2 Central Control
CU Index (CUADD):                    0
Protocol:                            Non-SNA

Device Low (Lowest IODEVICE UNITADD):   A0
Device High (Highest IODEVICE UNITADD:  AF


                                     HOT SESSION SELECTION MATRIX
         (Hot Session 00 corresponds  0        1        2        3
                 to Device Low)-----> 01234567890123456789012345678901
                                      --------------------------------
         Hot Sessions:                00000000000000000000000000000000
         Shared Sessions:             00000000000000000000000000000000

PF: 1-Menu              4-Add 5-Delete  7-Back 8-Forw 9-Default 10-Done
```

Line Options/ESC (or ESX) Panel - Non-SNA with Channel Path Filtering

Selecting 'Non-SNA with Channel Path Filtering' provides additional configuration possibilities on the Line Options panel, (allowing more flexible host gen configurations). It is strongly recommended that 'Non-SNA with Channel Path Filtering' be used as the protocol.

```
Line Options/ESC1                               LINCS C8.2 Central Control

CU Index:                              0

Protocol:                              Non-SNA with Channel Path Filter

Device Low (Lowest IODEVICE UNITADD):  A0
Device High (Highest IODEVICE UNITADD: AF

CHANNEL PATH FILTER
  LPAR Number (Partition Number):      0
  Source Link Address:                 FF
  CU Number (CUADD):                   0

                                       HOT SESSION SELECTION MATRIX
    (Hot Session 00 corresponds        0        1        2        3
            to Device Low) ----------> 01234567890123456789012345678901
                                       --------------------------------
Hot Sessions:                          00000000000000000000000000000000
Shared Sessions:                       00000000000000000000000000000000


PF: 1-Menu    4-Add    5-Delete    7-Back      8-Forw   9-Default   10-Done
```

The following options are configurable for the ESC/ESX board.

CU Index

This option identifies which of the 16 (0-F hex) Control Unit Images supported by ESC or which of the 64 (00-4F) Control Unit Images supported by the ESX are being configured for this interface. By default, CU 0 is offered. You can change the interface number by toggling the value of "0". You can enable additional images by pressing the <PF4> key. Each CU image must be dedicated to a single L-PAR on the host. The maximum number of CU definitions supported by the SCON-2XL is determined by the model, number of ESCON interfaces, and whether feature activation disks have been installed. The SCON-20L supports up to 3 CU. The SCON-22L supports up to 4 CU in the base unit but can be expanded up to 16 through installation of FADs. The SCON-25L comes standard with support for up to 16 CU through one ESC interface, expandable up to 32 CU through two ESCON interfaces. The SCON-28L comes standard with support for up to 20 CU through each ESX interface, expandable up to 64 CU.

Protocol

The only supported protocol on the SCON-2XL for the ESC card is Non-SNA (and Non-SNA with Channel Path Filtering). For support of SNA, APPN, or IP over the ESC (ESCON) interface, other Visara Communication Servers may be used (1174

Product Series). If you leave the selection to None, the SCON-2XL will treat the interface as if it does not exist.

Device Low and Device High

The value for the Device Low and Device High parameters identify the low end and high end for a range of addresses supported by this CU. The value of the Device Low number is given in hex, and can be anywhere in the range of 00-FF. The Device High number must be within hex 1F of the value of the Device Low parameter and must be equal to or larger than the Device Low value. The range defined by the Device Low and Device High parameters may define up to 32 consecutive addresses, and must fall in the range of addresses defined by the 'UNITADD' parameter in the 'CNTLUNIT' macro of the corresponding Host GEN. To support more than 32 addresses, make additional CU definitions.

Caution

Only configure the SCON-2XL for addresses that have been defined by IO Device Statements in the GEN on the host. Configuring addresses that have not been defined or that have been defined for use by another controller may result in serious performance degradation or errors.

LPAR Number

The LPAR Number parameter corresponds to the LPAR number assigned in the PARTITION parameter of the RESOURCE macro, associated with this connection, in the host's IOCDS definition.

Source Link Address

The Source Link Address refers to the ESCON Director port number (2 digit hex) that is connected back to the mainframe. If an ESCON Director is not used (2XL is directly connected to a port on the mainframe), leave the default value of FF, or assign the value as 01.

CU Number

This must correspond to the value of the CUADD parameter of the CNTLUNIT macro of the host's IOCDS definition, corresponding to this configuration.

Hot Sessions

Hot Console Sessions give you the ability to create a console session that will appear to be powered on to the LPAR for as long as the 2XL is online. This may be convenient for situations where it is desired to have a console session that can be accessed across a network connection by either one person or by multiple persons. Since the console device always appears to be powered on, it should not be necessary to vary the console active when establishing a new connection to the session, as long as the 2XL was active when the LPAR came up.

Each of the 32 sessions that can be associated with a single CU definition, can be configured to be hot. Hot sessions are identified as such, by changing the value from '0' in the appropriate column. Definitions for the values to enter are:

0 = Not defined to be a hot session
1 = Hot Session (Mod 2 with Extended Data Stream Support)
2 = Hot Session (Mod 2 with Extended Data Stream Support)
3 = Hot Session (Mod 3 with Extended Data Stream Support)
4 = Hot Session (Mod 4 with Extended Data Stream Support)
5 = Hot Session (Mod 5 with Extended Data Stream Support)
6 = Hot Session (Mod 2 with No Extended Data Stream Support)
7 = Hot Session (Mod 3 with No Extended Data Stream Support)
8 = Hot Session (Mod 4 with No Extended Data Steam Support)
9 = Hot Session (Mod 2 with Extended Data Stream Support)

The leftmost column corresponds to the Device Low address, defined above. All device addressing on subsequent panels are referenced from this offset of '00'.

Note that only the console sessions should be configured as hot (not the normal VTAM sessions).

Shared Sessions

Shared Sessions allows two or more TN3270 clients to share the same console session. Up to twenty-four TN3270 users can be configured to share the same session. Coax and Telnet clients are not allowed to share the session. Only console sessions can be shared. VTAM applications will not function correctly when configured as shared. All TN3270 clients sharing the same session should be configured for the same MOD size and should have the same Color and Extended Attribute support (the first user to connect sets the standard for the session). To designate a session to be shared, change the 0 value to a 1 for that session.

Line Options/FET Panel

```
Line Options/FET1                           LINCS C8.2 Central Control
LAN Address:                    0200 2201 1010
Media Type:                     Auto Negotiate
Duplex Mode:                    Auto

TCP/IP:                         Enable

Coax Ethernet Bridge:           Enable

PF: 1-Menu                       7-Back   8-Forw   9-Default 10-Done
```

A description of the parameters for the FET board follows:

LAN Address

This field contains the Ethernet node hardware address of the LINCS node. It is a 12-character hexadecimal address, and can be any hex value you wish.

Within the most significant byte, the lowest bit specifies a group address and the next bit specifies a locally administered address. Ethernet addresses configured by LINCS must be arranged in IEEE format where the most significant bit is on the right of each byte.

You may use the unique burned-in address of the Ethernet card by entering a value of "0000 0000 0000" for the LAN Address field.

Media Type

Through the media type option, you can allow the 2XL to auto negotiate the link speed between 100 Mbps and 10 Mbps. You can also predefine the connection to either value.

Duplex Mode

You can define whether the FET card is to run in **full duplex** mode or **auto detect** whether it is to run in full duplex or half duplex mode.

TCP/IP

This toggle field must be enabled to configure any connections or circuits with TCP/IP link levels (Telnet, TN3270, and LAN printer connections).

Options are: **DISABLE** or **ENABLE**.

Coax Ethernet Bridge

This toggle field is used to designate this adapter to handle data traffic to and from Network Computing Terminals (NCT)s attached to coax adapters within the 2XL. Through the Coax Ethernet Bridge feature, IP traffic is passed between the Ethernet and coax adapters to devices specially designed to receive and send IP over coax, in addition to traditional coax mainframe data. This feature is unique to the Visara Communication Servers family and has a patent pending by Visara Inc. Through this connection users can access servers and the Internet directly from their desktop display.

Options are: **DISABLE** or **ENABLE**.

Line Options, TCP/IP Options Panel

```
Line Options/FET1                           LINCS C8.2 Central Control

                                TCP/IP OPTIONS
IP Address:                     195 195  195 001
Subnet Mask:                    255 255  255 000
TELNET Host Connections:        000
TN3270 Client Connections:      0000
IP Router:                      Disable
BSD 4.2 IP Broadcast:           Disable
Expanded IP Addressing:         Disable
TCP Quiet Time (sec):           0000
Default Router Address:         ___ ___ ___ ___
DNS Primary Name Server:        ___ ___ ___ ___
DNS Secondary Name Server:      ___ ___ ___ ___
DNS/Ping Response Time:         0000
DNS Default Domain:
         _____

SNMP Trap IP Address:           ___ ___ ___ ___
SNMP Read Authentication String: _____
SNMP Write Authentication String:_____

PF: 1-Menu                      7-Back   8-Forw  9-Default 10-Done
```

When TCP/IP is selected as a protocol for the FET (Ethernet) board, the Line Options, TCP/IP Options panel will appear. The minimum configuration for this panel requires that you fill in an IP address. In most cases however, you will also need to fill in the Default Router address, and you may also want to fill in the Subnet Mask field. Below you will find descriptions for all of the options on this panel.

IP Address

This is the IP address for the line. It should follow the rules for IP addresses, which your system administrator can give you. If this address is connected to the Internet as controlled by the NIC, bear in mind that users can connect to LINCS by the IP address you give it. Design your host's connection to the Internet with this in mind.

Subnet Mask

This is the subnet mask that LINCS will use for the IP address entered. If no subnet mask is entered, but a default router is defined, LINCS will automatically attempt to obtain the subnet mask from the router. If no subnet mask and no default router are defined, LINCS will assume the default subnet mask based on the class of the IP address being used.

TELNET Host Connections

Although this option is found on the panels of the SCON-20L and SCON-22L, the only valid option is to use a value of **0**, which in effect disables this feature (no VHP card to support the feature). The SCON-25L and SCON-28L may be configured to support Telnet Host Sessions if desired. Up to 32 Telnet Host Sessions may be supported without installing a FAD. Up to 256 may be configured if the Telnet FAD is installed.

TN3270 Client Connections

If the SCON-2XL will be supporting TN3270 clients, you must indicate the number of sessions that are to be supported through this interface. Up to 32 sessions (16 sessions on the 20L) may be configured without requiring any feature activation disks (FAD). Additional sessions, up to 256 per installed ESCON interface, may be supported through the installation of the TN3270 FAD. The FET card can support all 512 TN3270 sessions.

IP Router

When enabled, LINCS will provide IP routing through this interface if two or more networking interfaces are installed. Routing choices include:

- **Static Routing Only** - All routing table entries must be made statically.

- **Static and Dynamic Routing** - LINCS will add entries into the routing table based on RIP V1 and RIP V2 broadcasts that have been received, but LINCS will not broadcast the contents of the routing table to other routers.

- **RIP Version 1** - LINCS will add entries into the routing table based on received RIP V1 and RIP V2 broadcasts, and will broadcast the contents of the routing table using RIP V1.

- **Rip Version 2** - LINCS will add entries into the routing table based on received RIP V1 and RIP V2 broadcasts, and will broadcast the contents of the routing table using RIP V2.

BSD 4.2 IP Broadcast

If this option is enabled, LINCS will send two broadcasts. One is 4.2 compatible, and the other is the standard broadcast address.

Note: BSD 4.2 broadcasts use all 0s as the destination address. Other implementations as well as BSD 4.3 use all 1s as the destination address. If this option is disabled, LINCS will send the standard broadcast address only.

Expanded IP Addressing

This is a special customer request feature that allows using IP addresses that are illegal for the worldwide Internet.

For example, 192.000.000.xxx would normally be reserved, but with this field enabled, an address of that type can be entered.

TCP Quiet Time

TCP requires 4.5 minutes of recovery time after a device crashes or for a reboot, but LINCS' IML time varies according to configuration and hardware installed. This field allows you to define extra time beyond the normal boot time before TCP connections can be attempted. Default value is 0. (As soon as LINCS has IMLed, TCP can attempt connections.)

Default Router Address

Enter the address of the router on the network. Obtain this value from the system administrator. This router address must be on the same physical subnet as the IP address assigned to this interface.

DNS Primary Name Server (for use with Telnet Host and LAN Printer Features)

The Domain Name System requires at least one name server address. The name server resolves the address of the remote machine, by using its domain name database, and the databases on other name servers. Entering an address enables the Domain Name System feature that lets a TCP/IP user enter a DNS name for the TCP/IP host instead of the IP address. Enter zeros in this field (or leave it blank) to disable the feature. To complete information about the Domain Name system, you must also assign Dynamic IP Host Class Access in the Resource Authorization Matrix of the Device Profile Panel for displays.

DNS Secondary Name Server (for use with Telnet Host and LAN Printer Features)

Enter a value if you want to enable a secondary domain name server to function as a backup to the primary domain name server. If the user makes two queries to the primary server and they are not answered, LINCS will direct up to two queries to the secondary domain name server.

DNS/Ping Response Time

This timer, given in tenths of seconds, determines the amount of time that is allowed for a DNS or a Ping request to be answered before determining that a timeout has occurred.

DNS Default Domain (for use with Telnet Host and LAN Printer Features)

Use this field to specify an optional default Domain Name system label. The label must not exceed 63 characters. The starting and end characters must be alphanumeric, and the remaining characters must be alphanumeric characters or hyphens. The default domain will be appended to any queries that are not fully expressed. For example, sulu is translated to sulu.visara.com, if visara.com is the default domain.

SNMP Trap IP Address

This Destination IP Address defines where to send SNMP traps generated by LINCS. If the IP Address is undefined, or defined as all 0's, traps are not generated. If non-zero, traps are generated for link up, link down, cold start, and authentication errors.

SNMP Read Authentication String

This 16-character string is required by the Network Management Station (the SNMP client) to access MIB variables in LINCS. If not configured, the default value of 'public' is used.

SNMP Write Authentication String

This 16-character string is required by the Network Management Station (the SNMP client) to modify MIB variables in LINCS. If left blank, LINCS will default the string to 'public'.

TCP/IP Options Panel

```
TCP/IP Options                          LINCS C8.2 Central Control

LPD Printer Username            _____
LPD Server/Printers Drive:      None
            SNMP OPTIONS
System Location:                _____
                                _____
System Contact:                 _____
System Name:                    _____
            TN3270 SERVER OPTIONS
TN3270E:      Enable            ATTN Key:     Disable
SYSREQ Key:   Disable           3270 Translate:      Disable
Keepalive/Timeout Method:  Keepalive using Telnet NOP
Keepalive/Inactivity Timer (min):05  Disconnect on UNBIND:    Disable

Telnet Disconnect on UNBIND:    Disable


                      SESSION MANAGEMENT SYSTEM
SMS Server:                     None         SMS Client:   Disable
Poll Rate (secs):               0005
Domain Name:  _____
PF: 1-Menu                      7-Back   8-Forw  9-Default 10-Done
```

Many of the options on this panel are not used by the SCON-20L and SCON-22L, but are supported by the SCON-25L and SCON-28L and will appear if TCP/IP protocol has been selected for the FET board. A description of the options follows.

LPD Printer Username

The LPD Printer Username is used to identify the user who requested an LPD print in LPD print requests sent to an LPD Print Server, and may be printed on the banner page. If left blank, it will default to LINCS.

LPD Server/Printers Drive

This field allows you to toggle through the choices of none and all of the hard drives that are installed, to indicate whether you wish to assign a hard drive as a location to temporarily store LPD print jobs when LINCS is configured as a LPD Print Server or when supporting LPD LAN printers. If a hard drive is not defined, then memory will be used instead. To conserve on memory a hard disk setting is recommended. When enabling a hard disk setting it is recommended to also enable the RPQ: 'make hard disk priority higher'.

SNMP System Location

This 64-character field can be used to describe the physical location of the LINCS node. Valid characters are: alphanumeric, space, dollar, period, hyphen, and underscore. This information is returned as part of the LINCS MIB.

SNMP System Contact

This 48-character field can be used to define the name of the individual who is the contact person for this LINCS node. Valid characters are: alphanumeric, space, dollar, period, hyphen, and underscore. This information is returned as part of the LINCS MIB.

SNMP System Name

This 48-character field can be used to define the administratively-assigned name for this managed LINCS node. By convention, the System Name is the fully qualified domain name. Valid characters are: alphanumeric, space, dollar, period, hyphen, and underscore. This information is returned as part of the LINCS MIB.

TN3270E

Enable this option if TN3270E clients are to be used. You must enable this to support 1783 and 1883 NCT clients as consoles using TN3270E. It is recommended that this option is enabled unless you are using only standard TN3270 clients that do not support the connection to a TN3270 Server that supports TN3270E negotiation.

ATTN and SYSREQ

These options apply to TN3270 clients only (not TN3270E). Configuring these options require that the corresponding options on the TN3270 clients be configured to use the same TELNET commands.

3270 Translate

This option may be used to allow the 2XL to provide local to remote datastream translation for TN3270 (not TN3270E) clients incapable of supporting local channel 3270 orders.

Keep Alive Method

Enabling one of the Keep Alive methods allows the 2XL to detect when a client disconnects. This is recommended for most TN3270 environments, especially if any sessions are to use pooled (non-specific) resources.

Keep Alive Timer

The Keep Alive Timer determines how often Keep Alive messages will be sent to the client, and how soon the 2XL will recognize that a client is no longer communicating. The default value of 5 minutes works well for most scenarios. It is strongly recommended that a Keep Alive method be used.

Disconnect on UNBIND

This option is not used by the SCON-2XL product line.

TELNET Disconnect on UNBIND

This option is not used by the SCON-2XL product line.

SMS Server

Changing this option from NONE enables the SMS feature and assigns the selected interface to be the SMS server. (The SMS feature provides a means to load balance across multiple network interfaces and multiple SCON platforms.)

SMS Poll Rate

This value determines how often the SMS server is to poll the SMS clients for a status update.

SMS Domain Name

This field must contain the default domain name that is to be used by the SMS feature, if the SMS feature has been enabled.

Chapter 4. Host Circuits

```
3270 Host Circuit 00                              LINCS C8.2 Central Control

Line:                      ESX1

Host Identifier:           LPAR0_____

CU:                        00

Reminder: Press PF4 for an additional 3270 Host Circuit
PF: 1-Menu  3-Def_Dflt  4-Add 5-Delete   7-Back 8-Forw 9-Default 10-Done
```

The Host Circuit panel is used to define a Control Unit definition for the 2XL. Host Circuit panels must be defined, for each Control Unit definition on the host. Later in the configuration, device sessions will be assigned to this Host Circuit. A description of the fields found on the Host Circuit panel can be found below.

Line

Toggle this field to indicate the ESC/ESX card, through which your host circuit will attach. If you are using more than one ESC/ESX card in the 2XL, you must toggle to indicate which card (for example: ESC1 or ESC2).

Host Identifier

This is an optional 16 byte field which can be used to identify the host circuit to the users. If defined, it may be used to identify which host or LPAR the user is communicating with, by placing this information in the status line of the user's display. You must enable the display of this information in the Display Device Profile. This name will also appear on Configuration panels (and any other LINCS Central Control panels) which display host circuits. If no Host Identifier is defined, the host circuit characters, 00-7F (A-Z, 1-6 for older versions of LINCS code) will appear on the panels which display host circuits. Valid characters for the Host Identifier are alphanumeric, . (period), - (dash), and _ (underscore). The host identifier field will appear in the status line of Coax, Telnet, or ASCII displays, but not TN3270 clients.

CU Index

The CU Index parameter identifies which (ESCON) Control Unit image this Host Circuit is to be associated with. The CU Index must have been previously defined on the Line Options panel for the ESC/ESX card.

3270 Host Classes Panel

```
3270 Host Classes                              LINCS C8.2 Central Control
                                  Hex LU Ranges
Class   Host        Lo Hi Lo Hi Lo Hi Lo Hi       Class Name
-----   ----        ----- ----- ----- -----       ----------
  01    LPAR0       00 04 __ __ __ __ __ __       LPAR0_SESSIONS
  02    LPAR1       00 04 __ __ __ __ __ __       LPAR1_SESSIONS__
  03    None        __ __ __ __ __ __ __ __       _____
  04    None        __ __ __ __ __ __ __ __       _____
  05    None        __ __ __ __ __ __ __ __       _____
  06    None        __ __ __ __ __ __ __ __       _____
  07    None        __ __ __ __ __ __ __ __       _____
  08    None        __ __ __ __ __ __ __ __       _____
  09    None        __ __ __ __ __ __ __ __       _____
  10    None        __ __ __ __ __ __ __ __       _____
  11    None        __ __ __ __ __ __ __ __       _____
  12    None        __ __ __ __ __ __ __ __       _____
  13    None        __ __ __ __ __ __ __ __       _____
  14    None        __ __ __ __ __ __ __ __       _____
  15    None        __ __ __ __ __ __ __ __       _____
  16    None        __ __ __ __ __ __ __ __       _____

PF: 1-Menu           4-Add 5-Delete   7-Back 8-Forw 9-Default 10-Done
```

The 3270 Host Classes panel is optional. It would normally be configured only if you wanted to pool the sessions to a particular LPAR so that several terminals would have access to a limited number of sessions. (For example, you could configure the SCON-2XL with 32 coax ports, and up to 16 different LPARs with each terminal capable of connecting to whichever LPAR was desired by going through a connect panel. A description of the fields found on this panel follows.

Class

This is a protected field which assigns the class number. This number may be used on the Device Profile and Device Profile Assignments panels in order to allow pre-connection assignments to the specific 3270 Host Classes.

Host

This is a toggle field indicating which 3270 host circuit is assigned to the class. To disable a class, toggle to NONE. A Host Character (00-F7 or A-Z, 1-6) will be shown if you have not specified a Host Identifier on the Host Circuit panel for that host. Otherwise, the Host Identifiers will be shown.

LU Ranges

You may specify either a single LU, by entering an address in only the LO column, or a range. Obtain the LU values from your systems programmer. The range for Non-SNA consoles is limited to 00-1F hex or 00-31 decimal. These ranges use relative addressing,

rather than actual addressing. For example, if the range of addresses assigned to ESCON CU 0 were from 14 to 27, the first address of CU 0 would still be referred to as address 00 on this panel. Likewise address 15 would be referred to as address 01 on this panel. The entire range would be relative addresses 00-13, representing the CU defined address range of 14-27. A setting on the General Options panel determines whether the values are displayed in decimal or hexadecimal.

Class Name

This field allows you to assign a 16 character name to the class. This name may be used to connect to the class on the 3270 Connect Screen, and will appear as a toggle option for the Host Assignments at Power On field on the Device Profile/Host Assignments panel. Note that Class Names are always saved as uppercase. Workstations and PCs that will refer to the Class Name must match exactly.

Chapter 5. Telnet Host Sessions

The SCON-25L and SCON-28L support up to 32 Telnet Host Sessions (expandable to 256 with a Telnet FAD). These sessions can be used by coax terminals and Telnet clients to access a Telnet Host Server or TN3270 Server (such as another SCON-2XL). Emulations provided include DEC VT52, VT100, VT2XX, DEC DG210, DG410, IBM 3101, Printer, and TN3270/TN3270E. To configure this feature you must first configure a number for 'Telnet Host Connections' on the Line Options/FET Configuration Panel. Then you will be required to configure one or more ASCII session profiles and one or more IP host classes. Finally you will need to authorize devices to have access to these sessions and assign Telnet Host Sessions to the desired coax and Telnet clients.

ASCII Session Profiles

The ASCII Session Profiles panels are used to configure options for Telnet Host sessions. ASCII Session Profiles are assigned to Host Classes on the IP Host Classes panels and on the TCP/IP LAN Print Server Classes panel. When a session connects to an IP the Profile assigned to the class connected to will be used. Alternately, you can change the ASCII Session profile on the Connection panel.

ASCII Session Profile 01

```
ASCII Session Profile 01                        LINCS C8.2 Central Control

Profile Name:               _____
Answer Back Sequence:       _____
Disconnect Sequence:        _____

Terminal Emulation:         DEC VT2xx    Timer Disc:      0000
Translate Tables:           Primary      Bold:  Normal
Character Set:              NRC VT2xx Controls: 7 bit

Tab Motion:                 Direct       Auto Wrap:       Disable
Newline:                    Disable      Cursor Keys:     Normal
Keypad Mode:                Numeric      Numeric Keypad: Decimal
Cursor:                     Enable       Margin Bell:     Disable
Formfeed:                   Linefeed     Column Change:   Preserve

3101 Turnaround Char:       CR  3101     CR Key:          CR
3101 Scroll:                Off

Break Time (msec):          300 Duplex:  Full

PF: 1-Menu  3-Def_Dflt 4-Add 5-Delete   7-Back 8-Forw  9-Default 10-Done
```

Most of the options on this panel are used for asynchronous emulations only. If you are configuring for TN3270 you can leave these options defaulted.

Profile Name

This is the name used as the host identifier for the ASCII session when using this profile.

Answer Back Sequence

Type up to 30 characters that will be used as an answerback sequence for CTRL break.

The Answerback and Disconnect Rules follow:

- To generate control characters within the string, enter a two-character sequence like those shown in the table Answerback and Disconnect Chars.

- The caret (^) initiates a control character sequence and the character immediately following the caret defines the control character.

- If the ^ (caret) character is followed by a character not in the table, then the character is copied to the ASCII string.

- Caret ^^ (caret) generates a single ^ (caret) character.

- Characters entered after ^ (caret) must be uppercase.

- A single ^ (caret) at the end of the string is converted intact.

    Example: To put a carriage return/newline sequence in an ASCII disconnect string, type ^M^J (Control-M, Control-J) after the data that is to be transmitted to the host.

    Note: ^ (caret) may appear as ¬ (logical not) on some 3270 displays.

Answerback and Disconnect Chars

String	Hex	Char		String	Hex	Char
^A	1	SOH		^Q	11	DC1
^B	2	STX		^R	12	DC2
^C	3	ETX		^S	13	DC3
^D	4	EOT		^T	14	DC4
^E	5	ENQ (1)		^U	15	NAK
^F	6	ACK		^V	16	SYN
^G	7	BEL		^W	17	ETB
^H	8	BS		^X	18	CAN
^I	9	HT		^Y	19	EM
^J	A	NL		^Z	1A	SUB
^K	B	VT		^[	1B	ESC
^L	C	NP		^\	1C	FS
^M	D	CR		^]	1D	GS
^N	E	SO		^~	1E	RS
^O	F	SI		^?	1F	US
^P	10	DLE		^^	5E	^

(1) Answerback only: if the Attached Processor Feature is enabled, this will generate the device port number as a three digit ASCII character string.

Disconnect Sequence

Enter this field and set up a character sequence, for example, LOGOFF(CR or ^M), that is sent to the host before disconnecting an ASCII host session. You can enter up to 30 characters.

See Answerback Sequence for more information on the legal string characters.

Duplex

Options are: HALF and FULL

Translate Tables

Toggle to select Primary or Secondary.

This field lets you specify whether the language for this host is the Primary or Secondary language. Primary and Secondary Languages are specified on the Language Options panel.

Each time an end-user connects to an ASCII host using this profile, both the Translate Tables and Keyboard Tables will be set according to the configured value. When a secondary language has been configured, a user may press Exsel-L while in an ASCII session to toggle both the Translate Tables and Keyboard Tables to the other language.

Terminal Emulation

This field defines the type of ASCII terminal to be emulated on a 3270 terminal, so the 3270 terminal can have a session with an ASCII host. This emulation is also used initially if a TN3270 connection is being made to a server (NVT Mode). Choose one of the following:

- DEC VT52
- DEC VT1XX
- DEC VT2XX 7 bit
- DEC VT2XX 8 bit
- DG210
- DG410
- IBM 3101
- Printer

Timer Disc

This field specifies the number of minutes that a host can be inactive before the session times out and automatically disconnects. Enter the number of minutes to wait before inactivating a session, from 0 to 1440.

Bold

Because a CUT mode terminal cannot support the bold attribute the same way an ASCII terminal does, this field lets you select an EAB attribute that can be used in place of bold. Toggle among the choices to select one of the following options:

- Normal (normal video default)
- Reverse video
- Underline
- Blinking
- White
- Red
- Blue
- Yellow
- Turquoise
- Pink

Character Set

To enable the use of multiple languages, LINCS supports Multinational Character Set (MCS) inbound data (keys) and outbound data (displayable characters) and the National Replacement Character Set (NRC) inbound and outbound data. Each device can use one character set at a time.

- MCS - An ASCII character set that includes all 8-bit characters 00-FF hex. The MCS can support all foreign languages without modification.

- NRC - The NRC is an ASCII character set that includes only 7-bit characters 00-7F hex. To support foreign languages, the NRC is modified by replacing certain displayable characters with those required by the foreign language.

  The NRC tables are automatically modified for the language configured. The ASCII Definition Utility (ADU), gives instructions for making custom modifications to the NRC or MCS tables.

  For a list of supported languages, see the table Languages Supported.

VT2xx Controls

Options are: 7 BIT or 8 BIT control characters. This field is ignored if terminal emulation is not DEC VT2xx.

Tab Motion

Options are DIRECT or SPACE FILLED tabs. SPACE FILLED causes tab characters to be executed as though they consisted of the appropriate number of space characters.

Auto Wrap

Options are:

- ENABLE causes the cursor to move to the first position of the next line when a character is entered in the last position of a line.
- DISABLE allows a character to be entered on the last position of a line, at which point the cursor will stop. The user must then manually move the cursor to the next line, in order to continue entering characters.

Newline

Options are:

- DISABLE allows carriage return and line feed characters be processed independently.
- ENABLE causes a carriage return or a line feed to be interpreted as a carriage return followed by a line feed.

Cursor Keys

Options are:
- NORMAL causes the cursor keys to generate standard ANSI control codes that correspond to Cursor Up, Cursor Down, Cursor Left and Cursor Right.
- APPLICATION causes the cursor keys to generate escape sequences defined by the application mode. See ASCII Keyboard Codes for more information about escape sequences.

Keypad Mode

Options are:

- NUMERIC is the default, where the numeric keypad keys generate ASCII characters that match the numeric characters, comma, period and minus sign keys. Control functions are generated by the PF1 through PF4 keys.
- APPLICATION causes the keypad to generate the escape sequences defined by the application mode. See "VT1xx/VT2xx ANSI Mode Control Sequences".

  Note that the application that you are connected to may define which mode the keys will be in.

Numeric Keypad

Options are DECIMAL and HEX. The option chosen here is ignored if Keypad Mode is chosen as APPLICATION.

- DECIMAL causes the keypad to operate like a numeric keypad.
- HEX causes the keypad to generate hexadecimal codes for the following keys:

102 and 122 key keyboard	26-29,33, and 39
88 key keyboard	1-4,12 and 13

Cursor

Toggle to ENABLE or DISABLE the cursor. Default is ENABLE, so you can see where the cursor is on the screen.

Margin Bell

Toggle to ENABLE or DISABLE the right margin bell.

Formfeed

Options are:

- LINEFEED causes a single linefeed to be processed when a formfeed is received.
- HOME AND CLEAR causes the screen to blank and the cursor to move to the Home position when a linefeed is received.

Column Change

Options are:

- PRESERVE the screen information or

- CLEAR and HOME Clear the screen and put the cursor on home

...when changing screen size from 80 to 132 columns or back.

3101 Turnaround Character

This field determines the character that is sent following Escape sequences to notify the host to change the direction of the datastream. You can select this parameter now for future 3101 Emulation sessions, even if you are not currently configuring the port for 3101 emulation.

3101 CR Key

Options are:

- CR transmits CR when the Newline key is pressed.

- CRLF transmits a Carriage Return and Line Feed when the Newline key is pressed.

3101 Scroll

Turn screen scrolling ON or OFF.

Break Time

LINCS sends a spacing character at the interval specified here. The value ranges from 50 to 500 milliseconds in increments of 50, and the default is 300 msec.

For coax keyboards use the keyboard to send a spacing character:

- 88 key - Hold down the ALT key and press the Up Arrow Key
- 102, 104 and 102 key - Press PF5

Second ASCII Session Profile Screen

```
ASCII Session Profile 00                    LINCS C8.2 Central Control

                        TELNET OPTIONS

Interrupt Process:      00            Abort Output:      00
Break Character:        00            Are You There:     00
Erase Character:        00            Erase Line:        00

Echo:               Disable          Binary:            Disable
Timing Mark:        Disable          Status:            Disable
Terminal Type:      Disable          End of Record:     Disable
TCP Port:           00000            TCP Port Action:   None

TN3270 Session:     Disable          TN3270E Support:   Disable
ATTN Key:           None
SYSREQ Key:         None


PF: 1-Menu  3-Def_Dflt  4-Add 5-Delete  7-Back 8-Forw 9-Default 10-Done
```

If you intend to configure TN3270 sessions, just enable the TN3270 session option and LINCS will indicate which other options are needed on this panel, if you press <PF8>. Likewise if you need the TN3270E options.

Interrupt Process

This field lets you define the ASCII character that will generate the Interrupt Process character for TELNET.

The valid range is 00 to 31 decimal. 00 is the default and disables the option.

Abort Output

Defines the ASCII character that will generate the Abort Output Character for TELNET.

The valid range is 00 to 31 decimal. 00 is the default and disables the option.

Break Character

Defines the ASCII character that generates the Break Character for TELNET.

The valid range is 00 to 31 decimal. 00 is the default, and disables the option.

Are You There

Defines the ASCII character that will generate the Are You There character for TELNET.

The valid range is 00 to 31 decimal. 00 is the default and disables the option.

Erase Character

Defines the ASCII character that will generate the Erase Character for TELNET.

The valid range is 00 to 31 decimal. 00 is the default and disables the option.

Erase Line

Defines the ASCII character that will generate the Erase Line Character for TELNET.

The valid range is 00 to 31. 00 is the default and disables the option.

Echo

Enabling this option will cause all characters sent to the host to be echoed to the screen. See RFC 857 for more detail.

Binary

Enabling this option allows binary communication upon receipt of standard codes. See RFC 856 for more detail. This is required for TN3270/TN3270E.

Timing Mark

Enabling this option provides a mechanism for ensuring that transmitted data has been properly processed. See RFC 860 for more detail.

Status

Enabling this option allows the user to verify the current Telnet options. See RFC 859 for more detail.

Terminal Type

Enabling this option allows the Telnet server to determine the type of terminal connected to it. See RFC 930 for more detail. This must be enabled for TN3270/TN3270E.

End of Record

Enabling this option causes the session to use the End-of-record character sequence as detailed in RFC 885. This must be enabled for TN3270/TN3270E.

TCP Port

This identifies the TCP Port that is used to connect to an IP host, by a device using this profile.

The valid range is 00000 through 65535. 00000 is the default, which means the TCP Port is not considered for IP host connections.

TCP Port Action

This field identifies how the TCP Port value is used. Options are:

- None (default) - the TCP Port will be used as defined in the TCP Port field.
- Incremental - the TCP Port field will be a base value, to which is added the port number of the device that is connecting. The easiest way to see which TCP Port value will be used by each port, is to go to the Device Profile Assignments panel, and look at the devices using this ASCII Session profile. The first such device uses the TCP Port, the next uses TCP Port plus one, and so on.

TN3270 Session

TN3270 Session toggles between Enable and Disable (default).

Enable indicates that the session will attempt to negotiate the Telnet options for a TN3270 session. If Enable is chosen the Binary, Terminal Type, and End of Record toggle fields must also be enabled. If not, LINCS will issue an error message, and you will not be able to leave this panel until these options are selected, or the TN3270 Session field is returned to Disable.

TN3270E Support

When enabled, this option forces the ATTN and SYSREQ key options to be selected compatible with the TN3270E protocol.

ATTN Key

Options are:

- Telnet Break command (default and TN3270 Current Practices RFC recommendation)
- Telnet Interrupt Process command (TN3270E requirement)
- None

The selected option must be coordinated with the TN3270 Server's expectations.

SYSREQ Key

Options are:

- Telnet Interrupt Process command (default and TN3270 Current Practices RFC recommendation)
- Telnet Abort Output command (TN3270E requirement)
- None

The selected option must be coordinated with the TN3270 Server's expectations.

```
IP Host Classes                              LINCS C8.2 Central Control
                                       ASCII Ses
Class  Line   IP Address or Name        Profile      Class Name
-----  ----   ------------------       ----------   ----------------
 01    FET1   192.155.21.200              01         sulu-telnet
 02    FET1   winner.lincs.visara.com_____  02      sweepstakes_____
 03    None   _____   __      _____
 04    None   _____   __      _____
 . . . .
 15    None   _____   __      _____
 16    None   _____   __      _____
PF: 1-Menu          7-Back     8-Forw      9-Default    10-Done
```

The IP Host Classes panel will be displayed if TELNET Host Connections are enabled for any line.

Class

This field shows class numbers. A class is a unique group of one or more IP hosts and the devices that have access to these hosts. There can be up to 16 classes; the numbers are 1 through 16 and are predefined.

Line to IP Host

Enter the line which will be used to connect to the IP Host(s) in this IP Host Class.

IP Address or Name

Enter a four-octet decimal number for the IP address of the remote IP Host or enter the Domain Name of the remote IP host. The IP address should be a uniquely assigned value given to the remote device by the network administrator. It needs to follow the guidelines of any IP address assignment, four octets separated by dots. If a Domain Name is used, you should have previously configured an address for the DNS Server in order for LINCS to get the Domain Name resolved.

ASCII Session Profile

This is the number of the ASCII Session Profile created in the previous panel/step. The range is from 0 to 15.

Class Name

This field, which lets you specify a name for the class, must be filled in if any IP hosts are defined. The name could indicate the IP host to which the ports in that class are connected or could identify the host application that is accessible via the host ports. Since there can be up to 16 classes, each class name must be unique. Class names cannot exceed 16 alphanumeric characters (including hyphen, period and underscore), and are required.

After configuration, this class name is used on the IP Host Connection panel.

Chapter 6. TN3270 Client Definition Panel

The TN3270 Client Definition panel is used to map LINCS 3270 host resources to TN3270 clients. Through configuration of this panel, it is possible to assign specific LUs to a client, or give LUs from a pool (3270 Host Class). It is also possible to determine whether a password is required by a client to gain access.

Not all TN3270 emulators are capable of handling the command chaining used by console devices. Most should work however as VTAM devices.

Specific LUs can be assigned using four different methods:

1. You can have a separate entry on this panel for each client, using the client's IP address to determine which resource is assigned to them. (This of course will not work in DHCP environments.)

2. You can use a different TCP port for each client, so that depending on which port is used to connect to the 2XL, only a specific LU is given out.

3. The client can request the 2XL resource at connection time using the format "00,06" to request session "06" on host circuit "00" (or "a,02" to request session "02" on host "a" on older code versions) from the 2XL. This method can be prohibited by enabling one of the RPQ options.

4. A nickname file can be set up to associate a requested resource name to a specific 2XL resource.

TN3287 clients typically request their own LU at connection time as an extension of the Device Type field. As an example, the client would request the following device type IBM-3287-1@01,16 where the device type is IBM-3287-1 and the extension @01,16 indicates that host circuit 01, LU 16 (hex) is desired. When requesting specific LUs in this fashion, no specific entry in the TN3270 Client Definition Panel is required. The LU requested, however should be defined as part of a 3270 Host Class, set aside for specific LUs that will be requested by TN3270 clients.

If a client requests a specific LU at connection time, the request takes precedence over what is configured, unless one of the RPQ options is enabled to limit connections to those configured, or to ignore all LU requests.

Requests that include invalid information such as a host or class that does not exist will result in a failed connection attempt.

When attempting to match a resource to a client connection request, the 2XL will search the configured options based on the order in which they are defined on this panel. Therefore, if the first entry for a user connecting on port 23 happens to be to get a session from a pool, then it does not matter that a specific LU assignment was defined further down the panel, they would get the pooled session instead. For this

reason, it is good practice to define specific LU assignments earlier in the table than pooled resource assignments.

Likewise, when using a nickname file to assign resources the nickname file is searched from the beginning until the first match is found.

The TN3270 Client Definition Panel is displayed if TN3270 Client Connections are configured on the TCP/IP Options panel for one or more network interfaces.

Note that you can have more TN3270 Client Definitions than the number of TN3270 Sessions specified on the TCP/IP Line Options panel for a specific network interface. The number configured for a specific line however, will limit the number of concurrent connections.

TN3270 Client Definition Panel

```
TN3270 Client Definition Panel 000              LINCS C8.2 Central Control

Line    Port     IP Address       Type          3270 Host                LU

FET1   00983 207 015 182 113 VisaraNCT PW OS390_prod4                    06
FET1   01067 207 015 182 117 VisaraNCT ID VMESA_prod3                    06
FET1   01187 207 015 182 119 Client PW    OS390_prod4                    07
FET1   00224 ___ ___ ___ ___ VisaraNCT    3270 Class: TN3270E_CLIENTS  __
FET1   00225 207 016 182 000 Subnet       3270 Class: TN3270E_TEST     __
FET1   00227 207 015 182 121 VisaraNCT PW Disable                      __
FET1   01191 ___ ___ ___ ___ Client ID    3270 Class: ZOS_PROGRAMMERS  __
FET1   02120 ___ ___ ___ ___ Client+CC PW OS390_prod4                    03
FET1   02121 ___ ___ ___ ___ Client+CC ID OS390_prod4                    04
FET1   02122 207 015 182 137 Client+CC    VMESA_prod3                    02
FET1   _____ ___ ___ ___ ___ Client       Disable                      __
FET1   _____ ___ ___ ___ ___ Client       Disable                      __
FET1   _____ ___ ___ ___ ___ Client       Disable                      __
FET1   _____ ___ ___ ___ ___ Client       Disable                      __
FET1   _____ ___ ___ ___ ___ Client       Disable                      __
FET1   _____ ___ ___ ___ ___ Client       Disable                      __

 PF: 1-Menu      3-Auto  4-Add 5-Delete   7-Back 8-Forw 9-Default 10-Done
```

A summary of the options for the above panel can be found below. Afterwards there is a discussion of the specific example shown.

Line

This field toggles through all Ethernet boards that have TCP/IP enabled and TN3270 Clients defined.

Port

This is a five digit decimal number that defines the TCP Port that the server will listen on for a TN3270 connection. This number <u>must not</u> be the same as one used for a Telnet display in the Network Device Definition panel, LPD print server, or TCP print server.

IP Address

The IP address field is optional. If an address is entered, a TN3270 client connecting on that TCP Port <u>must</u> reside at that IP address. If another entry contains the same resource, such as in a 3270 Host Class, and a user requests a session from that class, the LU will be given out to the requester.

Type

This field determines how the IP address is to be interpreted, whether passwords are required, and what type of client is allowed to connect. The options are

- **Client:** A TN3270, TN3270E, or TN3287 client may attempt to connect. If an address has been configured, only a client using that address will be allowed the connection. LINCS handles any command chaining data streams for the client.

- **Client PW:** This is handled the same as a client request, except that the client will be challenged for a password. Do not use this definition for a TN3287 client.

- **VisaraNCT:** This definition is only to be used with Visara 1783 and 1683 clients running IL47 microcode or higher, or Visara 1883 clients. The TN3270 client function of a downstream LINCS platform also uses this definition. No other device will successfully negotiate the special command chaining option that this definition implies.

- **VisaraNCT PW:** This is handled the same as a console request, except that the client will be challenged for a password.

- **Subnet:** When set for "Subnet" the address configured for this entry will be treated as a subnet address, and only users connecting from that subnet will be permitted a connection. If no address is configured, the entry will be ignored.

- **Client ID:** This entry requires the user to provide a User ID and Password to make the connection. The User ID and Passwords are defined in the 'nickname.sys' file described later. LINCS provides all Command Chaining sequence handling for the client, when the session is a console session.

- **Client+CC:** This configuration requires the client to provide its own Command Chaining datastream handling.

- **Client+CC PW:** Configuring this option requires the client to provide its own Command Chaining datastream handling, and challenges the client for the configured Telnet password (as configured in the LINCS configuration).

- **Client+CC ID:** When this entry is used, the client must provide its own Command Chaining datastream handling, and the user must provide a valid User ID and password, as described in the following section on the 'nickname.sys' file.

- **VisaraNCT ID:** This definition is restricted to TN3270 clients running on Visara NCTs and other LINCS platforms. In this instance, the user must provide a valid User ID and password when establishing their connection.

3270 Host

This optional field toggles to DISABLE and through all 3270 Hosts and 3270 Host Classes. If this field is set to DISABLE and a TCP port number has been defined for this entry, the user will be prompted at connect time for a host or host class using Telnet NVT ASCII data. A menu of all available configured host class resources will be painted on the client's screen.

LU

The 3270 LU field is required if the 3270 Host field contains a 3270 Host entry. If the 3270 Host field is DISABLE, then this field is ignored.

Example Entries (from previous panel)

Entry 1

```
Line   Port   IP Address       Type            3270 Host                LU
----   ----   ----------       ----            ---------                --

FET1   00983  207 015 182 113  VisaraNCT PW    OS390_prod4              06
```

This entry provides a session (address 06 for host "OS390_prod4" to a 1683/1783/1883 device or LINCS platform (SCON-25L or 1174) with an address of 207.15.182.113 only. The client must connect to the 2XL on incoming port 983. The client will be challenged for the password.

Entry 2

```
Line   Port   IP Address       Type            3270 Host                LU
----   ----   ----------       ----            ---------                --

FET1   01067  207 015 182 117  VisaraNCT PW    VMESA_prod3              06
```

This entry provides a session (address 06 for host "VMESA_prod3" to a 1683/1783/ 1883 or LINCS device with an address of 207.15.182.117 only. The client must connect to the 2XL on incoming port 1067. The client will be challenged for the password.

Entry 3

```
Line   Port  IP Address      Type         3270 Host                   LU
----   ----  ----------      ----         ---------                   --

FET1   01187 207 015 182 119 Client PW    OS390_prod4                 07
```

This entry provides address 07 on host circuit "OS390_prod4" to an incoming client that has IP address 207.15.182.119. The client is a PC, and the session is either a VTAM session or the client will be required to handle the command chaining operations. The client will be challenged for a password when connecting.

Entry 4

```
Line   Port  IP Address      Type         3270 Host                   LU
----   ----  ----------      ----         ---------                   --

FET1   00224 ___ ___ ___ ___ VisaraNCT PW 3270 Class: TN3270E_CLIENTS __
```

The fourth entry is for a 1783/1683/1883 or LINCS type of device connecting in on port 224. Since no IP address is specified, any user connecting to port 224 will be accepted. The user will be given a session out of the 3270 Host Class "TN3270E_CLIENTS".

Entry 5

```
Line   Port  IP Address      Type         3270 Host                   LU
----   ----  ----------      ----         ---------                   --

FET1   00225 207 016 182 000 Subnet       3270 Class: TN3270E_TEST    __
```

The fifth entry allows any user located on subnet 207.16.182.0, and connecting in on port 225 to get a session out of the 3270 Host Class "TN3270E_TEST". There will be no challenge for a password, and the clients will be required to handle command chaining if GEN'ed to be a console. This type of entry might be used for VTAM users.

Entry 6

```
Line   Port  IP Address      Type         3270 Host                   LU
----   ----  ----------      ----         ---------                   --

FET1   00227 207 015 182 121 VisaraNCT PW Disable                     __
```

This entry allows a 1783/1683/1883 or LINCS user, connecting to port 227 to get a menu of selections. The user must be connecting from the IP address 207.15.182.121 and will be challenged for a password when they connect.

Entry 7

```
Line   Port   IP Address       Type           3270 Host                    LU
----   ----   ----------       ----           ---------                    --
FET1   01191  ___ ___ ___ ___  Client ID      3270 Class: ZOS_PROGRAMMERS  __
```

This entry requires the user connecting in on port 1191 to enter a valid User ID and password. If a valid User ID and password is given, then a session from the 3270 Host Class called 'ZOS_PROGRAMMERS' will be given. Multiple users can connect through this same definition, each using the same or different User ID and passwords, as long as they are valid.

Entry 8

```
Line   Port   IP Address       Type           3270 Host                    LU
----   ----   ----------       ----           ---------                    --
FET1   02120  ___ ___ ___ ___  Client+CC PW   OS390_prod4                  03
```

This entry supports only TN3270 clients that provide their own handling of Command Chaining sequences, if this entry is to connect the user to a console session. The user will be challenged for the configured LINCS Telnet password when they connect to port 2120.

Entry 9

```
Line   Port   IP Address       Type           3270 Host                    LU
----   ----   ----------       ----           ---------                    --
FET1   02121  ___ ___ ___ ___  Client+CC ID   OS390_prod4                  04
```

This entry also supports only TN3270 clients that provide their own handling of Command Chaining sequences for console sessions. In this case the user must provide a valid User ID and password and connect to port 2121.

Entry 10

```
Line   Port   IP Address       Type           3270 Host                    LU
----   ----   ----------       ----           ---------                    --
FET1   02122  ___ ___ ___ ___  Client+CC      VMESA_prod3                  02
```

Similar to the previous two entries, only TN3270 clients that provide their own handling of Command Chaining sequences for console sessions should attempt to use this entry. In this case the user must connect to port 2122, and must be using the configured IP address of 207.15.182.137.

The Nickname File

Optionally, a nickname file may be used to assign sessions to users and to help provide password security. Differently formatted entries may be used to provide resource assignment, User ID/password security, and resource security.

The nickname file (nickname.sys) is an ASCII text file, and can be created on a PC using any text editor. The Visara eManager product also may be used to create, manage, and distribute the nickname.sys file. The name of the file must be nickname.sys, and no other file name will be recognized by LINCS. The file must be present in the system directory on the LINCS hard drive, or on a floppy present in the floppy drive at boot time. The file is read only at boot time, or when the utility /3/5 is run. Note that you can only run the /3/5 utility if the file already exists, and the new file should not exceed the original file size (read at boot time) by more than 20%.

File entries may be of the following types:

Name=resource
Where the name can be any alphanumeric name, 12 characters or less, and the resource is a LINCS SCON-2XL resource. LINCS resources that are valid include the name of a 3270 Host Class, or a host designator followed by a comma and the two hex character address of the desired session. Here is an example:

Console003=05,03

In this example, the resource name 'console003' would be configured in the TN3270E client (LU Name field), and would be requested by the client emulator at connection time. The resource that the 2XL will give to the client is session 03 from Host Circuit 05.

Name=resource password
This entry is exactly the same as the previous entry except that a password is added to the end of the entry, separated from the rest of the entry with a space. In this instance, to receive the requested resource, the user must enter the correct password. A corresponding example is shown below:

Console003=05,03 pituitary

The password can be a combination of alphanumeric characters.

UserID-password
This type of entry is used to validate a user at connect time. It is used with all client types defined on the TN3270 Client Definition panel that have the letters 'ID' included ('Client ID', 'VisaraNCT ID', 'Client+CC ID'). These client types will prompt the user for a User ID, and if a valid User ID is given as found in the nickname.sys list, then the corresponding password must be given to establish the connection. An example entry might appear like this:

Virgil-Bonita671

Notes:

1. No white space is permitted between the name, the equal sign, and the resource, nor within the resource notation itself, except to permit the inclusion of a password.

2. Even though a Host ID may have been assigned to the Host Circuit, the only notation that may be used in this definition can be the character representing the Host Circuit (00-7F or A-Z, 1-6 for older code versions).

3. The address portion of the notation is a two digit hex value, and is offset from 00, regardless of what the actual addresses are, being used on the channel. (For example if the address range of A0-A7 is being defined on the host, the 2XL will refer to the range as 00-07 when assigning resources.)

4. The resource listed can be the name of a 3270 Host Class.

5. Entries are separated by a CR/NL in the file. A blank line will be interpreted as the end of the file.

6. At least one valid port must be defined for use on the TN3270 client definition panel. LINCS will only listen on TCP ports defined on the TN3270 Client Definition panel for connecting TN3270 clients.

7. The nickname file is not associated with any particular network adapter. This can simplify the configuration when using the SMS feature to balance user connections across multiple network interfaces.

8. By including the line 'sensitive=yes' as the first line of the nickname file, the remaining entries are treated as case sensitive.

Chapter 7. Creating Print Server Queues

The SCON-25L and SCON-28L can be configured to allow its coax attached printers to be available to the network for printing text-based print jobs. For example, the 25L/28L can receive LPR/LPD prints from a Unix host. Setting up print queues can be quite simple.

Prior to configuring this panel, you should have enabled IP protocol on the appropriate FET card and configured the IP interface. You also should have assigned 'Drive C' as the 'LPD Server/Printers Drive' on the TCP/IP options panel if you are planning to use the LPD protocol.

After configuring this panel, you will need to assign the print queues to the printers that are to service the queues, on the Device Profile Assignments panel. Use the appropriate Print Queue Designator ('S' and the class number is used for the Original Key assignments, and '%' and the class number is used for the Modified Key assignments). Refer to the chapter on Device Options later in this book.

TCP/IP LAN Print Server Classes

```
TCP/IP LAN Printer Server Classes                    LINCS C8.2 Central Control


                                        TCP    Max    Implied  Form
Class  Type   Line  Queue Name          Port   Conn   CR       Feed    Pro
-----  ----   ----  ------------------  -----  ----   -------  -----   ---
  01    TCP    FET1  FASTPRINT_____  06000   0     Disable   After   00
  02    LPD    FET1  QueuedPrint_____  00000   4     Disable   After   00
  03    None   None  _____  00000   0     Disable   After   00
  04    None   None  _____  00000   0     Disable   After   00
  05    None   None  _____  00000   0     Disable   After   00
  06    None   None  _____  00000   0     Disable   After   00
  07    None   None  _____  00000   0     Disable   After   00
  08    None   None  _____  00000   0     Disable   After   00
  09    None   None  _____  00000   0     Disable   After   00
  10    None   None  _____  00000   0     Disable   After   00
  11    None   None  _____  00000   0     Disable   After   00
  12    None   None  _____  00000   0     Disable   After   00
  13    None   None  _____  00000   0     Disable   After   00
  14    None   None  _____  00000   0     Disable   After   00
  15    None   None  _____  00000   0     Disable   After   00
  16    None   None  _____  00000   0     Disable   After   00

PF: 1-Menu                    7-Back     8-Forw     9-Default   10-Done
```

A description of the fields found on this panel follows.

Class

The Class number is an index number used on the Device Profile Assignments panel to distinguish which print queue is being assigned to a printer.

Type

TCP Socket printing and LPD printing are both supported by the SCON-2XL. There are advantages to both types of printing, and you must coordinate the type of printing with the client platforms that will be sending the print jobs. TCP printing can be accomplished faster (data is not queued before printing), and is better suited as a dedicated printer (one source for the print jobs), since only one source can send a job at a time. LPD printing requires that the print job be received in total before printing commences, but multiple jobs can be received and queued for the printer.

Line

This refers to the network adapter that will be listening for the print jobs. You can toggle through the available network adapters installed in the SCON-2XL, to select the correct one.

Queue Name

The queue name is used by LPD to route the job to appropriate print queue within the SCON platform. The print queue name is case sensitive, so be careful to coordinate the configuration of this name with the client configurations. A queue name is not used by the TCP Socket printing method, but LINCS requires that you create a name for benefit of feature management.

TCP Port

This option need only be configured for TCP print servers, and must be coordinated with the clients that will be sending jobs to this server. This is the TCP port that LINCS will be listening on to receive the print job. Only one client can connect to this port at one time. You can configure multiple queues each with a different port if desired. Ports used by LPD are predefined by the protocol, and do not need to be configured on the client or the server. Do not use ports assigned to other features such as Telnet or TN3270.

Maximum Connections

The number of connections only applies to the LPD print queues (not TCP), and is used to determine how many concurrent users can establish a connection at one time for the purpose of transferring a print job. The FET card has a finite number of connections that are allowed at one time for use by Telnet Host connections and Print Server connections, so you need to coordinate the use of these connections. If a user attempts to connect when all of the allocated sessions are in use, the connection request will be refused, and most clients will attempt to retry the connection later. The number of retries is often configurable at the client. Once the job is received it is spooled to the hard drive, to await its turn to be printed, and the connection is freed up for another user to connect to.

Implied CR

The setting of this parameter is used to determine whether LINCS is to add a CR into the data stream before passing it to the printer.

Form Feed

This option allows you to indicate whether a Form Feed should be sent by LINCS after the print job or not. The options are 'After' and 'None'.

Profile

This value refers to an ASCII Session Profile (refer to the discussion in the Telnet Host Sessions chapter, elsewhere in this document) that must be assigned to this definition. The only use of the profile is to determine whether to use 7-bit ASCII or 8-bit ASCII code tables when receiving the data. This needs to be coordinated with the clients that are sending the print jobs.

Chapter 8. Network Device Definitions

The Network Device Definitions panel is used to define Telnet clients and LAN printers to the LINCS operating system used by the SCON-2XL. The appearance of the panel varies greatly depending on what type of device you are defining. Toggling the Device Type field will cause the appropriate options to appear for the device type selected.

The number of network devices that are supported by the SCON depends on the model and whether the Telnet FAD is installed. The SCON-20L supports a maximum of 16 network devices. The SCON-22L supports a maximum of 32 network devices. The SCON-25L and SCON-28L both support up to 32 network devices without a Telnet FAD, and up to 256 network devices (maximum of 128 per FET card) with the FAD installed

Network Device Definition Panel - Ethernet, Telnet Display

```
Network Device Definition 002                   LINCS C8.2 Central Control
LAN Line:                 FET1    Device Type:    TELNET Display

          0         1         2         3         4         5         6
          1234567890123456789012345678901234567890123456789012345678901234567890123
Ports:    0100000000000000000000000000000000000000000000000000000000000000
In Use:   1000000000000000000000000000000000000000000000000000000000000000
                  7         8         9         10        11        12
          45678901234567890123456789012345678901234567890123456789012345678901234567
Ports:    0000000000000000000000000000000000000000000000000000000000000000
In Use:   0000000000000000000000000000000000000000000000000000000000000000
TCP Port:            06191

IP Address or Name:      201.56.91.11_____


PF: 1-Menu    4-Add    5-Delete   7-Back    8-Forw     9-Default  10-Done
```

Network Device Definition Panel - Ethernet TCP (LAN) Printer

```
Network Device Definition 001               LINCS C8.2 Central Control
LAN Line:               FET1    Device Type:    TCP Printer
           0         1         2         3         4         5         6
           1234567890123456789012345678901234567890123456789012345678901 23
Ports:     100000000000000000000000000000000000000000000000000000000000 00
In Use:    010000000000000000000000000000000000000000000000000000000000 00
                   7         8         9         10        11        12
           4567890123456789012345678901234567890123456789012345678901234567
Ports:     0000000000000000000000000000000000000000000000000000000000000000
In Use:    0000000000000000000000000000000000000000000000000000000000000000
IP Address or Name:     PRINT16.VISARA.COM
TCP Port:               09100
IPDS Support:           Disable


PF: 1-Menu    4-Add   5-Delete  7-Back   8-Forw    9-Default 10-Done
```

Network Device Definition Panel - Ethernet LPD (LAN) Printer

```
Network Device Definition 003               LINCS C8.2 Central Control
LAN Line:               FET1    Device Type:    LPD
           0         1         2         3         4         5         6
           1234567890123456789012345678901234567890123456789012345678901 23
Ports:     001000000000000000000000000000000000000000000000000000000000 00
In Use:    110000000000000000000000000000000000000000000000000000000000 00
                   7         8         9         10        11        12
           4567890123456789012345678901234567890123456789012345678901234567
Ports:     0000000000000000000000000000000000000000000000000000000000000000
In Use:    0000000000000000000000000000000000000000000000000000000000000000
IP Address or Name:     _____
Queue Name:             .
Limit Source TCP Port:  Disable
Print Banner:           Disable
Retry Count:            000
Retry Interval (sec):   000
Feature Memory (K):     0
Print Failure Action:   Delete Print Job

PF: 1-Menu    4-Add   5-Delete  7-Back   8-Forw    9-Default 10-Done
```

Options common to Network Device Definition Panels

LAN Line

Toggle to the desired FET line.

Device Type

Toggle to the desired device type. Valid devices are TELNET Displays, TCP Printers, and LPD Printers.

Ports

Each column position corresponds to a Network Device port for the indicated line. To enable a particular port for this Network Device definition, put a 1 in the column for that port.

For example, a 1 in the first column (00) corresponds to FET1.000. The port numbers assigned on these NDD panels will appear later in the configuration on the Device Profile Assignments panel.

You can assign multiple ports to a single NDD, but this is only practical for Telnet definitions where specific LUs are not required (Leave 'IP address or name' field blank).

In Use

Each column position corresponds to a Network Device port for the indicated line. These fields are for reference and are protected. They show you which ports on this line are already assigned to another Network Device Definition.

Note: You can define the same port to multiple Network Device Definitions only if the Device Type is the same.

Options unique to Telnet Displays

TCP Port

This field defines the TCP Port which Telnet displays will use to connect to port(s) specified by this NDD (Network Device Definition). If multiple ports are enabled in an NDD, a Telnet display attempting connection will be assigned the first available LAN port in the NDD that has a TCP Port matching the requested TCP Port. If multiple NDD panels use the same TCP Port number for Telnet displays, the first available LAN port for the first available NDD panel will be assigned.

IP Address or Name

This field is optional. Use it if you wish to reserve a LAN port for a particular Telnet Display. This IP Address is the IP Address of that Telnet display. Optionally a Domain Name can be configured in this field.

Options unique to TCP Printers

IP Address or Name

This is the IP address or the Domain Name of the system where the TCP Print Server resides to which LINCS will be directing print jobs. When using a Domain Name, make sure that you have configured an IP address for the Domain Name Server, on the Line Options - TCP/IP Options panel.

TCP Port

This is the TCP Port that the TCP Print Server will listen to for print requests destined for this TCP Printer.

IPDS Support

When enabled, this parameter will cause LINCS to pass IPDS (mainframe graphics) to the LAN printer. The printer must be capable of supporting IPDS natively, such as the Genicom 5038 printer. (LINCS does not perform protocol conversion to other printer protocols such as Postscript or PCL5.)

Options unique to LPD Printers

IP Address or Name

This field contains the IP address of the host computer where the LPD print server resides, to which LINCS will be directing prints to. Optionally, you may code in a Domain Name instead of an IP address. When using a Domain Name, make sure that you have configured an IP address for the Domain Name Server, on the Line Options - TCP/IP Options panel.

Queue Name

This queue is where print files will be queued that are destined for the LPD printer. The queue can reside on a host or a LINCS LPD print server. The queue name can be up to 16 alphanumeric characters, and could be case sensitive at the printer. Some stand-alone LAN printers do not make use of a queue name, but you must still configure one to satisfy LINCS. If the LAN printer does not require a queue name, any configured queue name can be used.

Limit Source TCP Port

The Limit Source TCP Port field limits the range of source TCP ports that may be used for LPD print jobs.

ENABLE limits the range of available TCP ports to 721 through 731, as required by some LPD servers. If there are eleven active LPR sessions using all the TCP ports between 721 and 731, then any new print requests on a LPD device will be refused.

If this field is set to **DISABLE**, then the source TCP port can be any unused TCP port selected by the LINCS operating system.

Print Banner

- **ENABLE** causes LPR to insert the print banner command in the control file of each print job. (The banner information is defined on the TCP options configuration panel.)

- **DISABLE** causes LPR to omit the print banner.

Retry Count

This field determines the number of times LINCS will try to send a print job to an LPD server.

If all retry attempts fail, then the print job will be deleted or put on hold (depending on configuration), and event number 245_61 will be logged.

Retry Interval

This field specifies the number of seconds LINCS will wait before retrying to send a print job to an LPD server.

Feature Memory

The Feature Memory (K) field defines the amount of Feature Memory to allocate for each printer defined in this Network Device Definition. Memory is required to buffer a print job before it is sent to the LPD server.

This field toggles between a "Disk" option and incrementing values of memory, up to the amount of memory defined on the Product Description panel. Normally the value of "Disk" is the desired value for this option. The LPD Server/Printers Drive field must be configured on the TCP/IP Options panel in order for the "Disk" option to be available. If memory options are selected, the value should be set to the approximate number of ASCII characters in the largest print job expected to be processed by a printer in this Network Device Definition.

The total amount of memory required for all LPD printers will be calculated and displayed for informational purposes on the Feature Memory Allocation panel.

Print Failure Action

This field determines how a failure to send a print job to a LPD printer is to be handled. Choices are to Delete Print Job (default selection) and to Hold Print Job. If the Hold Print Job option is taken, it is possible to attempt the job again after the problem has been corrected with a utility in Central Control Mode. You may also choose to delete the print job from the same utility. If you select to Delete Print Job, the job will be deleted and no further notification to the host or user initiating the print will be given.

Chapter 9. Device Options

Device Options panels are used to define how the devices supported by the SCON-2XL are to be handled. There are several panels covering options common to all devices, specific types of devices, and options that can be specified for specific ports or groups of ports. The panels covered by this chapter include:

- Device Options/General
- Device Options/Keyboard
- Device Options/DFT
- Coax Multiplexing
- Dynamic Multiplexing Assignments
- Device Profiles/Host Assignments
- Device Profiles/Display
- Device Profile/Printer
- Device Profile Assignments
- Printer Assignments

Device Options/General Panel

```
Device Options/General                    LINCS C8.2 Central Control

Time of Day:                       Disable
Null/Space Conversion:             Off at Control Unit IML
Delayed Power On Notify:           Enable

          PASSWORD OPTIONS (must use PF4 to save changes)

ASCII/TELNET Password:             167thg9
Number of Days Password is valid:  002
Password Last Updated:             11 20 2000
Password Expires On:               11 22 2000


             RECORD PLAYBACK OPTIONS

Length of Each Global Sequences (K):    00
Length of Device Sequences  (K):        00


PF: 1-Menu   4-Update Password      7-Back    8-Forw    9-Default  10-Done
```

A description of the options found on the Device Options/General panel is found below.

Time of Day

This feature displays the current time of day on the status line. The status line clock displays hours and minutes in the following format: HH:MM, where HH is the hours field, and MM is the minutes field. You can select 24-hour format (1:00 PM is displayed as 13:00), or 12-hour format (1:00 PM is displayed as 1:00).

Note: This information shares the same location in the status line as the file transfer capability status if PCs are used. Because of this, the time of day information will not display if file transfers capabilities are enabled in the Device Profile panel.

Null/Space Conversion

Select from "OFF at Control Unit IML" or "ON at Control Unit IML".   This feature substitutes spaces for leading and embedded nulls when updates are sent to the host, if enabled. Some word processor applications expect to see the spaces, and will compress the data on the screen (remove the nulls) upon submitting the typed data to the host, when this feature is disabled.

Delayed Power On Notify

Toggle to **ENABLE** or **DISABLE**. This feature limits the number of sessions notifying the host at power-on, in order to alleviate excessive line traffic. LINCS does this by delaying the Power On Notify sent to the host for background sessions until the end user toggles to those sessions for the first time.

Type of Device	Power-On Notify Procedure
Display Station	After power-on reset, power-on notify (PON) is sent for the foreground session. background sessions send PONs when they are selected.
Distributed Function Terminal (DFTs)	After POR, notification is sent for all sessions.
Printer attached to a display	PON sent for the printer and the display when the display PORs.

The configuration of this option is very important for consoles. The default value of 'Disable' is preferred, in that all sessions owned by the device will report themselves as powered on. Otherwise the console function for background sessions will roll to other devices configured on the host as back up consoles.

ASCII/TELNET Password

This password is used by TELNET clients, TN3270 clients and ASCII displays (defined to have a switched line type on the ASCII port options panel for this line). The password can be up to eight alphanumeric characters and is case sensitive. The password is required for ASCII and TELNET clients whenever it has been configured. TN3270 clients are only required to use the password if the password option has been configured on the TN3270 client definition panel. (Types ending with the letters 'PW'.)

Number Of Days Password Is Valid

The value in this field determines the total number of days that the password is good, beginning with the day that the password was last updated.

Note 1: You must press <PF4> after entering the new password and the number of days it is to be valid. The 'Password Last Updated' and 'Password Expires On' field will automatically be updated.

Note 2: If the password expires, a user can still connect by using the configured supervisor password.

Note 3: You can change the ASCII/TELNET password without requiring an IML. The procedure would consist of making the necessary changes to this panel and performing the <PF4>, then perform a <PF10> to indicate that the changes are complete. Save your configuration changes. On the resulting 'Apply Configuration Changes' panel you can select the ASCII/TELNET password change to take place immediately.

Password Last Updated

This field automatically fills in with the correct information when you press the <PF4> key (twice).

Password Expires On

This field automatically fills in with the correct information when you press the <PF4> key (twice).

Length of Each Global Sequences

This field indicates the maximum length that a single global sequence can be. Feature Memory is used to contain these global sequences. Since there are 24 global sequences, the amount of memory required to support these sequences will be approximately 24 times the amount indicated. Refer to the Feature Memory panel for further details on the Record Playback feature memory requirements. A global sequence is a keystroke sequence that all authorized devices can play back.

Length of Device Sequences

This field defaults to 0 indicating that Record/Playback (RPB) is disabled. If this field is non-zero, then the indicated amount of memory will be set aside for each device authorized to record RPB strings. Refer to the Feature Memory panel for further details on the Record Playback feature memory requirements.

Device Options/Keyboard Panel

```
Device Options/Keyboard                    LINCS C8.2 Central Control
Key Clicker:             Off at Display Power On
Magnetic Character Set:  None
Modifiable Keypad:       National Language NUMERIC Keypad
Attribute Select Keyboard: Attribute Select WITHOUT Num Lock
Typewriter Selection:    Standard 88-key Typewriter
Tripad Keyboard Selection: Standard C3 Layout
88-key APL Keyboard:     Standard APL Layout


PF: 1-Menu          7-Back   8-Forw    9-Default    10-Done
```

The options of the Device Options/Keyboard panel are described below. The last 3 options on this panel affect 88-key keyboards only, not 122-key keyboards.

Key Clicker

The choices in this field determine whether a coax display station's keyboard clicker is on or off when the device is powered on. Regardless of the initial setting, the user can toggle the clicker on or off at the terminal. Toggle between the following two options:

- ON at Display Power On
- OFF at Display Power On (default)

Magnetic Character Set

The choices in this field allow you to select the Magnetic Character Set you wish LINCS to use. Toggle among the following four options:

- None (default)
- Numeric
- Alphanumeric (auto entry for secure data only)
- Alphanumeric (auto entry for all data)

Modifiable Keypad

In this field, toggle to select the layout you would like for the rightmost numeric keypad of native 102-key and 122-key keyboards. Note that changing this option could result in the functioning of the keypad to be different from the keycap legends of your keyboards.

- National Language NUMERIC keypad (default)
- Data Entry Keypad
- Program Function (PF) Keypad

Attribute Select Keyboard

Choose whether your attribute select keypad functions with or without numeric lock. Toggle between these options:

- Attribute Select w/NUM Lock
- Attribute Select WITHOUT NUM Lock (default)

Typewriter Selection

Toggle to select one of the following layouts:

- Standard 88-key Typewriter (default)
- C4 layout IBM RPQ-8K0932
- Model 808 IBM RPQ-8K0808

Tripad Keyboard Selection

Toggle among four options to choose the 88-key layout to be used with keyboards having the tripad ID switch setting:

- Standard C3 Layout (default)
- C3 w/NUM Lock
- International C8 WITHOUT NUM Lock
- International C8 w/NUM Lock

88-key APL Keyboard

The choices in this field allow the selection of either the standard APL layout or the special (C3) APL layout with and without numeric lock for APL keyboards. Toggle among the following three options:

- Standard APL Layout (default)
- C3-APL WITHOUT NUM Lock IBM RPQ-8K1158
- C3-APL w/NUM Lock IBM RPQ-8K1158

Device Options/DFT Panel

```
Device Options/DFT                               LINCS C8.2 Central Control
DFT Local Copy Format:      Do Not Send Format Controls
DFT Local Copy Form Feed:   No Form Feeds
3290 Field Intensity:       Underscore
3290 Update Panel:          Process Host Data BEFORE Displaying Panel
3290 DFT Password:          _____


PF: 1-Menu                    7-Back 8-Forw 9-Default 10-Done
```

Options on this panel generally affect only IBM 3290 terminals. If you are not using the 3290 plasma displays, you can ignore this panel.

Note: 3290 terminals, when used with the SCON-2XL should be limited to using all sessions with the same Host Circuit (LPAR). Attempting to use the 3290 to communicate to multiple LPARs at the same time could result in losing communication to all sessions (5xx error in status line) if one LPAR becomes unavailable.

To support 3290 terminals requires that the DSL (Downstream Loadable) files required by the device be copied to the SCON-2XL System Directory on the hard drive by either using the Media Management File Copy utility, or by sending the file via FTP. These files should have been provided by the vendor of the 3290 device.

Note: For information on 3290 configuration options, refer to the IBM document 3290 Information Panel: Description and Reference, GA 23-0021.

DFT Local Copy Format

The choices in this field allow the enabling or disabling of local copy format controls that in shared mode (when the printer lacks Save/Restore capability) could interfere with format controls set up by the host application. Toggle between two options:

- Do NOT Send Format Controls - Choose this option if the host does not reset format controls with each Begin Bracket (SNA only, does not apply to the SCON-2XL).

- Format Controls Enabled - Choose this option if the host does reset format controls with each Begin Bracket, or where the printers are not operated in shared mode.

DFT Local Copy Form Feed

The choices in this field allow local copy form feed to occur in one of four modes:

- No Form Feeds

- Form Feed AFTER Local Copy ONLY

- Form Feed BEFORE Local Copy ONLY

- Form Feed BEFORE and AFTER Local Copy

3290 Field Intensity

The choices in this field allow one of three intensity options for use in place of brightness on DFT/DSL devices that don't support brightness:

- Underscore

- Reverse Video

- None

3290 Update Panel

The choices in this field are:

- Process host data BEFORE displaying panel – Use this option to maximize performance. During high data rate transmissions, however, host messages could be overwritten.

- Display panel BEFORE allowing new host data – Use this option in environments where 3290s are system consoles and/or all host messages must be seen.

3290 DFT Password

Enter the 6-digit hex password to be used by the DFT devices. For information on 3290 setup conditions requiring the use of the password, refer to the IBM document 3290 Information Panel: Description and Reference, GA23-0021.

Coax Multiplexing Panel

```
Coax Multiplexing                        LINCS C8.2 Central Control

Method of Connection  on MCC1:       16 Port MUX on Port 0
                         MCC2:       Standard
                         MCC3:       Standard
                         MCC4:       Standard
Dynamic Multiplexing:                Disable
Coax Poll Rate:                      Enhanced
Automatic Coax Recovery:             Disable


PF: 1-Menu               7-Back   8-Forw   9-Default   10-Done
```

Options on this panel affect support of the coax devices. Enabling options on this panel incorrectly could affect whether or not you are able to access the 2XL, once the configuration has been changed and the unit IML'd from a coax device connected to a port prior to the changes. If this occurs, you can re-IML and press the <Config> button at state 500, to force the 2XL to boot on the default configuration. This will allow you to reconfigure the last saved configuration (the "Drive C" option) when entering the configuration utility, to correct the situation.

A description of the options on this panel can be found below.

Method of Connection

The SCON-2XL has a single MCC function (MCC1) in spite of the reference to four MCCs. The toggle field choices for the MCC1 are as follows:

- **Standard** (default) - Devices will be connected using one of the following standard methods:

  - direct connect to CDA ports via coax or twisted pair (using a balun)

  - 8 port multiplexer attached to one of the multiplexer ports (0, 8, 16, 24)

- **32 Port Coax Multiplexer** - includes coax and twisted wire versions of the multiplexer

- **32 Port Fiber Optic Multiplexer** - (option is not offered on the SCON-2XL)

- **32 Port Twisted Wiring Adapter** - (option is not offered on the SCON-2XL)

- **16 Port MUX on Port 0 and Port 16** - allows attachment of two 16-port multiplexers, connecting them to Ports 0 and 16.

- **16 Port MUX on Port 0** - Allows attachment of one 16-port multiplexer to Port 0. Ports 16-31 are handled the same as the standard setting.

- **16 Port MUX on Port 16** - Allows attachment of one 16-port multiplexer to Port 16. Ports 0-15 are handled the same as the standard setting.

Dynamic Multiplexing Option (SCON-20L/22L Only)

The Dynamic Multiplexing field should be enabled if you wish to attach a multiplexer to a CDA port other than the four multiplexer ports listed above. Doing so allows 8-port multiplexers to be used, to provide fewer than 8 connections, but still allowing those ports to be available elsewhere on another multiplexer or through a direct connection.

Enabling this option will result in an additional panel, the Dynamic Multiplexing Assignments panel. By enabling this option, the multiplexer only ports (labeled 16 and 24), will become inactive once the IML occurs to invoke the new configuration.

Coax Poll Rate

When set to 'Enhanced' the SCON-2XL more closely approximates the polling frequency of an IBM 3174 controller. This option has the same affect as enabling the coax poll rate RPQ and will in fact enable the RPQ when set to enhanced. This option is required to support STK LMU's.

Automatic Coax Recovery

When enabled a coax reset is sent automatically after a device has timed out on the coax, forcing the device to respond as if it had just powered on.

Dynamic Multiplexing Assignments Panel

```
Dynamic Multiplexing Assignments              LINCS C8.2 Central Control

Connector                 Logical
─────────                 ────────
00                        00 01 02 03 04 __ __ __
01                        05 06 07 08 09 10 __ __
02                        11 12 13 14 31 __ __ __
03                        15 16 17 18 19 20 21 __
04                        22 23 24 25 26 30 __ __
05                        27 __ __ __ __ __ __ __
06                        28 __ __ __ __ __ __ __
07                        29 __ __ __ __ __ __ __

08                           __ __ __ __ __ __ __ __
09                           __ __ __ __ __ __ __ __
10                           __ __ __ __ __ __ __ __
11                           __ __ __ __ __ __ __ __
12                           __ __ __ __ __ __ __ __
13                           __ __ __ __ __ __ __ __
14                           __ __ __ __ __ __ __ __
15                           __ __ __ __ __ __ __ __


PF: 1-Menu                7-Back     8-Forw     9-Default    10-Done
```

The Dynamic Multiplexing Assignments panels are displayed if Dynamic Multiplexing is enabled on the Coax Multiplexing panel. This panel allows you to redefine which physical coax port will be assigned for use to provide a physical connection. With this

panel, you can move coax ports assignments, and define a port to be used as a multiplexer port, and which physical ports of the multiplexer will be active. All 32 ports supported by the SCON-22L, and all 16 ports supported by the SCON-20L may be reassigned on this panel. This feature does not apply to the SCON-25L and SCON-28L models.

It is possible to configure a coax port to be actively looked for in more than one location, but once a device is discovered by the 2XL, it will stop looking in the other locations for the same device, as long as the device continues to communicate.

In the example configuration given above, the first 5 ports (physical ports 0-4) have been defined to support multiplexers with support for 5, 6, 5, 7, and 6 devices respectively. The next 3 ports (physical ports 5-7) are configured to support individual terminals (logical ports 27, 28, and 29) that have been remapped to those physical locations. The remaining physical ports (8-31) are disabled.

Device Profile/Host Assignments Panel

```
Device Profile 00/Host Assignments            LINCS C8.2 Central Control

Profile Name:             _____
Device Type:              Display
Power Off Action:         None

  Session                 Host Assignments At Power On
   ___                    _____

    A                     3270 Host Class: LPAR0
    B                     3270 Host: LPAR1
    C                     Disable
    D                     Disable
    E                     Disable
    F                     Disable
    G                     Disable
    H                     Disable
    I                     Disable
    J                     Disable
PF: 1-Menu  3-Def_Dflt  4-Add 5-Delete  7-Back 8-Forw 9-Default 10-Done
```

Device Profiles are used to define what features and host connections the users have access to. Up to 32 Device Profiles can be defined, and separate Device Profiles are required for displays and printers. Note that it is recommended to configure a separate display profile for StorageTek LMUs. Configuration of the Device Type option determines whether this profile will be used to define display or printer options. A description of the options on this panel are described below.

Profile Name

The Profile Name field can be used to describe this profile, and would be desirable if numerous device profiles are to be defined. This field is optional, and is not referenced anywhere else in the configuration.

Device Type

This field indicates whether devices that use the profile will be **displays** or **printers**. Storagetek LMUs are defined as displays. The value chosen here determines the parameters that will be displayed on subsequent panels in the profile.

Power Off Action

This is a toggle field that defines what will happen to sessions connected to a host when the device powers off. The following are the options.

- **None** - The session state will remain intact when the device powers off.

- **Unbind SNA Sessions** - This option does not apply to SCON-2XL sessions since they are Non-SNA.

- **Disconnect all Sessions** - All sessions connected to a host will be disconnected when the device powers off. This frees up the host resources for connection by other devices.

Session

This is a protected field which identifies the 10 sessions which are available on each device. It is used in conjunction with the Default Host Assignments field to uniquely identify each session.

Default Host Assignments

These fields are used to assign hosts to device sessions. The host assignments defined in the Device Profile serve as the default host assignments for all devices which are assigned that profile.

Each session (A-J) has a field which defines a host assignment. This field toggles to all available hosts, all classes, the connect menu, or disable.

These default host assignments may be overridden on the Device Profile Assignments panel.

Below is a description of the types of Host Assignments that may appear.

3270 Host Class

If 3270 Host Classes (pools) were defined previously, each class defined would appear as possible options.

3270 Host

All 3270 hosts that have been defined are displayed as toggle choices. Once a selection is chosen, a specific LU assignment can be made on the Device Profile Assignments panel, either by manually entering the LU number, or by using the PF3 - Asn_Dflt_LUs key.

If the Host ID field has been defined back on the Host Circuit panel, then the Host ID name defined will appear. If no Host ID was defined, the host letter associated with the Host Circuit is displayed.

This is the only legitimate setting for the StorageTek LMU.

ASCII Host

You should choose this if you will be assigning a specific ASCII host (i.e., A0 - A7) on the Device Profile Assignments panel. If any ASCII hosts have been defined, this selection is displayed.

ASCII Class

All ASCII classes that have been defined are displayed as toggle choices.

Connect Menu

This toggle choice is the default choice for the first session, and is always available as a choice, regardless of the configuration. It should be selected if the session is to be powered on with the Host Connect menu displayed. From the connection menu, the user may display the desired host connection panel to be displayed.

To actually connect to a particular host class or to a specific host via the Host Connect menu, the device profile needs to allow access to that host through the Resource Authorization Matrix, which is located on the Device Profile/Display panel.

Connect Menu 3270

This option would place the user on a connect panel to choose their 3270 host session from. For example, you could define a pool of LUs associated with each LPAR, then let the user select from a menu, which LPAR they wanted to connect to.

All host types that have been configured will be available as toggle choices

Disable Session

Select this toggle choice if the session will be unavailable to devices using the Device Profile. This is the default setting for sessions B-J.

Device Profile/Display Panel

```
Device Profile 00/Display                      LINCS C8.2 Central Control

Supervisor Authority:  Disable      Keyboard Tables:    Host Language
Windowing:             Disable      PC File Transfer:   Disable
Calculator:            Disable      SNA Data Display:   After Chain
Typeahead:             Disable      HAP Session:        Last
RPB Record Function:   Disable      HAP Status at IML:  Enable
Display Host ID:       Enable       HAP Profile:        --
Session Auto Swap:     Disable      Auto Coax Recovery: Disable

                       RESOURCE AUTHORIZATION MATRIX

                       0         1         2         3      Dynamic
Resource Definition    1234567890123456789012345678901     Access
_____   _____     _____

3270 Host Class Access  000000000000000000000000000000       0
ASCII Host Class Access 0000000000000000                     0
IP Host Class Access    0000000000000000                     0
LAT Host Class Access   0000000000000000                     0
Printer Class Access    0000000000000000                     1
Global Sequence Access  000000000000000000000000

PF: 1-Menu 3-Def_Dflt 4-Add  5-Delete 7-Back  8-Forw 9-Default  10-Done
```

This panel follows the Device Profile/Host Assignments panel if the Device Type was selected to be "Display". A description of the options on this panel follows.

Supervisor Authority

Toggle **ENABLE** or **DISABLE**. The functions listed below require Supervisor Authority:

- ASCII Dial Setup

- ASCII Cut and Send Setup

In addition, the following functions may be configured to require Supervisor Authority. Refer to the appropriate panel for further details.

Option	Panel Configured On
SNA Alert	Not used by the SCON-2XL
RTM Support	3270 Host Profile
ASCII Setup Mode Access	ASCII Host Options
Central Control Mode Access	RPQ

Windowing

The Windowing feature enables you to create up to five windows on a CUT mode display station. These windows can simultaneously display five of the concurrent logical sessions that are possible with the Multiple Logical Sessions (MLS) feature. You can size, move, add, delete, and zoom windows, and you can copy data from one window to another. In addition, you can set up windowing screen profiles that contain different arrangements of windows.

Calculator

LINCS provides a four-function nonscientific calculator accessible from a CUT mode display station. The calculator allows you to perform quick and accurate calculations without exiting your host session. The calculator performs operations in decimal (base 10), hexadecimal (base 16), or octal (base 8) mode.

The calculator uses Feature Memory from the Presentation Space Storage.

Typeahead

With the Typeahead feature, you can continue to type data after the 3270 protocol locks the keyboard or during a printer busy condition. The keystrokes are queued and processed when the input inhibit is cleared. The feature permits the queuing and subsequent processing of up to 64 keystrokes.

RPB Record Function

This field determines whether or not devices assigned to the profile have the capability to "record" using the Record/Playback feature. Record/Playback sequences can be created to help automate commonly used sequences, to help improve user speed and reliability. Devices which are not allowed to record may playback any sequences which have been defined as global sequences, if authorized in the Resource Authorization Matrix.

Display Host ID

If this option is **ENABLED**, the Host Identifier will be displayed on the status line of sessions connected to a host. The host identifier is displayed as follows.

- **3270 Host** – If a session is connected to a 3270 Host, then the Host Identifier will be displayed, along with the LU number. Whether the LU number is displayed in hex or decimal is set in the General Options panel.

- **ASCII Host** – If a session is connected to an ASCII Host Class, then the Class Name is the Host Identifier. If the session is connected to a specific ASCII Port (A0-A7), then the Host Identifier is Host_XX where XX represents the ASCII host which the session is connected to (A0-A7).

Session Auto Swap

When enabled, this feature will automatically swap the user to their next configured session, if a comm reminder appears in their status line, indicating that their host connection has gone down. For example, if the user has two sessions A and B, and they are working in session A, but the host connection goes down, they will automatically be swapped to their session B.

Keyboard Tables

Toggle to select:

- **Host Language** (default) - Sets the keyboard table language to the language of the host that the session is connected to. The host language is configured in the 3270 Host Profile and/or ASCII Session Profile, depending upon the type of host session. The language will be set to the host language upon POR of the device, when connecting to a host, and when swapping sessions. If a session is not connected to a host upon POR, the keyboard tables language will be set to the primary language until the session connects.

- **Primary** - The keyboard table language will be set to the primary language upon POR of the device.

- **Secondary** - The keyboard table language will be set to the secondary language upon POR of the device.

Connecting to a 3270 host does **NOT** affect the keyboard language when Primary or Secondary is chosen.

Note: When connecting to an ASCII host, the keyboard table language and host translate table language will ALWAYS be the same. Both languages will be set to the language specified in the ASCII Session profile. When pressing Exsel-L to toggle the keyboard language, both languages will be set to the alternate language.

PC File Transfer

Options are: **ENABLE** or **DISABLE**

This configuration option determines the status of File Transfer after IML. If an attached device is powered off and on, File Transfer is not affected.

PC File Transfer and Windowing **cannot** be used concurrently. For this reason, a hot key is available (Alt X) to allow for quick entry or exit to File Transfer mode. If you wish to use Windowing on a PC configured for file transfer, you must disable File Transfer by pressing this key sequence prior to selecting a windowing profile other than profile 0. To perform a File Transfer operation, you must go back to profile 0 and re-enable File Transfer by pressing the key again.

Note: Due to the extra coax processing required, performance degradation occurs if you've enabled PC File Transfer on ports that will not be performing file transfers, for example, CUT devices, printers, and DFTs. You must enable file transfer for display profiles assigned to StorageTek LMUs.

SNA Data Display

This is a toggle field which applies only to SNA sessions on the display and therefore has no affect on the SCON-2XL.

HAP Session

This field is valid for displays which support the Host Addressable Print (HAP) feature. It indicates which one of the display's sessions will be used by the HAP printer which is attached to the display. By default, the HAP session is the last defined session on the display. This may be overridden by toggling the field to the desired session.

Note: The HAP session cannot be session A, it must be sessions B through J.

HAP Status at IML

For devices which support the HAP feature, this field indicates the status of the HAP session after IML. HAP is not affected by powering the device on and off. By default, HAP is **ENABLED**. When HAP is enabled, the HAP session is used for the printer and will not be available to the display station. If HAP is **DISABLED**, the HAP session will be available to the display when the display powers on.

Note: The HAP session status can be changed using the Display/Update HAP Session Status on the Device Menu choice of the main Central Control menu.

HAP Profile

For displays which support HAP, this field indicates which printer profile will be used to define customization parameters for the attached printer.

Note: The first panel of a Printer Device Profile will be ignored for the HAP printer, since the Display Device Profile already defined the Host Assignments. The subsequent panels of the indicated Printer Device Profile will be used to define characteristics of the HAP session.

This field is required for HAP.

Auto Coax Recovery

When enabled, you can disconnect the coax, and reconnect it, and the device will be reset as if a power on reset occurred. With this feature disabled, you normally would have to power the device off then back on, to reestablish communications, once the coax connection was disconnected.

Resource Authorization Matrix

The Resource Authorization Matrix is used to give devices using this profile access to LINCS resources. The individual resources are listed under the RESOURCE DEFINITION column.

The unprotected portion of the matrix is headed by column numbers 01-32. These numbers represent something different depending upon the resource definition. Setting the value to 1 under a particular column allows devices assigned to the profile to have access to that subset of the resource.

For example, there are 32 available classes for a 3270 Host, so the row 3270 Host Class Access has 32 columns available to specify which classes are accessible. A device using this Display Profile will be able to access any host resource defined by the Host Classes that are enabled. If no Host Classes are enabled for this profile, then the device will not be able to connect to or disconnect from any host resource.

Even if you have not allowed any access on the Resource Authorization Matrix, and no Dynamic Access, you can still configure a device using this profile to preconnect to any host, host class, or LU, on the Device Profile/Host Assignments panel. That method of granting host access means that the display will connect to the LU when powered on, but cannot connect to any other session.

Enabling DYNAMIC ACCESS allows devices using this profile to access resources beyond those defined in the host classes. For example, if a device is given Dynamic Access to 3270 Hosts, then a session may connect to any 3270 LU, even if that LU is not defined in a host class. Even if you enable no classes, Dynamic Access allows the user to connect to any LU the user knows about.

3270 Host Class Access

The matrix columns represent the thirty-two 3270 Host Classes. Setting the value to 1 under column X allows devices in the profile to have access to 3270 Class X.

Setting the value to 1 under the Dynamic Access column allows devices with this profile to connect to a specific 3270 LU (i.e., Host,LU can be entered on the 3270 connect panel to connect to a specific 3270 LU).

ASCII Host Class Access

The matrix columns represent the sixteen ASCII Host Classes. Setting the value to 1 under column X allows devices in the profile to have access to ASCII Class X.

Setting the value to 1 under the Dynamic Access column allows devices in the profile to connect to a specific ASCII Host (i.e., an ASCII host A0-D7 can be entered on the ASCII connect panel to connect to a specific ASCII Host).

IP Host Class Access (SCON-25L)

The matrix columns represent the Telnet Host Classes that can be configured on the SCON-25L, to allow coax users to Telnet to a remote host (such as another SCON platform at a remote location) using preconfigured host information.

LAT Host Class Access

This feature is not supported on the SCON-2XL.

Printer Class Access

The matrix columns represent the sixteen Printer Classes. Setting the value to 1 under column X allows displays in the profile to have access to Printer Class X. Printers are assigned to Printer Classes on the Printer Device Profile panel.

Setting the value to 1 under the Dynamic Access column allows devices in the profile to print to any printer, instead of only printers authorized by the chosen printer class(es).

Users can specify a local print to go to a printer class, or a specific printer. This is accomplished by entering the printer port number in printer ident mode. For example, one would go into printer ident mode and enter MCC1.004 to print to the printer attached to coax port 4.

Global Sequence Access

The authorization matrix columns represent the 24 PF keys. Setting the value to 1 under column X allows devices in the profile to have access to the global sequence defined by PFX.

Dynamic Access does not apply here.

Global Sequences are defined, deleted, and copied from local sequences on the Playback Sequences menu accessible from the Customization Data menu.

Dynamic Access

The meaning for Dynamic access varies by the resource it is associated with. Please select the resource you are interested in to see the Dynamic Access description.

Device Profile/ASCII Display

```
Device Profile 00/ASCII Display              LINCS C8.2 Central Control

Display Emulation:         Prompt
Keypad Mode:               Application Mode
Inactivity Timeout:        0000
Synchronous Presentation:  Disable
E/W Presentation Option:   Disable


PF: 1-Menu    3-Def_Dflt 4-Add  5-Delete 7-Back 8-Forw 9-Default  10-Done
```

This panel appears only if you have the Incoming Telnet feature configured. A description of the options on the panel are described below.

Display Emulation

This field defines the type of ASCII terminal emulation that will be used by the device that is connecting to LINCS. LINCS will provide a 3270 display session (3278/3279) to the device using the selected emulation. The default is to "Prompt for Terminal Type", in which case the list of available emulations will be given in a menu, allowing the user to select the emulation. The list of emulations to be presented can be customized using the ASCII Definition Utility. Another choice can be to "Negotiate Terminal Type", which allows the device to indicate the type of emulation that it wants. If the emulation is supported by LINCS, then it will be used. If not, the "Prompt for Terminal Type" menu will be presented. You can also choose from the list of available emulations in order to configure the emulation for the port. The list of emulations follows:

ADDS Viewpoint A2	ADDS Viewpoint 78	
DEC VT52	DEC VT1xx	DEC VT2xx 7 bit
DEC VT2xx 8 bit	DEC VT320 8 bit	
Esprit Executive 10/78	Hazeltine 1500	Hewlett-Packard 2621B
IBM 3101	IBM 3151	IBM 3161 3162 and 3163
IBM 3164	IBM FTTERM Color	IBM FTTERM Monochrome
Lear Seigler ADM 3A	Lear Seigler ADM 5	Lear Seigler ADM 11
Lear Seigler ADM 12	Lear Seigler ADM 1178	
TeleVideo 912	TeleVideo 950	TeleVideo 970
Visara VT3270 Mod 2	Visara VT3270 Mod 3	Visara VT3270 Mod 4
Visara VT3270 Mod 5		
Wyse 50	Wyse 60	User Defined Display 1-7

Keypad Mode

Toggle between **APPLICATION MODE**, which causes the numeric keypad to transmit codes for the Up Arrow, Insert, etc. keys. Or **NUMERIC MODE**, which causes the numeric keypad to transmit codes for the numeric digits on the keys, as well as / (forward slash), * (asterisk), etc.

Inactivity Timeout

The Inactivity Timeout option allows you to specify the amount of inactive time allowed before the display is logically disconnected from LINCS when there is no keyboard activity.

Enter the number of minutes; allowable values are 0000 through 1440. 0000 indicates no timeout. LINCS warns the user by displaying a message on the status line one minute prior to disconnect.

Synchronous Presentation

For devices that are slow to update, LINCS will discard earlier screens, and draw the latest one. An example of this is if a user hits "next screen" fast 5 times. The user really wants to see the 5th screen, so LINCS won't draw the intervening screens.

DISABLE will activate this software, to get the user to the latest of a series of screens faster.

ENABLE of this option defeats LINCS' optimization of screen updates for a flow of fast screens. That is needed for instances where every screen buffer must be drawn fully, such as ASCII file transfer.

E/W Presentation Option

ENABLE of the Erase/Write Presentation Option will cause LINCS to ignore "clear screen" commands from the host. When LINCS draws the next screen buffer, it always only updates what has changed. With this option enabled, it ensures that is always the case. This option is especially useful in making ASCII terminals act more like 3270 terminals.

DISABLE passes the "clear screen" commands unaltered.

Device Profile /Printer Panel

```
Device Profile 01/Printer                   LINCS C8.2 Central Control
                                                 0          1
                                            1234567890123456
Printer Mode:       Shared                  ----------------
Print Buffering:  Enable   Printer Class Assignment:  1000000000000000

                        ASCII PRINTER OPTIONS

Printer Emulation:      Generic      Printer Buffer Size:    Mod 2
Form Feed Support:      Disable      LU3 Null Suppression:   Disable
Forms Width:            132          Printer Character Set:  NRC
Forms Length:           066          Local Print Form Feed:  After

Count 2nd Transparent Order:          Disable
SCS Transparent Data Xlate:           Disable
LU1 Protocol Enveloping:              Disable
Enveloping Delay After CR:            000
Enveloping Delay After FF:            000

PF: 1-Menu  3-Def_Dflt 4-Add 5-Delete 7-Back 8-Forw 9-Default 10-Done
```

Options for the Device Profile/Printer panel are described below.

Printer Mode

This is a toggle field with the following choices:

- **System** - Printers using the profile are available only to hosts. Local prints from displays may not be directed to the printer(s).

- **Local** (default) - Printers using the profile are available for local prints from displays. Hosts may not print to the printer(s).

- **Shared** - Printers using the profile may be shared by hosts and displays doing local prints. Local prints may be done as long as the printer is not busy doing a host print (refer to Between Bracket Printer Sharing question on the 3270 Host Profile panel).

Print Buffering

This is a **Disable/Enable** toggle field which indicates whether or not printers assigned to the profile will support print buffering. The print buffering feature allows a display's screen data to be saved in Presentation Space Storage if the printer is busy when the display attempts a local print to it. This allows the display user to continue data entry before the local print is initiated. If print buffering is not enabled, then a display station will remain inhibited with the printer busy symbol until the printer is free to do the local print.

Printer Class Assignment

The sixteen digits (0 or 1) in the Printer Class Assignment field represent the sixteen printer classes. Setting the value to 1 under column X means that printers assigned to the profile are a member of Printer Class X. A display is authorized to print to Printer Classes on the Device Profile/Display panel.

ASCII Printer Options

The ASCII Printer Options apply to ASCII printers which are directly connected to an ADA port, or to ASCII printers which are logically connected through an incoming LPD or TCP connection via the LAN.

Printer Emulation

GENERIC is currently the only option available.

Form Feed Support

ENABLE this option if your printer supports form feed characters. **DISABLE** will cause line feeds to be sent to the printer instead of form feeds.

Forms Width

This value must be preset on the printer. Values range from 1 to 255.

Forms Length

This is a data entry field. Enter any value between 001 and 255 lines. The default value is 66 lines.

Printer Buffer Size

This field lets you select an ASCII printer buffer size for local prints that corresponds with the mod size of the transmitting coax terminal.

Toggle to select one of the following: Mod 2, Mod 3, Mod 4, or Mod 5.

LU3 Null Suppression

This option suppresses any line that contains only null characters, eliminating an extra line return. Toggle to **ENABLE** or **DISABLE** the feature. The default setting is DISABLE.

Printer Character Set

To enable the use of multiple languages, LINCS supports 8-bit Multinational Character Set (MCS) inbound data (keys) and outbound data (displayable characters) and the 7-bit National Replacement Character Set (NRC) inbound and outbound data. Each device can use one character set at a time.

Local Print Form Feed

Choose one of the following options:

- **None** - No automatic form feed will be performed

- **Before** - A form feed will be done before each local print

- **After** - A form feed will be done after each local print

- **Before and After** - A form feed will be done before and after each local print

Count 2nd Transparent Order

Setting this option to Enable causes the secondary transparency start order, stop order, and data within the order to be counted as positions on a row, which is desirable if the datastream uses Set Buffer address (SBA) orders, but it means that 80 columns (or 132) are not supported on the row using the order.

SCS Transparent Data Xlate

This option allows you to determine whether transparent data (control codes, escape codes, and other non-text related data) transmitted to the printer is converted to ASCII before transmission. Toggle to select one of the following:

- **DISABLE** (default) - Select this option if the data to be transmitted is valid ASCII data.

- **ENABLE** - Select this option if the transparent data must be converted from EBCDIC to ASCII before transmission.

LU1 Protocol Enveloping

Options are: **ENABLE** or **DISABLE**

LU1 Protocol Enveloping is a session protocol for IBM EBCIDIC host to ASCII printer character translation that allows efficient processing. This option is compatible with the IBM 3708 printer's operation.

Enveloping Delay After CR

This is a data entry field which defines the number of DEL characters (X'7F') to be sent after carriage return (CR) or horizontal tab (HT) to allow the print head to be repositioned before sending more data. The value may range from 0 to 255.

Enveloping Delay After FF

This is a data entry field which defines the number of DEL characters (X'7F') to be sent after a formfeed (FF) or vertical tab (VT) to allow the print head to be repositioned before sending more data. The value may range from 0 to 255.

Device Profile Assignments Panel - Default Example

```
 Device Profile Assignments/MCC1              LINCS C8.2 Central Control

     Dev ------   Host Assignment At Power On (Hex LUs)    -------
 Port Prof  A      B     C     D     E     F     G     H     I     J
 ---- ---- -----  ----- ----- ----- ----- ----- ----- ----- ----- -----
 000   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 001   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 002   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 003   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 004   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 005   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 006   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 007   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 008   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 009   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 010   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 011   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 012   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 013   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 014   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 015   00 *_  ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___ __ ___
 (00 - 7F)3270 Host  (=)3270 Class  (>)TELNET  (%)Print Q  (+)LAT  (&)ASCII

 PF: 1-Menu                                  7-Back 8-Forw  10-Done
```

This is an example of the Device Profile Assignments panel as it may appear for a default configuration. You may type in the contents of this panel as you desire, or choose to

accept the default assignments provided by LINCS. If you choose to select the defaults, type in the device profile numbers used to describe the characteristics of each individual port (Display Profiles, Printer Profiles), into the "Device Profile" column, then press <PF3> twice. LINCS will change the host connections portion of the panel to match the profile numbers that were entered.

You can reset the panel back to the default configuration by pressing the <PF9> key twice.

Device Profile Assignments Panel - Configured Example

```
 Device Profile Assignments/MCC1              LINCS C8.2 Central Control

      Dev ------   Host Assignment At Power On (Hex LUs)    -------
 Port Prof  A      B      C      D      E      F      G      H      I      J
 ---- ---- -----  -----  -----  -----  -----  -----  -----  -----  -----  -----
 000   00  *_ =__  00 001 01 000 01 002 02 000 02 001 03 000 03 00C 0F 000 0F 001
 001   00  00 002 01 003 02 002 09 00F *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 002   00  *_ =__  00 003 00 004 00 00A 00 00B __ ___  __ ___  __ ___  __ ___  __ ___
 003   00  00 008 *_ =__  *_ =__  0A 002 *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 004   01  00 00F __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___
 005   01  01 00F __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___
 006   01  02 00E __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___  __ ___
 007   02  02 006 01 001 *_ =__  *_ =__  *_ =__  __ ___  __ ___  __ ___  __ ___  __ ___
 008   00  04 001 03 001 07 002 05 001 *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 009   00  04 002 03 002 07 003 05 002 *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 010   00  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 011   00  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 012   00  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 013   00  0E 00D *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 014   00  0E 00E *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 015   00  0E 00F *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__  *_ =__
 (00 - 7F)3270 Host  (=)3270 Class  (>)TELNET  (%)Print Q (+)LAT  (&)ASCII

 PF: 1-Menu                                    7-Back 8-Forw  10-Done
```

The above panel shows the Device Profiles panel after the profile numbers have been configured and the <PF3> key pressed twice. A description of the fields is given below.

Port

A protected field which displays the 8 digit port number in the following format:

brd#.con where:	brd = 3 letter acronym representing board type
	# = board occurrence
	con = connection on the board

Device Profile

A data entry field used to assign a Device Profile number to the port. When initially displaying the panel, the first defined Device Profile will be assigned to all ports. Pressing PF9 - Default will not change the value of this field.

Host Assignment At Power On A-J

Ten pairs of columns representing the 10 possible sessions of a CUT device, displays the configured session assignments for each coax, Telnet, and LAN printer device. You may modify the host assignment for any port if you wish.

Pressing PF9 - Default will default the fields to the Host Assignments defined in each device's Device Profile, but not the value in the Device Profile column.

Note that a specific 3270 LU may be assigned to multiple devices. This may be useful if a given user has two terminals (for example one at his/her desk and one in some other location) and needs the same Host Assignments at each location. By powering off the terminal in one location, the host resources will be made available for the terminal in the other location, assuming that the Power Off Action field in the Device Profile is set to Disconnect All Sessions.

Host Assignment Fields

There are two sets of symbols that are used in the Host columns, depending on the released version of LINCS. You can distinguish between the versions by looking near the bottom of the screen for key starting with '(00-7F)'. If you do not find this key, then you are dealing with the original version of the LINCS key. If you do find this key, then you must use the modified key.

The following table describes valid entries for the Host Assignment fields.

First Column Character		Description	Second Column Characters	Online Result
Original	Modified			
A-P	00-7F	3270 Host	Blank	3270 Connect Panel
			Session Numbers	Host Session Defined
3	=	3270 Host Class	Blank	3270 Connect Panel
			3270 Class Number	Session from 3270 Host Class
T	>	Telnet Host Class	Blank	Telnet Host Connection Menu
			Telnet Class Number	Session from Telnet Host Class
X (Not on SCON-2XL)	&	ASCII Host Class	ASCII Port Number	ASCII Host Session through identified port
			ASCII Class Number	Session from ASCII Host Class
@ (Not on SCON-2XL)	+	LAT Host	Blank	LAT Host Connection Panel
			LAT Class Number	Session from LAT Host Class
*	*	Connection Panel	Blank	Main Connect Menu
			3	3270 Host Connection Menu
			X	ASCII Host Connection Menu
			T	Telnet Host Connection Menu
			@	LAT Host Connection Menu
S	%	Print Server Queue	Print Server Class Number	Receives print jobs from indicated print queue

Assigning Default LUs

Two PF keys are available for defaulting the values on the Device Profile Assignments panel. They are useful if you change the Device Profile field on this panel, or if you change the host assignments in the Device Profile used on this panel. The default host assignments are the Host Assignments from the Device Profiles, and can be applied by pressing:

- **PF9 - Default** changes the host assignments on this panel to the host assignments that are in the device profiles. No 3270 LUs are assigned; you must enter the second field of the Host-letter/LU pair.

- **PF3 - Asn_Dflt_LUs** changes the host assignments for all ports (not just the ones being displayed) to the host assignments that are in the device profiles. In addition, LUs will be assigned to all 3270 Host sessions, but LUs which have been previously assigned will be skipped. Other LUs are assigned on the 3270 Host Classes panel.

Note: A specific 3270 LU or Asynchronous ASCII Host port may be assigned to multiple device ports. This may be useful if someone has two terminals (one at his/her desk and one somewhere else) and needs the same Host Assignments at each location. By powering off one terminal, the host resources will be made available for the other terminal, if the Power Off Action field in the Device Profile/Host Assignments panel is set to Disconnect All Sessions.

Device Profile Assignments Panel - ASCII Ports and LAN Ports

```
Device Profile Assignments/FET1                LINCS C8.2 Central Control

      Device ------   Host Assignment At Power On (Hex LUs)    ------
 Port  Prof   A       B       C     D       E     F    G    H    I    J
 ----- ------ -----   -----   ----- -----   ----- ---- ---- ---- ---- -----
 000   00     00 000 01 000  02 000 03 000  * 3__ _ ___ _ ___ _ ___ _ ___ _ ___
 001   00     00 ___ 01 ___  02 ___ 03 ___  _ ___ _ ___ _ ___ _ ___ _ ___ _ ___
 002   01     00 00F 01 00F  02 00F 03 00F  _ ___ _ ___ _ ___ _ ___ _ ___ _ ___
```

Besides displaying coax ports, the Device Profile Assignments panel will display Network ports on the Ethernet adapters, if Telnet displays or LAN printers have been previously defined on the Network Device Definitions panel. Only the ports enabled will be displayed. Host assignments can be made, using the same notations as used for the coax devices.

Printer Assignments Panel

```
Printer Assignment                             LINCS C8.2 Central Control
Display      Printer       Display     Printer
___          ___           ___         ___
MCC1.000     None          FET1.000    None
MCC1.001     None          FET1.001    None
MCC1.002     None          FET1.002    *
MCC1.003     None
MCC1.004     None
MCC1.005     None
MCC1.006     None
MCC1.007     None
MCC1.008     *
MCC1.009     None
MCC1.010     None
MCC1.011     None
MCC1.012     None
MCC1.013     None
MCC1.014     None
MCC1.015     None

* = device is a printer, or undefined

PF: 1-Menu                      7-Forw  8-Back  9-Default 10-Done
```

The Printer Assignment Panel will appear only if one or more Printer Profiles have been created, and assigned to one or more ports. This panel defines which printer a local print job will be directed to if the user on a particular port presses the print key. Initially, all device ports on the panel will show a printer assignment of either None or an asterisk (*). If the <PF9> Default key is pressed, all display ports will be assigned printers according to the description below. Printer ports are identified with the asterisk.

Default Printer Assignments

The default printer for a given display is:

- The first printer class that the display is authorized to print to, if the device is authorized to print to *any* printer class.

- The display's printer port, if the display is not authorized to print to any class, HAP is enabled in the display's device profile, and the HAP profile indicates that the printer is local or shared.

- The first printer port which is configured as a local or shared printer, if HAP is not enabled, and the display is not authorized to print to any classes.

You can reset the printer assignments to the default values at any time by pressing PF9 - Default.

Printer assignment field

You must enter text in the data field to assign a printer to a display. Options are:

- All printer classes which have been defined in printer Device Profiles. A class may be entered by typing C## (this is the same format as the printer ident field on the status line of the display), or Class ##, where ## is a printer class number from 01-16.

- All defined printer ports which have been defined as local printers, including display ports which have HAP configured.

- None, which indicates that the display will not be authorized to do local prints, unless the display user idents to an authorized class or printer.

Chapter 10. Feature Memory Allocation

Feature Memory Panel

```
Feature Memory                              LINCS C8.2 Central Control

Gateway:                        0000
APPN:                           0
IPX:                            0000
IPX SNA Server:                 0000
Session Management System:      0000
SCC:                            0000
AIC:                            0000
Record Playback:                0000
Attached Processor Feature:     0000
Extended (over 512) 3270 LUs:   0000
5550 Printer Sharing:           0000
LPD Print Server:               0
LPD Printer:                    0016
Local Format Storage:           0000
Central Site Customization:     0000

Presentation Space Storage:     1008

Total Required (K):     00001024    Total Available (K):      1024

PF: 1-Menu                  7-Back    8-Forw    9-Default    10-Done
```

The Feature Memory panel allows you to further customize the amount of memory that is allocated to certain features. In addition to the features that you may adjust the memory for, you will also find references to how much memory is allocated to features that you can not affect. This memory is allocated by the act of enabling the feature itself.

Presentation Space Storage refers to a collection of features that need memory, and are grouped together under that heading. These features all have to do with displays or printers (presentation), for which you must calculate storage needs. See the section on Calculating Presentation Space Storage Memory below for more information on how Presentation Space uses your memory.

Total Feature Memory Required

The Total Required field indicates the amount of feature memory which is required by the configuration. If the total required is more than the total available, then a warning message will be displayed when attempting to leave this panel. Configuration data may not be saved until this condition is resolved.

Total Feature Memory Available

The Total Available field indicates the amount of feature memory which is available for deployment through configuration. The Total Available field reflects the amount of common memory that is installed in the LINCS platform, less 3 MB which is reserved by the LINCS operating system. The SCON-20L and SCON-22L ships with 4 MB of common memory so a value of 1023 should display. The SCON-25L and SCON-28L ship with 8 MB of common memory so a value of 5120 should display.

Gateway

This feature does not apply to the SCON-2XL

APPN

This feature does not apply to the SCON-2XL

IPX SNA Server

This feature does not apply to the SCON-2XL

IPX

This feature does not apply to the SCON-2XL

Session Management System

The Session Management System (SMS) feature requires 64K of feature memory when configured.

SCC Support

This feature does not apply to the SCON-2XL

AIC

This feature does not apply to the SCON-2XL

Record Playback

This is a protected field. The memory requirements are determined based on the following formula.

number devices enabled to record
* (length of Device Sequences + 1K)
+ total number devices * 1/4K
+ max global sequence size (K) * 24
+ 16K

Attached Processor

This is a protected field which indicates the amount of feature memory required when the Attached Processor Feature is enabled on the RPQ panel. The AP Feature allows an application program running on an AP (an asychronous host connected to an AT&T 6544 Controller) to control synchronous and asynchronous windows of AT&T's 6538 and 6539 displays. For more information, refer to the *6544 Controller AP Feature Technical Reference* manual.

Extended (over 512) 3270 LUs Feature

This feature does not apply to the SCON-2XL.

5550 Printer Sharing

This is a protected field. If the 5550 Printer Sharing RPQ is enabled, 128K of feature memory is required.

LPD Print Servers

A small amount of memory is set aside to keep track of print jobs. When the 2XL is configured to receive print jobs from the network for printing on coax printers, typically 16K, the amount is determined by LINCS and cannot be changed.

LPD Printer

This field displays the amount of feature memory LINCS will allocate for all LPD printers. You allocated Feature Memory for each LPD printer when you defined them on the Network Device Definition panels. LPD printers require feature memory to buffer prints that LINCS receives as it sends the data to the LPD print server

See Overview of LAN Printers for more information on LPD Printers.

Local Format Storage

This feature does not apply to the SCON-2XL.

Central Site Customization

This is a protected field. 512KB of memory is required if Central Site Customization is enabled on the General Options panel.

Presentation Space Storage

This is a protected field which displays the memory available for Presentation Space Storage. The memory is used to maintain screen images for the following features. See *Calculating Presentation Space Storage* for more information on the above features.

- MLS (Multiple Logical Sessions)

- Print Buffering

- Screen Preservation during ASCII Setup Mode

- ASCII Cut and Send

- Calculator Session

Calculating Presentation Space Storage

The following table documents the Presentation Space storage required for a single display session while using functions which require that a screen image be saved.

PS STORAGE REQUIREMENTS FOR A SINGLE SESSION

MOD SIZE	NO EAB	EAB
2 (24X80)	2K	4K
3 (32x80)	4K	8K
4 (43x80)	4K	8K
5 (27x132)	4K	8K

Extended Attribute Buffer (EAB) is used by devices for highlighting, such as reverse video, underline and blinking text.

The Feature Memory Allocation panel displays the amount of feature memory available for PS storage based upon the values defined in other fields. Any feature memory left over after all other feature memory has been defined will be allocated to PS Storage.

The following sections document the PS Storage memory requirements for various features. You should verify that your LINCS node has sufficient PS Storage memory to support these features:

- Multiple Logical Sessions (MLS)

- Print Buffering

- ASCII Setup

- ASCII Cut and Send

We also provide a Presentation Space Storage Memory Worksheet, which you can use to help calculate LINCS memory needs for Presentation Space.

Multiple Logical Sessions (MLS)

The memory required for MLS is used to maintain screen images and information for each configured session. The screen image memory required is determined based upon the mod size of the device as indicated in Calculating Presentation Storage Space. In addition to the screen image for each session, 1K of memory is required to maintain information about the session.

For each device attached to LINCS, 8K of screen image memory and 1K of session information memory is allocated from base system memory. This allows devices to have a single session (and in some cases limited MLS) without requiring feature memory.

When a device PORs, the amount of PS Storage memory to allocate is determined based upon the Device Profile. The Device Profile indicates the number of sessions and whether or not windowing and calculator memory will be required. If Presentation Space memory is not available for all sessions, the Device will POR with as many sessions as available PS Storage memory will allow. A device will always be able to POR with at least one session (session A). If memory is not available to POR all sessions, a 285 error will be posted on the device's status line to indicate that some sessions are unavailable.

The following table lists the Presentation Space Memory memory requirements for MLS.

NUMBER OF HOST SESSIONS

MOD SIZE	EAB	1	2	3	4	5	6	7	8	9	10	NUMBER DISPLAYS	MLS	MEMORY REQUIRED	TOTAL
2 (24X80)	NO	0	1	2	3	6	9	12	15	18	21	_____	*	_____	=_____
3 (32x80)	NO														
4 (43x80)	NO	0	1	6	11	16	21	26	31	36	41	_____	*	_____	=_____
5 (27x132)	NO														
2 (24X80)	YES	0	1	6	11	16	21	26	31	36	41	_____	*	_____	=_____
3 (32x80)	YES														
4 (43x80)	YES	0	9	18	27	36	45	54	63	72	81	_____	*	_____	=_____
5 (27x132)	YES														
>4K BASE	YES	8	25	42	59	76	93	110	127	144	161	_____	*	_____	=_____
												TOTAL		MEMORY	=_____

To determine the amount of memory to allocate for MLS, count the number of displays matching the description in a given row from the table. Enter this in the NUMBER DISPLAYS column. Determine the average number of sessions configured on displays of this type. Take the amount of memory required for that number of sessions and enter it in the MEMORY REQUIRED column. Multiply the number of displays times the memory required to get the total memory required for a given display type. Add up the memory required for all types of displays and enter it in the Total MLS Memory Field. This determines the total amount of memory for MLS.

Print Buffering and Presentation Storage

Presentation Space Storage memory is used to buffer a print from a display station when the destination printer is busy at the time the print is initiated.

If Presentation Space memory is available when a display attempts a print, the display data will be buffered and printed when the printer becomes available. If no PS memory is available when a display attempts a print, the display will be inhibited (printer busy symbol will be displayed) until the printer becomes available.

Determine the maximum number of print jobs which may be buffered from displays at any point in time. Enter this number in the worksheet titled *Presentation Space Storage Memory Worksheet*.

ASCII Setup

Presentation Space Storage memory is used to save a session's screen image when the session enters ASCII Host Setup Mode. If no Presentation Space memory is available when an ASCII Host session enters Setup Mode, the session data will be lost. The screen will be blank when the session exits Setup Mode.

Determine the maximum number of sessions which may be in ASCII Host Setup Mode at any point in time. Enter this number in the worksheet titled *Presentation Space Storage Memory Worksheet*.

ASCII Cut and Send

Presentation Space Storage memory is used to perform an ASCII Cut and Send Operation. If no Presentation Space memory is available when an ASCII Host session attempts a Cut and Send operation, the operation will result in an input inhibit condition.

Determine the maximum number of sessions which may be performing a Cut and Send operation at once. Enter this number in the worksheet titled *Presentation Space Storage Memory Worksheet.*

Presentation Space Storage Memory Worksheet

Use the following worksheet to determine the total amount of memory for Presentation Space Storage.

1	Enter MLS total from MLS panel		_____
	Enter number displays concurrently:		
2	buffering prints	_____	
3	entering ASCII Setup	+ _____	
4	performing Cut and Send	+ _____	
5	attached to a device profile configured for windowing or calc	+ _____	
6	Add rows 2-5	= _____	
7	Enter average PS buffer size	* _____	
8	Enter line 7 multiplied by line 6	= _____	
9	Transfer line 8 total to column 2		+ _____
10	Enter number displays attached to a device profile configured for Calc	_____	
	Multiplied by Calc Buffer size * 2		
11	Enter total Calc Buffer memory	= _____	
12	Transfer line 11 to column 2		+ _____
13	Transfer line 13 to column 2		+ _____
	TOTAL PS BUFFER MEMORY		= _____ K

Chapter 11. Configuration Complete

When configuring in Central Control mode, pressing PF10-Save on the Configuration Complete panel causes all Configuration data to be examined for inconsistencies. If any inconsistencies are present, a message will be displayed to direct you to the panel containing the error. Upon paging to the panel in error, the specific warning message will be displayed. Configuration data may NOT be saved as long as any inconsistencies exist.

When configuring with the Central Site Facility, PF3-Return will be displayed instead of PF10-Save. PF3-Return returns you to the Central Site Library panel, so you can save or do whatever you like with the Working Copy just modified.

Once the Configuration Data has been validated and saved, the Apply Configuration Changes panel will be displayed.

Configuration Complete Panel

```
Configuration Complete                         LINCS C8.2 Central Control

System Disk Drive:      Drive C

Feature Activation is Required for: (*=not active on this 1174)


HPP's Required:   0
If an extra HPP is available, it will be used for the Network Devices.


PF: 1-Menu                              7-Back     9-Default  10-Save
```

The Configuration Complete panel displays Feature Activation and HPP requirements based upon the values in the Configuration Data.

Once the Configuration Data has been validated and saved, the Apply Configuration Changes panel will be displayed.

System Disk Drive

This is a toggle field which indicates which disk to write the Configuration data to. The initial value will be the drive which the data was read from. The field may be toggled to any drive which contains a System disk. You must save the configuration to drive C, to use the new configuration for subsequent IML's.

HPP Requirements

The SCON-2XL products do not make use of the HPP card, used by other members of the Visara Communication Server product family. Any configuration that specifies a requirement for a HPP on the SCON-20L or SCON-22L is an invalid configuration for this product.

Feature Activation Requirements

Any feature listed as requiring activation must be activated prior to the next IML, or an IML failure will occur. Only the features preceded by an asterisk (*) are indicated to be not currently installed.

Apply Configuration Changes Panel

```
Apply Configuration Changes                      LINCS C8.2 Central Control

IML Option:                IML Now

Supervisor Password:       After IML
Resource Authorization:    After IML
Printer Assignment:        After IML
Static IP Routing:         After IML
TN3270 Client Definitions  After IML
ASCII/TELNET Password      After IML

PF: 1-Menu                                       10-Process
```

This panel selects when to IML and when to apply your recently saved configuration changes.

PF10 - Process causes all Immediate changes to be applied. Once all immediate changes have been applied, the IML options field will be processed.

PF1 - Menu will bring you back to the Configuration Main Menu.

IML Option

This field toggles between:

None - No IML is performed. If any of the options have been toggled to 'immediate' and the <PF10> key is pressed, the indicated changes will take effect.

IML Now - If <PF10> is pressed the SCON-2XL will reboot.

IML Later - Pressing <PF10> results in the IML Time Panel being displayed.

Supervisor Password

This field specifies when the new supervisor password will take.

Options are **After IML** (default) and **Immediate**.

Resource Authorization Matrix on Apply Configuration Changes

If Immediate is chosen, the Resource Authorization Matrix from each Device Profile in the "working copy" will be copied to the corresponding Device Profile in the current configuration. Any resources which devices are currently using will not be taken away. The change will take effect the next time a device attempts to access a resource.

For example, assume a device is currently connected to 3270 Host Class 01 and the authorization to this class is taken away by applying a new Resource Authorization Matrix. The device will NOT be disconnected from his LU immediately, but subsequent attempts to connect to this class will fail.

Options are **After IML** (default) and **Immediate**.

Printer Assignments on Apply Configuration Changes

If Immediate is chosen, the printer assignments will be applied to all devices. This functions the same as if each device had performed a Printer Ident function to select the printer assignments, except that devices will ALWAYS be allowed to ident to their default printers, whether or not access is allowed in the Resource Authorization Matrix. In other words, the configured Printer Assignment is always authorized.

Options are **After IML** (default) and **Immediate**.

Static IP Routing

If immediate is chosen, the new static routing changes will go into effect immediately, allowing new routing paths to be used, and eliminating routing entries that have been deleted. If After IML is selected, then the routing changes will take effect only after an IML.

Options are **After IML** (default) and **Immediate**.

TN3270 Client Definitions

Changes made to the TN3270 Client Definition Panel may be put into immediate affect by selecting '**Immediate**'.

ASCII/TELNET Password

This field specifies when the new password used by Telnet and TN3270 clients will take affect. Options are After IML (Default) and Immediate.

IML Time Panel

```
IML Time                                    LINCS C8.2 Central Control


                    Time:  HH MM SS          Date: MM DD YYYY

                           16  0 3  00              0 3  28  2000



       PF:  1-Menu                        9-Refresh      10-Process
```

If you select to "IML Later" on the Apply Configuration Changes and process it, the IML Time panel will appear. On this panel you may enter the time and the date when you want the SCON-2XL to IML. The time set for IML can be cancelled later if needed by going into the IML panel under the Supervisor Menu in Central Control Mode.

What to do if Your Configuration Will Not Boot

If you configure optional features, for which you do not have proper licensing support (through the installation of Feature Activation Disks), the SCON-2XL will not boot up on the new configuration that you have saved, during the next IML. The most common causes for this type of problem are:

- Changing the values on the SCON-2XL Product Definition panel

- Configuring too many Host Circuits (more CUs than what you are licensed for)

- Configuring too many Network Devices (Telnet and LAN Printers)

- Configuring too many TN3270 clients

Most error codes caused by misconfiguration will fall into the following error code ranges:

- 9Fx

- B5x

- B6x

- B7x

A procedure to correct the problem is as follows.

Press the IML button on the front panel, to initiate a fresh IML. When the unit reaches IML state 500, a pause of about 5-10 seconds will occur. During this pause press the <Config> button on the front panel. This will cause the 2XL to boot on the factory

default configuration, based on the actual hardware installed in the unit. You should see the Configuration indicator on the front panel light when the IML continues beyond state 500, and remain on until the IML is complete. When fully booted, the SCON-2XL will display the word 'CONFIGURATION' on the front panel LCD.

From a coax terminal (or other suitable display device), go into Central Control Mode and into the customization utility. You have a couple of choices as you enter the utility. If you select to use the "Default" data source, you can configure the 2XL from scratch, the same as when you first received it. You can also select "Drive C" as the source, which will bring up the last saved configuration (the one with the problem) and allow you to attempt to change the configuration to one that will work.

Chapter 12. Configuration Backups

Once you have created a working configuration, you will probably want to back the configuration up for disaster recovery purposes. There are 4 ways that you can back up your configuration.

1. Create the backup from the configuration utility.

2. Copy the configuration data object using Media Management.

3. Copy the configuration files using FTP.

4. Retrieve a copy of the configuration with the Visara eManager product.

Creating a Backup Using the Configuration Utility

This procedure assumes that you have already booted onto the new configuration and verified that it works.

Enter the Configuration Utility (Utility 1/1,u) from Central Control Mode as described in Chapter 1. Select to use the 'Currently Loaded' version this time, and proceed forward into the configuration. From the Configuration Menu (Submenu_List) panel, press the <PF10> key to take you to the Configuration Complete panel. Toggle the 'System Disk Drive' option until it says 'Drive A'.

Insert an appropriate floppy disk into Drive A (as described below), and press the <PF10> key to save the configuration. The Configuration Utility should save the configuration onto the floppy drive. Remove the floppy disk and place it into a safe location.

The LINCS Configuration Utility expects to write the configuration file onto the System 1 diskette. You can use a real System 1 diskette that is at the same integration level as the LINCS operating system. If you do not have a real System 1 disk handy, you can use a blank formatted floppy with a volume label of '@@D@@@@@174'. When using a blank formatted floppy with the System 1 label on it, you will get an error message 'Disk Error 000A while Reading CAT$SYS.LOA on drive A'. This is not a problem for backup purposes. You should however test the backup by going into configuration one more time, but use the backup (Drive A) as the source. If you can open the configuration file, it should be good.

Creating a Configuration Backup Using Media Management

You can use Media Management to back up your configuration, by using the Copy Data Object utility (3/3). For more complete detail on the Media Management utilities, refer to the LINCS Central Control Mode manual. In brief, you must toggle the fields (if necessary) until they indicate Disk Type: System, Source Disk Drive: Drive C, and Destination Disk Drive: Drive A. Next press <PF10>. From the resulting menu, select the MCUST data object that includes 'CFG' as part of the name, and proceed to make the copy.

Creating a Configuration Backup Using FTP Configuration Complete Panel

Using an FTP client of your choice, connect into the SCON through the FET interface (interface must be configured for network access of course) using the User ID of 'system', and give the configured Supervisor Password, for your password. Next copy off the following two files: FIG$DATA.LOA and DOD$CFG.LOA. Make sure that you transfer the files in binary mode (not text mode). These files make up and are equivalent to the Configuration Data Object. In order to read them into a SCON through the floppy drive, you must put them on a System 1 disk or at least a floppy with the volume label of '@@D@@@@@174'.

Creating a Configuration Backup Using eManager

If you have a copy of the Visara management software, eManager, you can make a backup of the configuration of your SCON. Select the node corresponding to the SCON that you wish to backup, right-mouse-click to bring up the menu, and select 'Backups/ Create Backup'. Please reference the eManager documentation for more details on this procedure.

Appendix A. RPQs

Many RPQs are proprietary features that have been developed based upon particular customer needs. Other RPQs are options that are not included on the standard configuration panels due to their sensitive nature. The RPQ Panel lists all RPQs available to all LINCS node users, but many do not apply directly to the SCON-2XL product. Some RPQs however, have specific application to the SCON-2XL and will be described below. For additional information see RPQs in the *LINCS Features* manual. There are four RPQ panels:

RPQs Panel #1

```
RPQs                                            LINCS C8.2 Central Control
RPQ NUMBER   DESCRIPTION                                    STATUS

             Local SNA DE,UC Online Status Delay            Disable
             Netview RPQ 1 - Machine Type                   Disable
             Netview RPQ 2 - Product Class                  Disable
   3096      Multiple LFS LUs per Host                      Disable
   2667      TAB/BACKTAB keys stop at colons and tabs       Disable
   2959      Use key scan code values in WSC mode           Disable
   2742      Upper Case Translate of all data keys          Disable
             Device Based Shift Status                      Disable
             Presentation Space Update in File Transfer Mode Disable
             Ignore DNS Cache                               Disable
             Maximize User Disk Space                       Disable
             UNBIND before NOTIFY power-off sequence        Disable
             Disc TN3270 Clients that violate SNA protocol  Disable
             Reset Session on NonSNA ESCON read timeout     Disable
             Sungard ESCON Identification Scheme            Disable
             Fujitsu special inbound UNBIND                 Disable

   PF: 1-Menu              7-Back    8-Forw    9-Default    10-Done
```

RPQs Panel #2

```
RPQs                                        LINCS C8.2 Central Control

RPQ NUMBER   DESCRIPTION                                STATUS

             Use device model size to validate Bind     Disable
             LANSYS Delay (msec)                         00
             5550 Printer Sharing                        Disable
             Coax Poll Rate                              Disable
             Do not map DFT LUs                          Disable
             Deferred Keyboard Restore                   Disable
             Attached Processor Feature                  Disable
             ASCII Display Time Clock                    Disable
             ASCII Backspace/Delete Key                  Disable
             ASCII Shift Lock                            Disable
             Filter IPX Packet Type 20                   Disable
             Map "ANY" LUs to "PUBLIC" LUs               Disable
             Map "PUBLIC" LUs to "ANY" LUs               Disable
             IPX SAP Filter (save comm server entries only) Disable
             Map LU 0FFh for all SNA Hosts (hex, disable=00) 00
             DFT Frame Sequencing                        Disable

  PF: 1-Menu  7-Back      8-Forw 9-Default      10-Done
```

RPQs Panel #3

```
RPQs                                        LINCS C8.2 Central Control

RPQ NUMBER  DESCRIPTION                                 STATUS

             Pass Write Structured Fields to LU3 TN3287 Client  Disable
             Prevent TN3270 Connect Panel if Host is Disabled   Disable
             Make Hard Disk Priority higher              Disable
             Restrict TN3270 LU requests to those configured    Disable
             Use TERMINATE-SELF instead of Inbound UNBIND       Disable
             Support Wollongong Pathway TN3270 Client    Disable
             Channel Gateway support for early VTAM versions    Disable
             Send BELL char (07) when ASCII display Input Inhi  Disable
             ESCON Loopback Mode                         Disable
             Discard UDP Packets to ports 2xxx for CEB   Disable
             Convert Warm ACTPU to Cold ACTPU            Disable
             Enhanced Supervisor Password Protection     Disable
             Prevent Print of LPD Banner Page            Disable
             Update Display While Security Keylock is Locked    Disable
             STK 4430 LMU Support                        Enable
             Auto Jump Session on 5xx Reminder (dec, disable=0) 00

  PF: 1-Menu                    7-Back    8-Forw  9-Default  10-Done
```

RPQs Panel #4

```
RPQs                                         LINCS C8.2 Central Control

DESCRIPTION                                                       STATUS

Ignore all LU requests from TN3270 clients                       Disable
Only Supervisor Displays can enter Test Mode                     Disable
Maximize TN3287 response timer                                   Disable
Do Not Disc ESCON SNA PU on CU Reset                             Disable
Delay NSNA LAN print until FF sequence received                  Disable
  (Must configure Disk Buffering)
Don't optimize outbound data to an ASCII Display                 Disable
Don't send Restore Kybd to TN3270 Client for NonSNA end-of-chain Disable
Don't send Restore Kybd to TN3270 Client for NonSNA Deselect     Disable
TN3270 clients MUST specify an LUNAME                            Disable
Ignore ICMP Redirect                                             Disable
Allow a user to commandeer a 3270 session already in use         Disable
Assume all TN3270 clients support extended attributes            Disable
Immediately Disconnect NonSNA Client                             Disable
Send TN3270 connection confirmation to device                    Disable
Allow alphanumeric input on TN3270 Connect panel                 Disable

PF: 1-Menu                  7-Back    8-Forw  9-Default   10-Done
```

RPQs Panel #5

```
RPQs                                         LINCS C8.2 Central Control

DESCRIPTION                                                       STATUS

Suppress the automatic CLEAR key when connecting to a Shared Session   Disable
During TN3270E negotiation, always tell client what LU was assigned    Disable




PF: 1-Menu                  7-Back    8-Forw  9-Default   10-Done
```

Coax Poll Rate (RPQ Panel 2)

This RPQ changes the interval between consecutive polls to a particular port to more closely match the interval used by the IBM 3174. Enabling this RPQ may be necessary to allow some DFT devices to work. This RPQ should be enabled to support StorageTek LMUs.

Update Display While Security Keylock is Locked (RPQ Panel 3)

When enabled, if you turn the security keylock into the locked position, the display will continue to receive screen updates (they will not be displayed). When the keylock is

moved into the unlocked position, only the last screen will be displayed. If this RPQ is disabled (default setting), the device will be reported to the host with an 'Intervention Required' status when the lock is engaged, and all screen updates will be queued up at the host. When the display is unlocked, the screen updates will be sent from the host.

STK 4430 LMU Support (RPQ Panel 3)

Enabling this option eliminates the logging of certain coax protocol violations that might otherwise flood the even log. The protocol violations have no real affect on the operation of the STK 4430 LMU itself.

Reset Session on NonSNA ESCON Read Timeout (RPQ Panel 1)

This RPQ should be enabled, any time that the SCON is supporting TN3270 clients. (Later versions of LINCS 7.1 and higher may not offer this RPQ option, it will automatically be enabled.) If set to 'Disable', and the host attempts to do a Read to one of the TN3270 clients, resulting in a timeout (TN3270 client takes 1 second or more to respond), the channel is taken offline.

If set to 'Enable', LINCS will generate a UC response with a Status of Resetting Event, that will normally result in the user's screen being repainted. Resetting of the session will also result in the logging of an event 540-82 in the Event Log. The user may have to reenter the last command.

Sungard ESCON Identification Scheme (RPQ Panel 1)

When enabled, information taken from the 'Unique Machine Identifier' field in configuration will be inserted into the Node Identifier frame that is exchanged during the link initialization process. This information can be displayed from the host side. If disabled, LINCS defaults the information in this field.

Prevent TN3270 Connect Panel if Host is Disabled (RPQ Panel 3)

Enabling this RPQ prevents LINCS from painting a Connect Panel of configured 3270 Host Classes when the TCP port is configured with a valid port number and the Host column indicates 'Disabled' on the TN3270 Client Definition Panel. Normally, defining a port number without enabling a Host setting will result in the 3270 Host Connection panel being presented.

Restrict TN3270 LU Requests to Those Configured (RPQ Panel 3)

With this option enabled, only clients that have an entry in the TN3270 Client Definition panel (IP Address is specified), will be matched to an entry and be allowed to connect.

ESCON Loopback Mode (RPQ Panel 3)

The use of this option is for diagnostic purposes only and requires the use of an ESCON loopback plug. With the plug in place, and the option enabled, a loopback test of the hardware will occur, and a failure of the hardware will result in an error event being logged.

Enhanced Supervisor Password Protection (RPQ Panel 3)

If this option has been enabled, the Supervisor Password will not be displayed during the configuration of the unit. Normally, the Supervisor Password is displayed during the configuration process, when viewing the General Options panel.

Update Display While Security Keylock is Locked (RPQ Panel 3)

Enabling this option, will result in LINCS accepting writes to a coax display terminal that has the security keylock enabled.

When disabled, the status presented to the host will prevent the host writing to the screen. When used as a console, this option determines whether the console messages will be accepted by the display, or kept by the host (which may result in a large number of queued up console messages).

Auto Jump Session on 5xx Reminder (dec, disable = 0) (RPQ Panel 3)

Setting a value greater than zero for this option will cause a 'Swap Session' function to be generated for each CUT display device automatically whenever a Communication Reminder is posted for the specified number of seconds. For CUT devices configured for more than one session, this will result in the terminal being swapped to the next session (for example the session will be swapped from Session A to Session B).

Ignore all LU requests from TN3270 clients (RPQ Panel 4)

The normal value for this option ('Disabled'), results in LINCS attempt to honor any request for a specific host, address combination from the TN3270 client at connection time, as long as the format of the request is valid. This attempt overrides what has been configured for that device.

Enabling this option will cause LINCS to ignore all such requests from the clients and only permit what has been configured to be assigned.

Only Supervisor Displays can enter Test Mode (RPQ Panel 4)

By enabling this option, only CUT devices assigned a user profile that includes an enabled 'Supervisor Authority' option, will be allowed to enter Test (Central Control) Mode.

Delay NSNA LAN print until FF sequence received (RPQ Panel 4)

Enabling this option will cause Non-SNA data streams directed to a printer to be queued to the hard drive of the SCON unit until a specific sequence of '%0C%' is received in the data stream. When the sequence is received, the entire queued print is forwarded to the LAN printer. This permits the host to select the printer device multiple times during the sending of a single print job.

When disabled, LINCS will treat each selection of the printer device as a separate print job.

Don't send Restore Kybd to TN3270 Client for NonSNA end-of-chain

Normally, LINCS restores the keyboard for TN3270 clients when a Non-SNA end-of-chain is received, because many of them do not restore their own keyboards automatically. This RPQ causes LINCS not to automatically restore the keyboard, forcing the client emulator to restore it.

Don't send Restore Kybd to TN3270 Client for NonSNA Deselect

Normally, LINCS restores the keyboard for TN3270 clients when a NonSNA Deselect occurs, because many of them do not restore their own keyboards automatically. This RPQ causes LINCS not to automatically restore the keyboard, forcing the client emulator to restore it.

TN3270 clients MUST specify an LUNAME

Only clients that negotiate an LUNAME, are allowed to connect, and only if there is a LINCS entry corresponding to that.

Allow a user to commandeer a 3270 session already in use

When a user connects into the SCON, and is given a connect panel to request a session from, they have an additional option that allows them to take a session that is already assigned and in use by another user, by specifically requesting the session and performing the commandeer function. The person from which the session has been taken will be given a connect panel from which they can take their session back if needed.

Assume all TN3270 clients support extended attributes

When enabled, LINCS will assume that the device supports Extended Attributes (such as IBM 3278-2E device type) even if the client negotiates a device type that implies that it does not support them (such as IBM 3278-2 device type). This is to accommodate some emulators that negotiate that they do not support Extended Attributes, but they really do.

Immediately Disconnect NonSNA Client

When enabled, LINCS sends to the host an Attention - Unit Check, when a client indicates power down. Normally LINCS sends the Attention, and when the host attempts to select the device, LINCS responds with Unit Check. This was required for some clients because the console function does not roll soon enough.

Send TN3270 connection confirmation to device

When enabled, LINCS sends a NVT message to the client once they have successfully negotiated a TN3270 session with us, to acknowledge success. Not all clients are capable of displaying a NVT message once they have negotiated TN3270 options. In most cases the host will almost immediately write to the device, so the message normally

will be display most briefly if at all. Only if the host does not write to the screen and if the device is capable of displaying NVT messages once in binary mode, does this RPQ provide useful information.

Allow alphanumeric input on TN3270 Connect panel

With this RPQ enabled, you can specify 3270 Host Class names, and specify a specific 'Host,Address' combination. Without the RQP enabled, you are limited to entering the Class Number of what you want to connect to.

Suppress the automatic CLEAR key when connecting to a Shared Session

Normally, a CLEAR key is automatically generated to refresh the console screen to a user when connecting to a Hot Session, but when the session is also to be shared this may not be desirable. This RPQ allows you to suppress the automatic CLEAR key.

During TN3270E negotiation, always tell client what LU was assigned

Normally, LINCS only tells the client which resource was assigned, only if the client requests a specific resource. With this RPQ enabled, LINCS will always tell the client which resource was assigned. (This is required to make the Passport client work correctly.)

Appendix B. Glossary of Terms

ATL - Automated Tape Library.

Basic Mode - The mode of the mainframe processor when it is not configured for LPAR mode. Only one partition.

CCW - Channel Command Word. A doubleword at the location in the host's main storage identified by the Channel Address Word. CCWs are used to direct data channel operations.

CHPID - Channel Path Identification. This is a number associated with a communication path between the host and a controller.

Command Chaining - The fetching of a new CCW immediately following the completion of the previous CCW.

Console - The term usually used to refer to a Non-SNA terminal that is used to help manage the operating system or one of the started tasks running on the mainframe.

CNC - A mnemonic used to define an ESCON channel type.

CUADD - The CUADD is a parameter used in ESCON host definitions that refers to one of 16 logical paths through an ESCON channel. The value is given as a single hex digit.

CU Image - Another term used to describe how an SCON-2XL host circuit appears to the host. Each CU Image or host circuit appears to the host as if it were a control unit.

CUT - Control Unit Terminal. A Control Unit Terminal is a device that depends on the SCON-2XL to decode keyboard input from the device, to determine what action is needed. CUTs supported by the SCON-2XL include: fixed-function coax display terminals, ASCII display terminals, and Telnet clients.

DFT - Distributed Function Terminal. A term used to describe a coax terminal that processes the host data stream itself, rather than depend on the 3270 controller to process the data stream for it. DFT devices typically do not have access to CUT features provided by the SCON-2XL such as test mode panels, configuration, MLS, etc.

DSL -Down Stream Loadable. The term DSL refers to a special category of IBM terminals that depend on the controller to download their operating software over a coax connection. A typical DSL device used for console operations is the IBM 3290 Plasma Display.

EMIF - ESCON Multiple Imaging Facility

ESCD - Enterprise Systems Connection Director (ESCON Director, switch).

ESCON - Enterprise Systems Connection. The term used to describe the fiber optic channel connection used on most ES9000 processors.

ESCON XDF - ESCON Extended Distance Feature. A feature that uses laser/single-mode fiber technology that extends unrepeated link distances up to 20 KM (12.5 miles).

Explicit Device Candidate List - This is a panel found in the HCD panels of OS/390 environments when EMIF is being used, that is used to identify which LPARs have access to the device in question.

HCD - Hardware Configuration Definition. This is the facility used in OS/390 environments to define hardware that will be attached to the host.

Host Circuit - This is the term used in the SCON-2XL configuration that corresponds to a set of terminal definitions supported by a single CU. Each CU/Host Circuit defined must have a corresponding CUADD definition on the host. The SCON-22L supports a maximum of 16 Host Circuits, the SCON-20L supports 2, and the SCON-25L supports up to 32.

Host Gen - The configuration definitions for hardware attached to the mainframe, that informs the mainframe what types of hardware is attached and how to communicate with it.

Hot Sessions - Console sessions that always appear to be powered on whether or not a display is actually powered on or connected (Telnet and TN3270).

IOCDS - Input Output Configuration Data Set. The data set created and loaded onto the support element for defining the channel connections and attached hardware to CPU.

LMU - Library Management Unit. The name of the unit used to manage a StorageTek Silo.

LPAR - Logical Partition. Each LPAR on the host operates with its own operating system, and can be brought up and taken down independent of the other LPARs defined on the same mainframe.

MCS Console - Multiple Console Support console. All MVS consoles are MCS consoles, once MVS is up and running. Up to 99 MCS consoles can be defined in the CONSOLxx member of PARMLIB. Prior to the MCS consoles coming active, the NIP console is used to control the bring up of MVS.

MLS - Multiple Logical Sessions. This feature of the SCON-2XL allows a single CUT device such as a coax terminal to have up to 10 sessions simultaneously. The user switches between these sessions through the use of a session swap hot key.

NIP Console - Nucleus Initialization Program console. This is an MVS console used for a short period during initial startup, assigned through the HCD. If more than one NIP console is defined, the first active console in the list will be used, the rest in the list are used as alternate consoles. If the first active breaks communication with the host, the NIP function will pass to the next active alternate in the list. Once the Multiple Console Support function comes up, the NIP console function ceases, and all other MVS consoles come active. (It is common to define the NIP console device to also function as the MVS master console.

Parallel Sysplex - Multiple mainframes or LPARs present a single system image to the user.

PR/SM - Processor Resource/Systems Manager. Feature that allows for the configuration of multiple LPARs on a CPU.

RFC - Request for Comment. This refers to the specification documents used to describe most protocols and procedures associated with the TCP/IP environment.

Silo - Automated tape library product sold by StorageTek.

Support Element - PC directly attached to the mainframe that provides the mainframe with the initial configuration and acts as the initial console at IPL time.

Virtual Private Network (VPN) - A session established across a public network, using encryption to keep the session private.

Symbols

A

B

C

D