1374 Control Unit

Configuration Guide

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ISSUE/REVISION SCHEDULE

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COMPLIANCE STATEMENTS (VDE AND DEUTSCHES BUNDESPOST)

This equipment has been tested concerning compliance with the relevant RFI protection requirements, both individually and on a system level (to simulate normal operation conditions). However, it is possible that these RFI requirements are not met under certain unfavorable conditions in other installations. It is the user who is responsible for compliance of his particular installation.

Compliance with applicable regulations depends on the use of shielded cables. It is the user who is responsible for procuring the appropriate cables.

Dieses Gerät wurde sowohl einzeln als auch in einer Einlage, die einen normalen Anwendungsfall nachbildet, auf die Einhaltung der Funkentstörbestimmung geprüft. Es ist jedoch möglich daß die Funkentstörbestimmung unter ungünstigen Umständen bei anderen Gerätekombinationen nicht eingehalten werden. Für die Einhaltung der Funkentstörbestimmung einer Anlage, in der dieses Gerät betrieben wird, ist der Betreiber verantwortlich.

Einhaltung mit betreffenden Bestimmung kommt darauf an, daß geschirmte Ausführungen gebraucht werden. Für die Beschaffung richtiger Ausführungen ist der Betreiber verantwortlich.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is required to take whatever measures may be required to correct the interference.

CERTIFICATES

CERTIFICATE BY MANUFACTURER/IMPORTER

This is to certify that the 1374-1L Model 1, 1374-1R Model 1, 1374-2R Model 1, 1374-3R Model 1, 1374-71R Models 1 and 2, 1374-72R Models 1 and 2 is/are shielded against radio interference in accordance with the provisions of Vfg 1046/1984.

The German Postal Services have been advised that this device is being put on the market and that they have been given the right to inspect the series for compliance with the regulations.

BESCHEINIGUNG DES HERSTELLERS/IMPORTEURS

Hiermit wird bescheinigt, daß die 1374-1L Model 1, 1374-1R Model 1, 1374-2R Model 1, 1374-3R Model 1, 1374-71R Models 1 and 2, 1374-72R Models 1 and 2 (Gerät, Typ, Bezeichnung) in übereinstimmt mit den Bestimmungen der Vfg 1046/1984 und funkentstört ist/sind.(Amtsblattverfügung)

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmung eingeräumt.

1374 USER MANUAL PUBLICATIONS

1374 USER MANUALS

The 1374 user manuals needed to install, configure, and operate all the control units in Memorex Telex's 1374 product line are divided into two groups: basic publications and feature-specific publications.

BASIC PUBLICATIONS

The basic publications are the *1374 Product Family Guide*, *1374 Configuration Guide*, and *1374 Offline Utility Operations Manual*. These manuals contain information that applies to all the 1374 control unit models, regardless of their options.

FEATURE-SPECIFIC PUBLICATIONS

These publications are the *1374 ACS Operations Manual*, *1374 Central Site Customization Guide*, *1374 LAN Operations Manual*, and *1374 X.25 Operations Manual*. Each manual discusses a major 1374 optional function, such as attachment to a Token-Ring Local Area Network (LAN) or X.25 network operations. The control unit's functions determine which manuals you will need.

Use the chart below to direct you to the appropriate 1374 manuals.

If You Want To:	Use This Manual:
Install control unit and/or optional features.	*1374 Product Family Guide*
Configure control unit via LCP.	*1374 Configuration Guide*
Customize keyboards and devices via ASCII Definition Utility (ADU), System Definition Utility (SDU), and use DOS commands.	*1374 Offline Utility Operations Manual*
Use the ACS feature to attach terminals and printers to the control unit.	*1374 ACS Operations Manual*
Create system diskettes on an IBM-compatible PC/AT at a central site.	*1374 Central Site Customization Guide*
Attach control units to a Token-Ring LAN.	*1374 LAN Operations Manual*
Access X.25 packet-switched networks.	*1374 X.25 Operations Manual*

PREFACE

MANUAL CONTENTS

This manual discusses System Configuration, Local Control Point, Terminal Operations, and Troubleshooting for all 1374 Control Units.

This manual is divided into the following chapters:

Chapter 1. System Configuration – This chapter discusses overall control unit configuration, including steps to customize host and device parameters.

Chapter 2. Local Control Point – This chapter describes the Local Control Point, an outline program that provides 1374 system information, monitor testing patterns, and configuration functions.

Chapter 3. Terminal Operations – This chapter describes different terminal functions such as the Operator Information Area and Operator Entry Assist.

Chapter 4. Troubleshooting – This chapter describes how to isolate and resolve system problems.

Appendixes – The appendixes contain supplemental information found in the main body of this manual.

INTENDED AUDIENCE

This manual is intended for the system administrator responsible for configuring the 1374 Control Unit. If you are an inexperienced 1374 Control Unit user, read all chapters of this manual and follow the suggested configuration steps. If you are an experienced user who has previously performed 1374 configuration, proceed directly to Chapter 2, "Local Control Points."

You should be familiar with the IBM 3270 environment to fully understand 1374 features and functions. Refer to IBM documentation for additional 3270 information.

MANUAL CONVENTIONS

This manual uses the following conventions:

- User responses are in all UPPERCASE; however, the response may be upper or lower case, unless otherwise noted.
- Messages and prompts that appear on the terminal screen are enclosed in double quotation marks (" ").
- Coax terminals described in the manual are Control Unit Terminals (CUT), unless otherwise noted.

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS

Chapter 1

System Configuration

SYSTEM CONFIGURATION

INTRODUCTION

The configuration process enables you to customize your 1374 Control Unit to work most effectively with host links and attached devices. Through this process, you can set a wide variety of host and device parameters to meet your current system needs. All host and device parameters can be reconfigured as your system changes.

You can configure the 1374 Control Unit using:

- Local Control Point (LCP) – This online program configures host and device parameters.

- Offline Utilities – These offline programs allow you to modify or create host and device parameters such as IBM or Asynchronous/ ASCII (A/A) host interface tables and coax or A/A profiles.

- Central Site Customization (CSC) – This option allows you to configure 1374 Control Unit system diskettes on an IBM or IBM-compatible PC/AT. It includes both LCP and Offline Utilities.

MANUAL CONTENTS

This manual discusses basic 1374 Control Unit configuration using LCP. LCP and its commands are explained in detail. The information in this manual applies to all 1374 Control Units.

Some system modifications can be made using the Offline Utilities prior to LCP configuration (see Figure 1-1). If you are interested in the Offline Utilities, refer to the *1374 Offline Utility Operations Manual.*

Though Central Site Customization (CSC) includes the LCP program, this manual addresses LCP configuration only. Refer to the *1374 Central Site Customization Guide* for specific details relating to CSC.

PRECONFIGURATION

PRECONFIGURATION CHECKLIST

Complete the following items before starting the configuration process:

STEP 1: Ensure that:

- All options and parameters for each host and device are determined.
- All hardware is installed.
- All cabling is attached between the 1374 Control Unit and devices.
- The 1374 Control Unit is operational.

STEP 2: Study the user manuals to understand thoroughly your 1374 Control Unit, its options, and the configuration process.

- Read the chapter in the *1374 Product Family Guide* that applies to your particular 1374 Control Unit model.
- Read this guide, especially Chapter 2, "Local Control Point."
- Read the *1374 Offline Utility Operations Manual* if you are using any of the Offline Utilities.
- If you have the Asynchronous Communications Support (ACS), Local Area Network (LAN), or X.25 options, refer to the appropriate 1374 user manual for specific configuration requirements.

STEP 3: Complete the configuration worksheets listed below so that all host and device configuration information listed in an easy-to-read format.

- Configuration Worksheet

  Complete the device and host parameter tables in this worksheet prior to configuration.

  The worksheet is in Appendix G, found at the back of this manual.

- Downstream Configuration Worksheet

  Complete this worksheet if you have a downstream node control unit on a Local Area Network (LAN).

  This worksheet is found in an Appendix of the *1374 LAN Operations Manual.*

- Gateway Configuration Worksheet

  Complete this worksheet if you are using an 1374 with the gateway option.

  This worksheet is found in an Appendix of the *1374 LAN Operations Manual.*

STEP 4: Obtain the appropriate system diskette for the 1374 Control Unit you are configuring.

The system diskette contains control unit configuration files and Local Control Point. Refer to the *1374 Product Family Guide* for specific system diskette types. See the ACS, LAN, or X.25 manuals for any diskette preparation specific to these options.

STEP 5: Use the Offline Utilities if required.

You must perform Offline Utilities prior to LCP configuration. Offline Utilities include: System Definition Utility (SDU), ASCII Definition Utility (ADU), Link Definition Utility (LDU), and DOS Commands (see Figure 1-1). SDU enables you to make coax keyboard, IBM and A/A host language, and IBM and A/A host interface definitions. ADU provides for A/A device definitions. The DOS commands perform regular DOS functions such as Copy.

Now you are ready to start configuration.

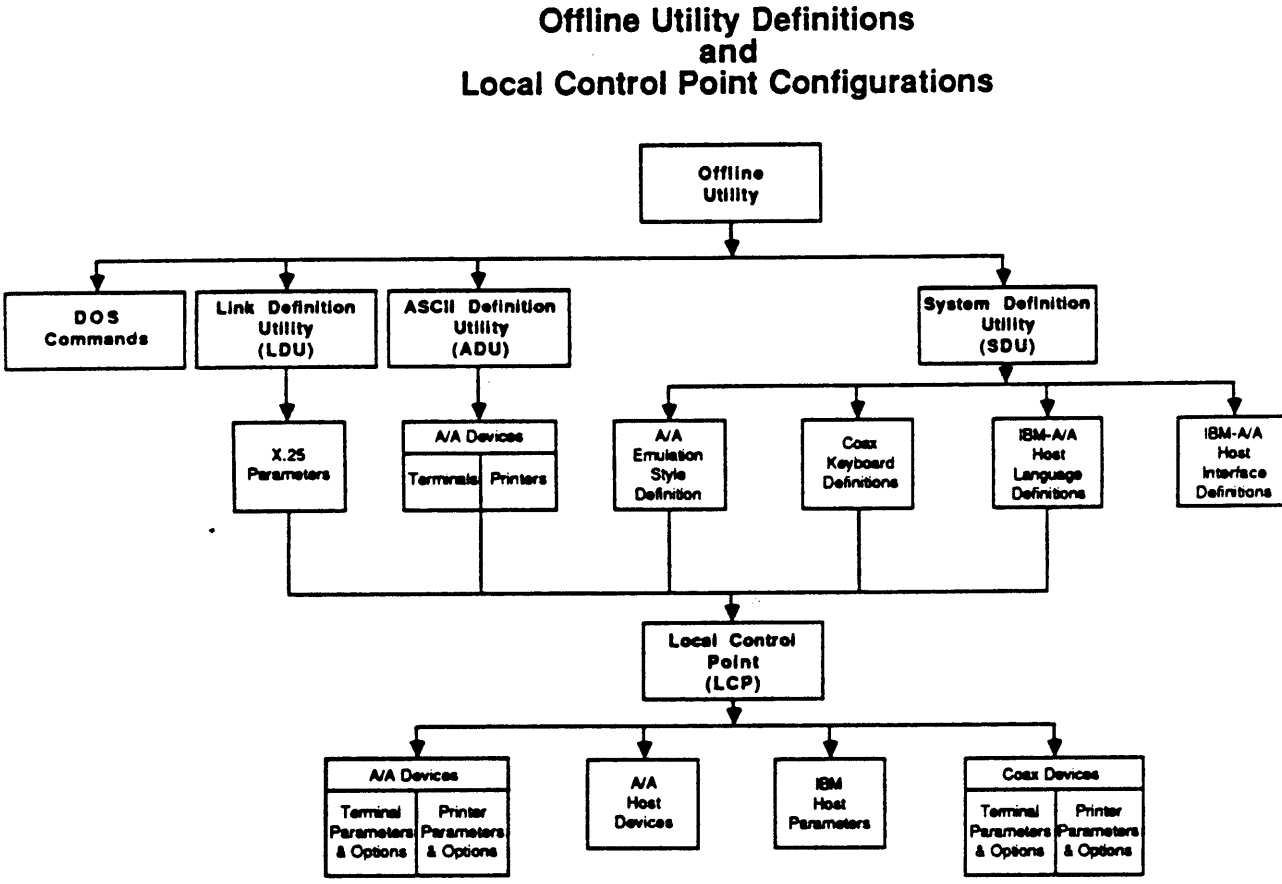
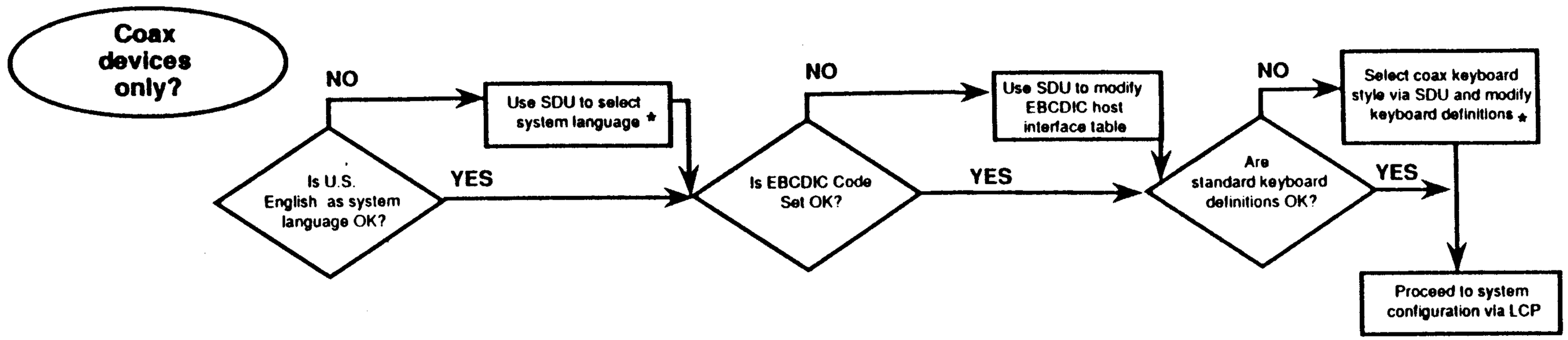


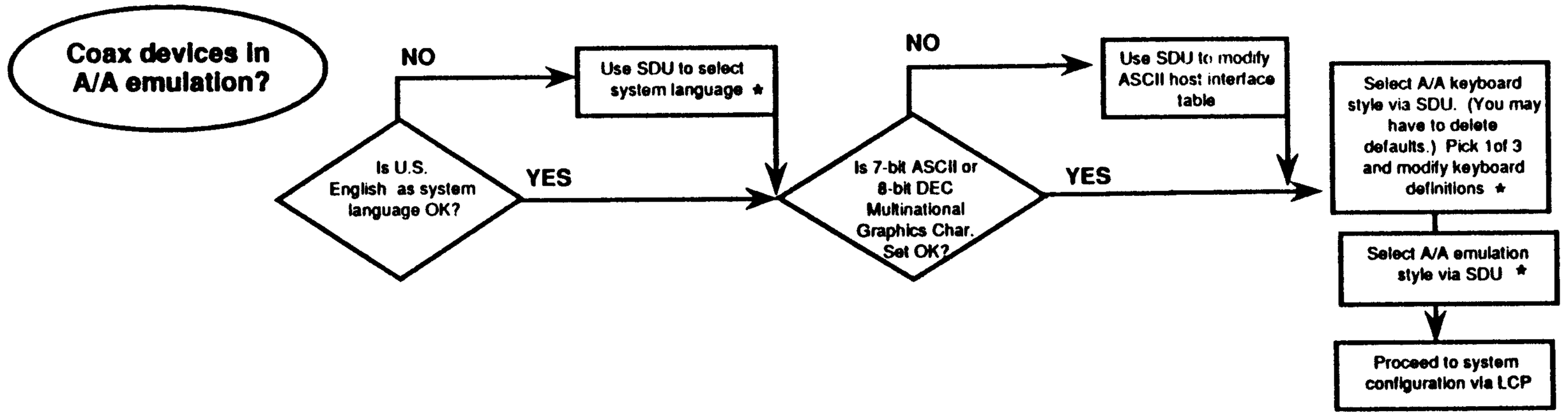
Figure 1-1. Offline Utility Definitions and LCP Configuration

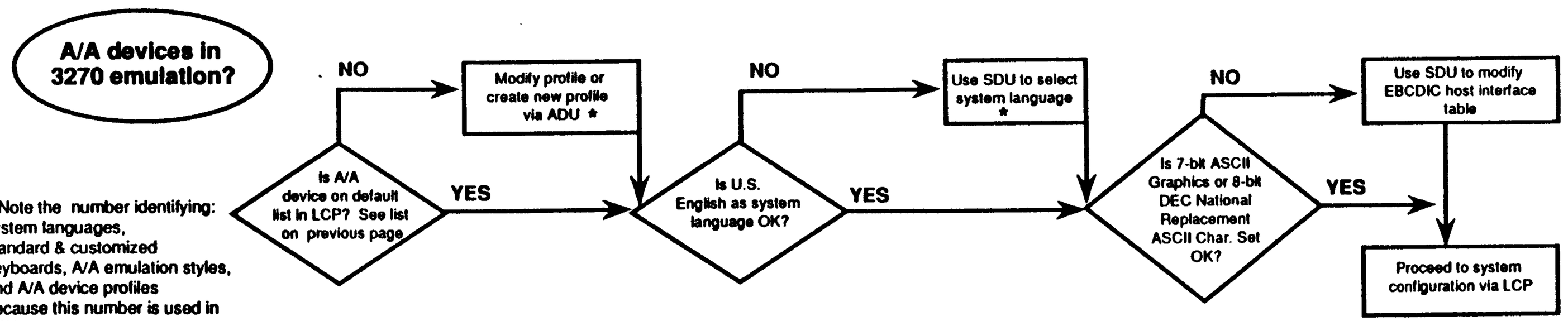
FLOWCHART

This flowchart introduces you to the basic functions of the Offline Utilities and Local Control Point (LCP). Understanding the Offline Utilities and LCP prior to configuring the control unit will simplify the configuration process. This flowchart serves as a guide to the overall process; it is not intended to thoroughly describe the steps required to customize devices, define A/A emulation styles, or configure the control unit. Refer to the *1374 Offline Utility Operations Manual* and to this manual for specifics.

What devices are you attaching to the controller?

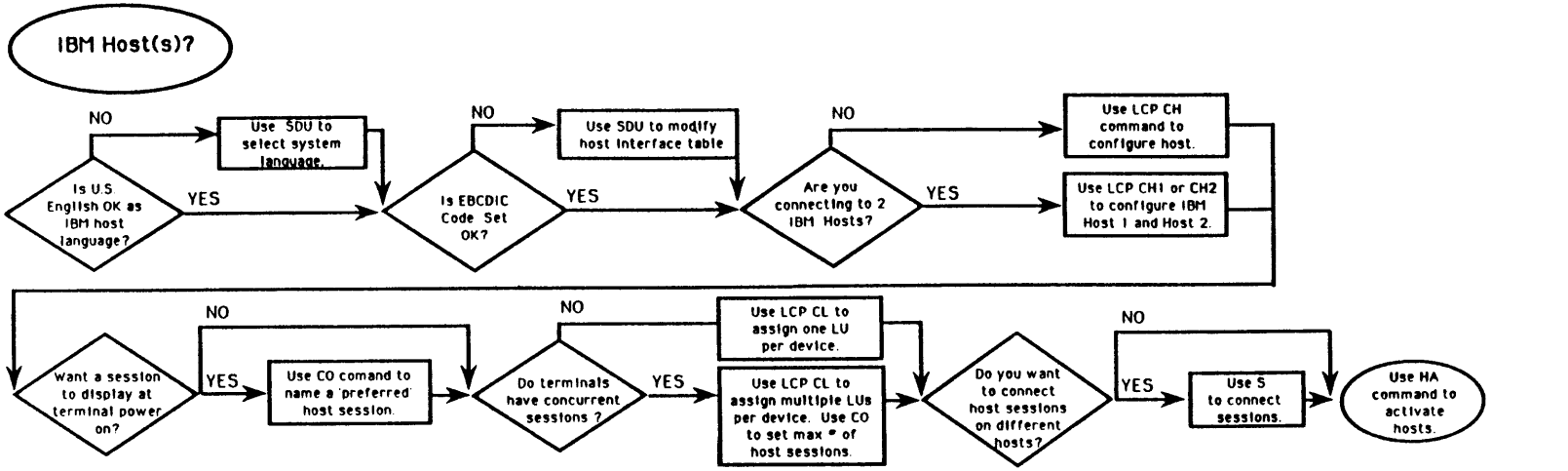


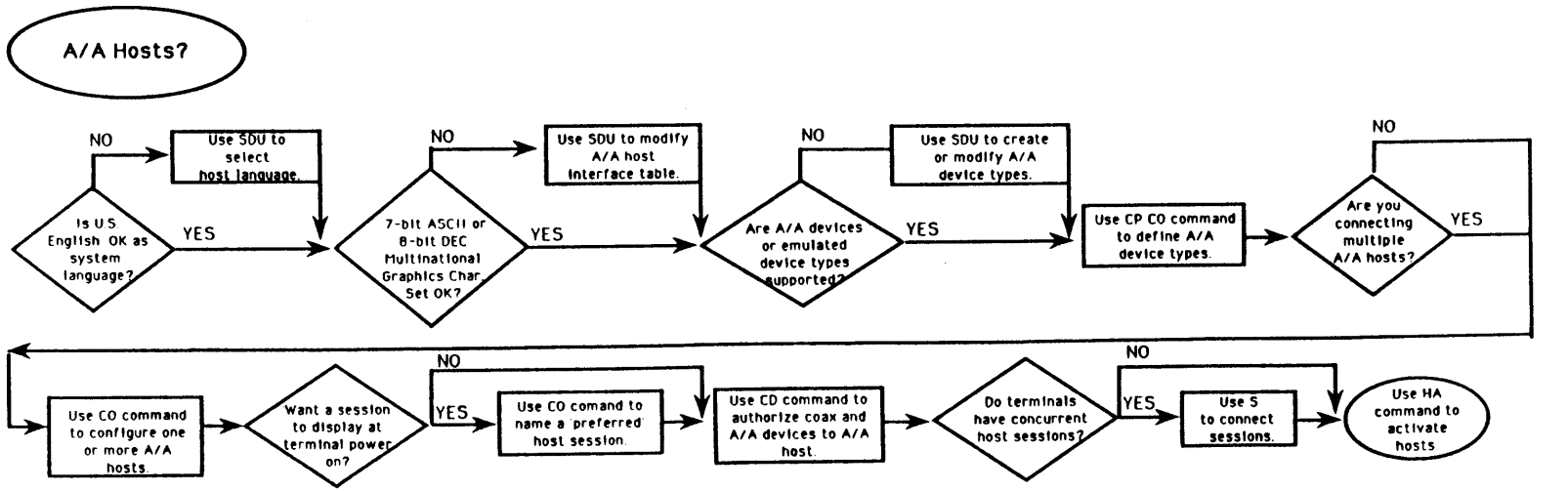




* Note the number identifying: system languages, standard & customized keyboards, A/A emulation styles, and A/A device profiles because this number is used in LCP.

What host connections are you establishing?





INITIAL CONFIGURATION

There are two types of control unit configurations:

- Initial configuration

  The first customization of the system configuration

- Modified configuration

  Modifications to an existing configuration

Initial configuration involves tailoring the configuration file to your host and device configuration. You will be configuring IBM and A/A host, coax and A/A device, PC, and printer parameters. Host and device parameters are assigned with LCP commands. Initial configuration must be performed before the control unit and its devices can interact with a host.

The control unit is delivered with a system diskette containing a configuration file with default parameters. All coax ports are defined as display terminals; all A/A ports are defined as A/A host connections; the Printer Authorization Matrix has no printer assignments. The host processor address is unassigned; FF hex is the default. The default configuration file is loaded into control unit memory during Initial Microprogram Load (IML). It is customized during the initial configuration process.

The minimum assignments required for most environments are the host address and the Printer Authorization Matrix (PAM). Since the host attachment remains deactivated until the link address is configured, the host address must be assigned to allow control unit operation. If nonsystem printers are used, the printer matrix must be specified.

WHAT YOU NEED FOR CONFIGURATION

You should have the following for the configuration process:

- The control unit system diskette
- A coax Control Unit Terminal (CUT) attached to any control unit port; the configuration device is not restricted to port 0.

INITIAL CONFIGURATION STEPS

The following steps explain the sequence to perform an initial configuration. These steps serve as guidelines. Read the entire "Initial Configuration Steps" prior to starting configuration (see Figure 1-2).

Only the LCP command and its configuration function are listed in the steps. See Chapter 2, "Local Control Point," for details.

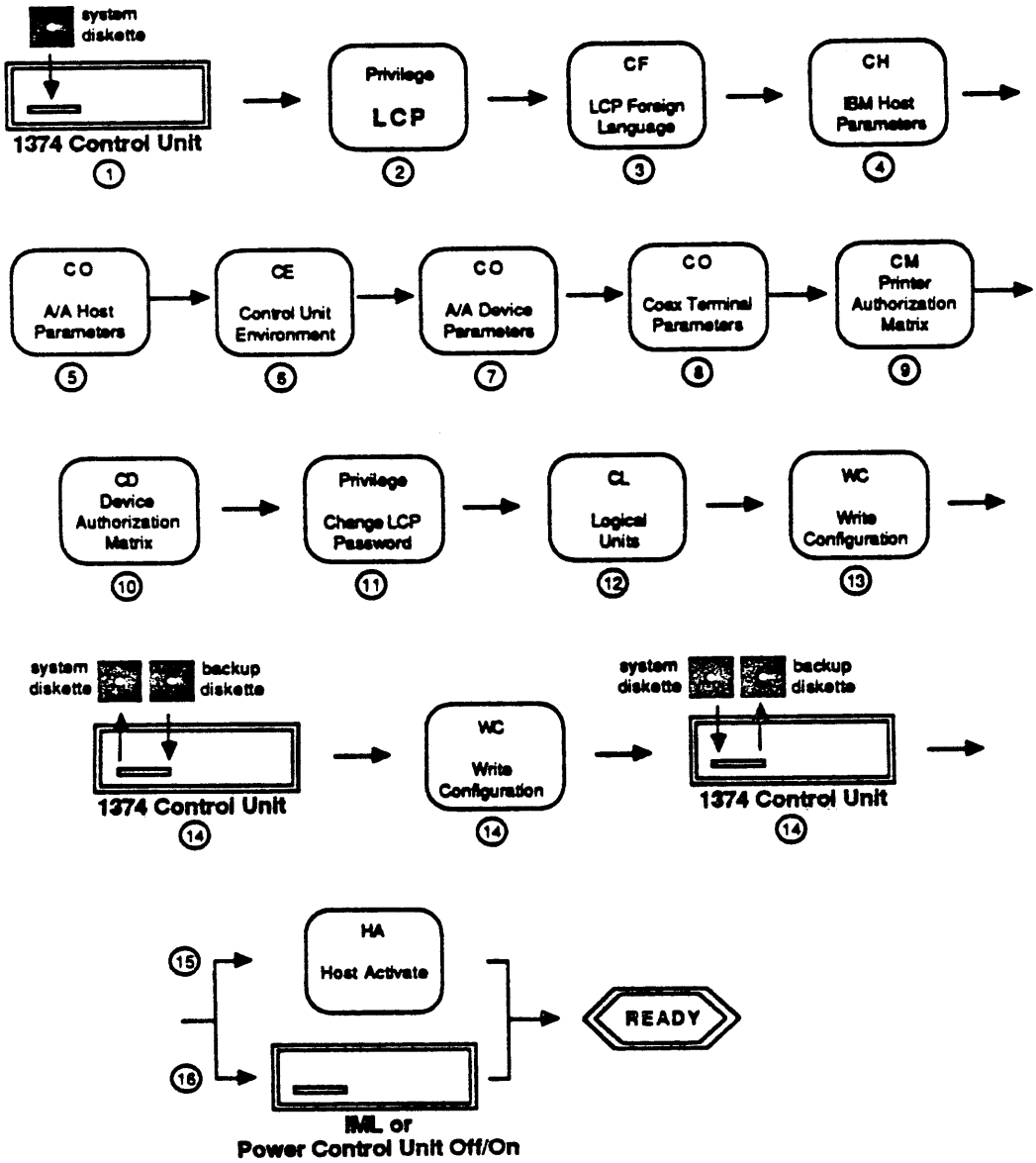


Figure 1-2. Initial Configuration – Suggested Steps

STEP 1: Insert the system diskette into the control unit drive. On control unit models 4XR, 5XR, 61R, and 7XR, make sure the diskette label is facing up when inserting the diskette into the control unit drive. On the 1L and the 1XR models, make sure the label is facing left when inserting the diskette into the drive.

Then, power on the control unit or press the IML switch if the control unit is already on. IML initiates system testing, then loads system software and configuration information into the control unit. IML executes automatically when the control unit is powered on.

NOTE: If you have a control unit that does not have an IML switch such as the 61R, 71R, 72R, or 73R, power the control unit off and on when the configuration steps specify to press the IML switch.

PRIVILEGE-LEVEL LCP

STEP 2: Simultaneously press the Alt and Test keys to display the basic-level LCP menu.

To access the privilege-level LCP menu, type P for Privilege and press the Tab key. Type PASS, the default password. Then, press the Enter key.

NOTE: There are two ways to enter most LCP commands. The dual step-method is to type the command letter, press the Enter key, then type the command option selected from the Command Options menu. The single-step method is to type the command and the option letters together (and a variable if appropriate), then press the Enter key. The Initial Configuration Steps uses the latter method.

LCP LANGUAGE SELECTION

STEP 3: To display the LCP Foreign Language screen, type CF (Configure Foreign Language) in the command field at the LCP menu, then press the Enter key.

Select the desired language option. When the language selection is complete, press Enter, then the PF3 key to display the LCP menu.

IBM HOST PARAMETERS

STEP 4: Type CH (Configure Host) in the command field and press Enter to display the Configure Host menu.

- To configure one IBM host, type CH.

- If you have dual IBM host support, type CH followed by a [1] for the first host.

Configure all desired host parameters using the Configuration Worksheet information.

When IBM host configuration is complete, press Enter, then PF3 to redisplay the privilege-level LCP menu.

To configure a second IBM host, repeat this step using the CH [2] command sequence.

A/A HOST PARAMETERS

STEP 5: At the LCP menu, type CO (Configure Terminal Options) and the port number {pp} to be defined as an A/A host port, then press Enter to display the screen.

If you are not configuring an A/A host, proceed to the next step.

Configure all desired host parameters at the Terminal Options screen.

After configuring the A/A host port, press Enter, then PF3 to redisplay the LCP menu.

If you need to configure another A/A host port, repeat this step.

CONTROL UNIT ENVIRONMENT

STEP 6: At the LCP menu, type CE (Configure Control Unit Environment) and press Enter to display the Configure Control Unit Environment screen.

Configure the control unit environment parameters. Refer to Chapter 2, "Local Control Point."

When finished, press Enter, then PF3 to exit.

A/A DEVICE PARAMETERS

STEP 7: Type CO (Configure Terminal Options) and the device port number {pp} at the LCP menu, then press the Enter key.

If you are not configuring an A/A device, proceed to the next step.

Configure the desired parameters. Refer to Chapter 2, "Local Control Point," and to the *1374 ACS Operations Manual* for details.

When you have finished the configuration, press Enter, then PF3 to redisplay the LCP menu.

If you want to configure another A/A device port, repeat this step.

COAX TERMINAL OPTIONS

STEP 8: At the LCP menu, type CO (Configure Terminal Options) and press Enter to display the screen.

- If configuring each terminal with unique parameters, type CO and the specific port number {pp}.
- If configuring all coax terminals with the same parameters, type CO and ALL.

Configure desired terminal options. Refer to "LCP" for details about specific options.

When you have finished, press Enter, then PF3 to exit the screen.

PRINTER AUTHORIZATION MATRIX

STEP 9: Type CM (Configure Printer Authorization Matrix) and press Enter at the LCP menu to display the matrix.

If you are not configuring any printers, proceed to the next step.

Configure the Printer Authorization Matrix. See Chapter 2, "Local Control Point."

When you have finished, press Enter, then PF3 to return to the LCP menu.

DEVICE AUTHORIZATION MATRIX

STEP 10: Type CD (Configure Device Authorization Matrix) in the command field and press Enter to display the screen.

If you configured one or more A/A hosts, assign the coax and A/A terminals authorized to access each A/A host. Type ALL to allow all terminals access to an A/A host.

When finished, press Enter, then PF3 to leave.

CHANGE LCP PASSWORD

STEP 11: Change the LCP default password (PASS) to provide security for LCP access, if desired. At the privilege-level LCP menu, type P and NEW. Then, press the Tab key and type the desired four-letter password. (The password does not appear on the screen.)

After changing the password, press Enter only once.

LOGICAL UNITS

STEP 12: At the LCP menu, type CL (Configure Logical Units) and press Enter to display the Logical Units screen.

Configure LUs. LUs are the only assignment that must be made for CUTs and DFTs. The standard terminal characteristics (buffer size, keyboard type, and features) are automatically defined. Refer to Chapter 2, "Local Control Point," for details.

After assigning LUs, press Enter. One of two things happens:

- If you made logical unit changes to the port on which you are working, the screen becomes blank and LCP is exited. Simultaneously press the Alt and Test keys to reenter LCP. Type P and the password to access the privilege-level LCP menu.
- If you made logical unit changes to other ports (not to the port you are working on), an "Accepted" message appears; LCP is not exited.

WRITE CONFIGURATION

STEP 13: Now all hosts and devices should be configured. Type WC (Write Configuration) and press Enter at the LCP menu.

The Write Configuration command writes or saves the initial configuration from the control unit memory to the system diskette. The default configuration file is changed only when the WC command is issued. The message "Operation Complete" appears if the operation is successful.

BACKUP DISKETTE

STEP 14: When the message appears, remove the system diskette and insert a backup diskette. Type WC and press Enter to write the configuration on the backup diskette. The "Operation Complete" message appears if the operation is successful.

When the message appears, remove the backup diskette and reinsert the system diskette.

If you do not have a backup diskette, obtain a blank diskette. Using the DOS commands, format the blank diskette and copy the system diskette files onto your backup diskette. Now, you are ready to use the backup diskette. Store the original diskette in a safe place.

ACTIVATE HOST

STEP 15: If you configured only IBM or A/A host parameters, type HA (Host Activate) (and [1] or [2] if you have dual IBM host support) and press Enter at the LCP menu.

When the "OK" message appears, simultaneously press the Alt and Test keys to exit LCP.

IML CONTROL UNIT

STEP 16: If you configured both host and device parameters or just device parameters, simultaneously press the Alt and Test keys to leave LCP. Then press the IML switch.

IML automatically reads the new configuration information from the system diskette to the control unit memory. The host is automatically activated.

INITIAL CONFIGURATION COMPLETE

Now the control unit and the devices attached to it are ready for operation.

MODIFYING THE CONFIGURATION

Modifications to the system configuration can be made at any time. You can change whatever host and/or device parameters you wish and you can modify your configuration as often as is necessary.

WHAT YOU NEED FOR CONFIGURATION

Obtain the following:

- The control unit system diskette
- A coax terminal attached to any control unit port, or an A/A terminal with 3270 emulation attached to a preconfigured port

MODIFIED CONFIGURATION STEPS

The following steps are guidelines for the inexperienced system administrator who is configuring the control unit. If you are an experienced system administrator, proceed to Chapter 2, "Local Control Point."

STEP 1: Make sure the system diskette is in the 1374 Control Unit drive.

STEP 2: Simultaneously press the Alt and Test keys to access LCP.

To access the privilege-level LCP menu, type P, press the Tab key, type either the default or the configured password, then press Enter.

STEP 3: If you are modifying IBM host parameters or reassigning LUs, deactivate all host links prior to configuration.

To do so, at the LCP menu, type HD (Host Deactivate) (and [1] or [2] if you have dual IBM host support), then press Enter. You must deactivate all hosts.

STEP 4: Now make all desired modifications to the IBM or A/A host, coax or A/A device parameters.

Modification steps are very similar to the initial configuration steps. Refer to "Initial Configuration Steps" for details. See Figure 1-2 to locate the configuration step that corresponds with the type of host or device you are configuring.

STEP 5: After modifying the configuration, type WC and press Enter to write the configuration changes on the system diskette.

STEP 6: When the "Operation Complete" message appears, remove the system diskette and insert the backup diskette. Then, type WC and press Enter to save configuration changes on the backup diskette.

STEP 7: When the message "Operation Complete" appears, remove the backup diskette and reinsert the system diskette.

STEP 8: If you modified IBM or A/A host parameters, type HA (Host Activate) (and a [1] or [2] if dual IBM hosts are supported) and press Enter.

When the "OK" message appears, simultaneously press the Alt and Test keys to exit LCP.

Now you are ready to use your control unit with its modified configuration.

STEP 9: If you configured both host and device parameters or just device parameters, simultaneously press the Alt and Test keys. Then, press the IML switch.

IML automatically reads the new configuration information from the system diskette to the control unit memory. The host is automatically activated.

Now you are ready to use the control unit with its modified configuration.

NOTE: When the host is activated, the Printer Authorization Matrix (PAM) can be reconfigured online using a host application program. For details, see Host-loaded Printer Authorization Matrix in this chapter.

DOWNSTREAM LOAD TERMINAL SUPPORT

This section briefly describes Downstream Load (DSL) terminal support. Additional information is found in the *1374 Central Site Customization Guide*.

1374 Control Units support the following DSL terminals: IBM 3179-G, IBM 3192-G, IBM 3193-1, IBM 3193-2, IBM 3290, and Memorex Telex 1192. The following DSL procedures are effective January 1, 1989.

TYPES OF DSL PREPARATION

There are two ways to prepare the DSL software for the control unit.

- Using Central Site Customization, the DSL files can be copied from the IBM DSL diskette onto the control unit system diskette. If you are using this method, see the *1374 Central Site Customization Guide* for details (see Figure 1-3).

- Using the DSL Copy Utility, the IBM DSL files can be copied from the IBM DSL diskette onto a control unit system diskette (see Figure 1-4).

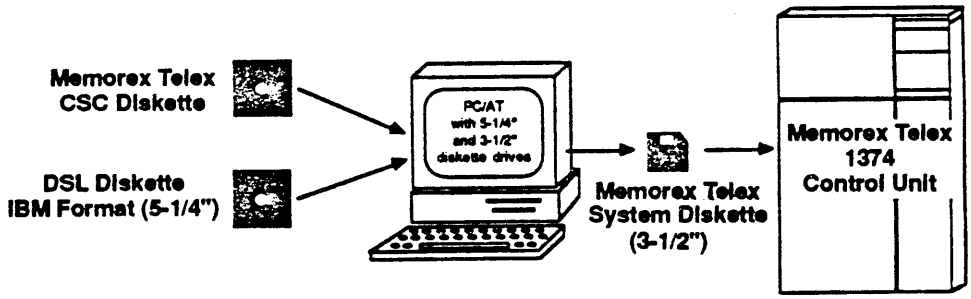


Figure 1-3. Central Site Customization for DSL File Copy

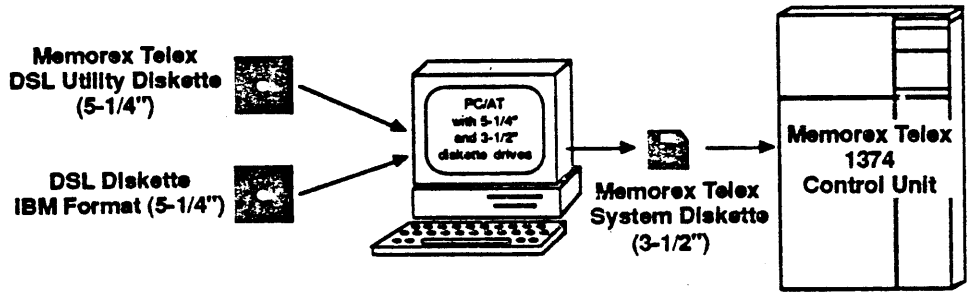


Figure 1-4. DSL Copy Utility for DSL File Copy

WHAT YOU NEED FOR DSL SUPPORT

DSL support requires the following:

- The Central Site Customization (CSC) option. This feature comes on a 5 1/4-inch diskette.

  or

- The DSL Copy Utility diskette. This Utility comes on a 5 1/4-inch diskette.
- IBM DSL diskette for the appropriate DSL terminal.
- Each DSL diskette contains: DSL files specific to the DSL model and IBM Keyboard Definition Utilities (KDU). (You cannot use the Memorex Telex System Definition Utility (SDU) to customize DSL keyboards.) The IBM DSL microcode comes on 5 1/4-inch diskette.
- The IBM DSL diskette is available only from IBM. Consult your IBM documentation or check with your IBM representative to find out how to obtain the DSL diskette.

- The control unit system diskette. The system diskettes are 3 1/2-inch in size.

- An IBM PC/AT with a 5 1/4-inch 1.2MB drive and a 3 1/2-inch 1.44 MB drive.

DSL LIMITATIONS

Restrictions imposed by the IBM DSL microcode apply to Memorex Telex DSL support.

NOTE: Memorex Telex is not responsible for maintaining IBM DSL or KDU microcode. Report IBM microcode errors to IBM.

DSL support does not include Local Control Point (LCP) or Monitor access. The Alt and Test key sequence, used to access LCP on non-DSL terminals, puts the DSL terminal in a local test mode. Type Ahead (the ability to enter commands in rapid sequence for execution on the terminal) is not supported on the DSL terminals.

STEPS FOR LOADING THE DSL TERMINAL

The following steps apply to a single disk drive system such as 7XRs and the 61R.

STEP 1: Copy the DSL software from the IBM DSL diskette onto a system diskette. Use either the CSC or the DSL Copy Utility method of diskette preparation. See the appropriate manual.

STEP 2: Insert the system diskette containing the DSL files to the diskette drive.

STEP 3: Load the DSL microcode from the control unit to the DSL terminal. Make sure the diskette containing the DSL file is inserted into the correct control unit drive. The downstream load process occurs when you perform one of the following:

- Power on the DSL terminal.

- Power on the control unit.

  All attached and configured terminals come online at power on. The downstream load process is handled automatically.

- Press the Test key twice on the IBM 3179-G, 3192-G, 3193-1, and 3193-2.

  A test pattern that includes a keyboard layout appears briefly on the screen. This action does not apply to the IBM 3290 DSL terminal.

When any one of the above steps is initiated, a beep sounds indicating that the terminal accepts the DSL file from the control unit. If the terminal is not configured correctly or if errors occur, a beep does not sound.

NOTE: The response time for other online terminals may degrade when a DSL terminal is first powered on. It will improve immediately after the downstream load process is complete.

STEP 4: At your control unit terminal, access LCP. Use the Configure Control Unit Environment (CE) command to configure DSL screen format and printer options for the appropriate port. See Chapter 2, "Local Control Point," for details. Then, exit LCP.

STEP 5: Select foreign language support via Offline Utilities.

DSL supports foreign languages on the DSL terminals. The default language is U.S. English. See Tables 1-1 and 1-2 for additional supported languages.

Supported Languages	Language Code
Austrian/German	03
Belgian	04
Canadian Bilingual	29
Danish	07
Finnish/Swedish	09/24
French AZERTY-105	30
Italian	15
Japanese (Katakana)	17
Norwegian	23
Portugese	28
Spanish	19
Spanish-Speaking	21
Swiss/French Bilingual	32
Swiss/German Bilingual	31
U.K. English	22/42

Table 1-1. DSL IBM 3179-G, 3192-G, 3193-1, and 3193-2 Language Codes

Supported Languages	Language Code
Austrian/German	03
Belgian	04
Brazilian	05
Canadian Bilingual	29
Danish	07
EBCDIC	25
Finnish/Swedish	09/24
French AZERTY-105	30
International	14
Italian	15
Japanese (English)	16
Japanese (Katakana)	17
Norwegian	23
Portugese	28
Spanish	19
Spanish-Speaking	21
Swiss/French Bilingual	32
Swiss/German Bilingual	31
U.K. English	22/42

Table 1-2. DSL IBM 3290 Language Codes

STEP 6: Customize the DSL keyboard, if desired.

Four keyboard layouts (standard typewriter and three modified) can be used on a DSL terminal. Most character, symbol, and function keys can be relocated, duplicated, or deleted from the DSL keyboard. Use the IBM KDU to customize the keyboard layouts. You cannot use the Offline Utility SDU to customize the DSL keyboard. Refer to the *IBM Color Graphics Display Station Operator Reference and Problem Solving Guide* (GA18-2271) for instructions.

Now your DSL terminal is ready for operation.

HOST-LOADED PRINTER AUTHORIZATION MATRIX

The host-loaded Printer Authorization Matrix (PAM) is a host application program that allows you to make configuration modifications. You can establish printer modes, assign printer classes, or define source device lists. Then the modified PAM is downloaded to the control unit terminal. This feature must be used with an active host link.

NOTE: The PAM may also be modified using LCP.

The host-loaded PAM feature is similar to the IBM host-loaded PAM feature and provides the following enhancements:

- The PAM may be accessed from any attached terminal; it is not restricted to port 0.
- The host-loaded PAM feature displays program status information.
- If the PAM reconfiguration is unsuccessful, a message appears on the screen indicating where the error occurred.

Refer to IBM documentation for user instructions and format information.

BASIC HOST-LOADED PAM PROCEDURE

This section briefly describes how to use the host-loaded PAM. Refer to the IBM manual for details.

STEP 1: Initiate a transaction with the host program responsible for loading the PAM. The program varies on different hosts.

STEP 2: At this point, either modify the PAM or retrieve the current PAM. The modification procedure is application dependent. Then the program transmits the PAM data to the terminal as normal application data (see Figure 1-5).

```
Printer Authorized Matrix
Press ALT/Erase EOF/=

10S0100010000000000110011110000000111000001110000000
11L1000000010000010011111110001000001010100000000000
12J0000000011100000000011110000000000000000000000000
14L0000100000000000111111110000000000000000000000000
```

Figure 1-5. Host-Loaded PAM

STEP 3: While holding down the Alt key, press the Erase EOF key followed by = (equal sign) to scan PAM. Each row is saved as it is scanned. The terminal screen is write-protected; therefore, the PAM cannot be modified at this point.

If the PAM data are correctly formatted and valid, an "Accepted" message appears on the screen. The updated PAM is stored until the next modification.

If an error occurs in the PAM data, an error message appears. It indicates that a header, trailer, descriptor attribute, or descriptor device error is detected. The cursor appears in column 1 of the row containing the error (see Figure 1-6). Error recovery procedures are the responsibility of the application program.

The PAM may be remodified using the host-loaded PAM feature or in LCP.

```
Printer Authorized Matrix
Press ALT/Erase EOF/=

X
10S0100010000000000110011110000000111000001110000000
11L1000000010000010011111100010000010101000000000000
12J0000000011100000000011110000000000000000000000000
14L0000100000000000111111110000000000000000000000000
```

Showing a Header Error

```
Printer Authorized Matrix
Press ALT/Erase EOF/=

10S0100010000000000110011110000000111000001110000000
11L1000000010000010011111100010000010101000000000000
12J0000000011100000000011110000000000000000000000000
14L0000100000000000111111110000000000000000000000000
X
```

Showing a Trailer Error

```
Printer Authorized Matrix
Press ALT/Erase EOF/=

 10S0100010000000000110011110000000111000001110000000
X11L1000000010000010011111100010000010101000000000000
 12J0000000011100000000011110000000000000000000000000
 14L0000100000000000111111110000000000000000000000000
```

Showing a Descriptor Attribute Error

```
Printer Authorized Matrix
Press ALT/Erase EOF/=

10S0100010000000000110011110000000111000001110000000
11L1000000010000010011111100010000010101000000000000
32J0000000011100000000011110000000000000000000000000
14L0000100000000000111111110000000000000000000000000
```

Showing a Descriptor Device Error

Figure 1-6. Host-Loaded PAM – Error Messages

KEYBOARD CONFIGURATION

The 1374 Control Unit supports various types of standard and modified keyboard layouts, including foreign languages. The basic supported coax keyboards are typewriter, data entry, APL, and text. All of these keyboards have special graphic and control keys for entering data.

CONFIGURATION

All keyboards can be customized through the Offline Utility SDU. All coax keyboards can be modified and that modification may be selected via LCP. Some keyboards, e.g., the 122-keyboard, are modified via switch settings on the bottom of the keyboard. Memorex Telex control units honor those switch settings; however, the LCP selection overrides these settings.

87-KEY TYPEWRITER CONFIGURATION

The 87-key typewriter keyboards have three types of layouts: C2, C3 (RPQ), and C4. Each of these layouts has different numeric and Programmable Function (PF) key layouts (see Figures 1-8 through 1-10). These variations allow you to select a layout best suited to your applications. (The base keys can be remapped in SDU as well. See the *1374 Offline Utility Operations Manual* for more information.)

When the control unit is powered on, it reads the keyboard type attached to a terminal. The keyboard type appears in the LCP Display Ports screen. The Keyboard Column lists "typewriter" for C2 keyboards and "RPQ" for C3 keyboards. The C4 keyboard type does not appear in the Display Ports screen because it is not an actual keyboard; it is an optional layout that may be selected in LCP.

When performing an initial configuration, you must define the keyboard type at the LCP Configure Terminal Options screen. C2 appears as the default option. Select the appropriate option at the Keypad type parameter (see Figure 1-7).

You can redefine your C2 or C3 keyboard as any one of the other keyboards at the Keypad type parameter in the CO screen. For example, selecting the C4 option redefines a C2 keyboard to appear as a C4 keyboard. For the new definition to take effect, power the terminal off, then on.

NOTE: Some terminals support keypad mapping at the keyboard as opposed to the control unit level. If your keypad enters data correctly according to the key legends, LCP configuration is not required.

```
===>CO 00
Modify panel and ENTER to UPDATE, use PF3 to EXIT, or PF7/8 to scroll
-------------------------------------------------------------------

00   Keypad type. 00 = default (C2), 01 = RPQ, 02 = C4
00   3270 ASCII keyboard. 00 = no, 01 = yes
00   Numeric lock. 00 = default, 01 = disabled, 02 = enabled
00   PC File Transfer. 00 = no, 01 = yes
00   Oper. Infor. Area mode. 00 = EXTRA 1, 01 = EXTRA 2, 02 = IBM
00   Magnetic Stripe Reading Devices.
     00 = Alphanumeric (Auto Enter for secure data only)
     01 = Alphanumeric (Auto Enter for all data)
     02 = 3277-Compatible Numeric
00   IBM Keyboard. 00 = default, 01-08 = Std, 0A-0Z - AA-DD = Modified
03   Async Emul. 01-09 = Std, 0A-0Z = Custom
00   Async Emul Keyboard. 00 = default, 01-03 = Std, 0A-0Z - AA-DD = Modified
--   Maximum number of concurrent sessions. 01-05
00   Host language. 1 = primary, 2 = secondary
00   Keyboard language. 1 = primary, 2 = secondary
           Preferred host name. 1-8 characters
```

Figure 1-7. Configure Terminal Options Screen

FOREIGN LANGUAGE SUPPORT

The C3 keyboard supports all foreign languages except Austrian/ German (language codes 40 and 41) and U.K. English (language code 42). Foreign language selection is defined in Offline Utility SDU. The C80 and C81 keyboards support the Austrian/German languages, and the C8 keyboard supports U.K. English. The RPQ keyboard automatically maps these languages when they are defined in SDU. This mapping occurs internally and is not visible to you. See the *1374 Offline Utility Operations Manual* for details.

KEYBOARD LAYOUTS*

*These figures show the basic differences between the keyboard types; they are not intended to identify each key.

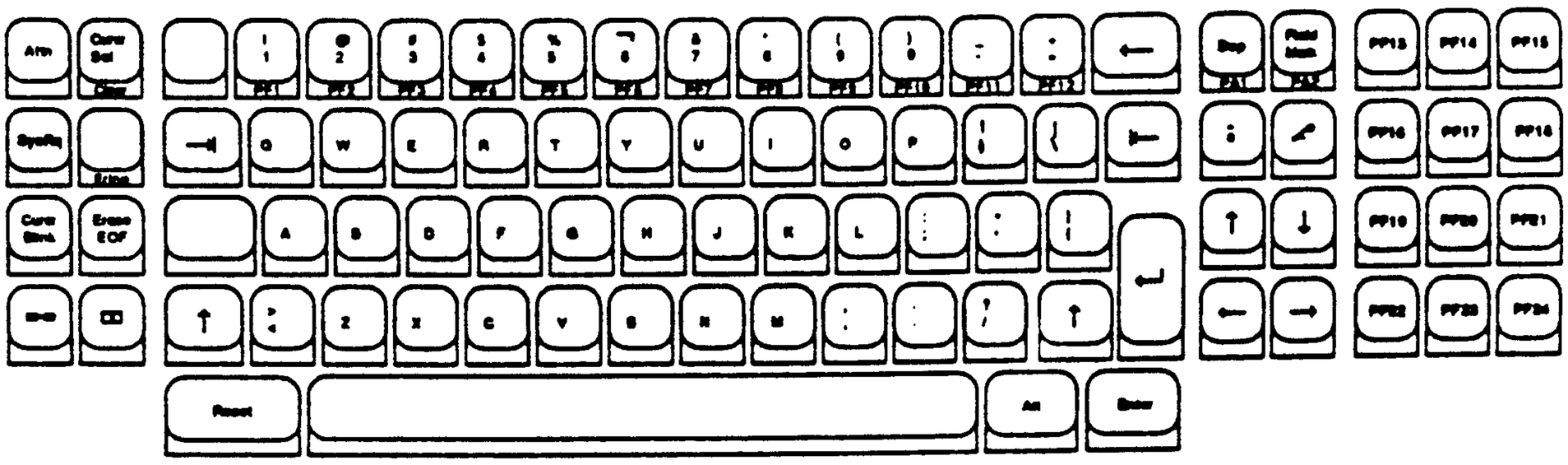


Figure 1-8. Keyboard Layout for the IBM 3178 – C2 Type

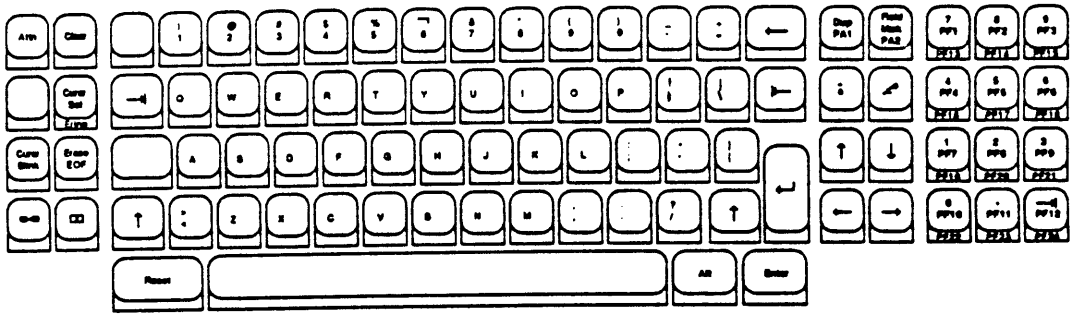


Figure 1-9. Keyboard Layout for the IBM 3178 – C3 (RPQ) Type

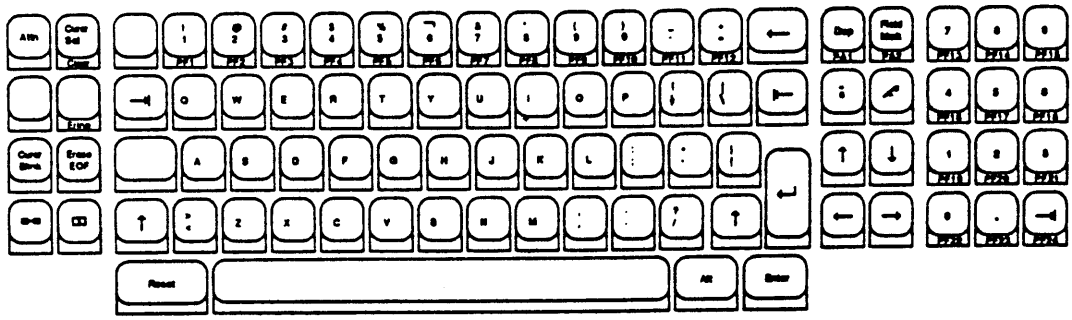


Figure 1-10. Keyboard Layout for the IBM 3178 – C4 Type

DUAL IBM HOST SUPPORT

The dual IBM host feature supports two concurrent IBM host links. Three types of dual IBM host combinations are supported:

- Dual IBM SNA/SDLC host links
- Mixed BSC and SNA/SDLC host links
- Mixed local (SNA or non-SNA) and SNA/SDLC host links

DUAL SNA/SDLC HOST SUPPORT

Dual SNA/SDLC IBM hosts are supported on the 1374-1R, -2R, -41R, -42R, -51R, -52R, and -61R control unit models. (The 7XR series does not support the dual IBM host feature; the 73R supports dual IBM hosts via the Token-Ring LAN only.) For dual SNA/SDLC hosts, each link appears to the host as an SNA physical unit (PU) 2.0 node. The dual IBM host software supports two concurrent multipoint, or point-to-point SNA/SDLC host links.

MIXED BSC AND SNA/SDLC HOST SUPPORT

Mixed BSC and SNA/SDLC hosts are supported on the 1374-1R, -2R, -41R, and -42R control unit models. The dual IBM host software supports two concurrent multipoint, or point-to-point mixed environment (BSC and SNA/SDLC) host links (see Figure 1-11).

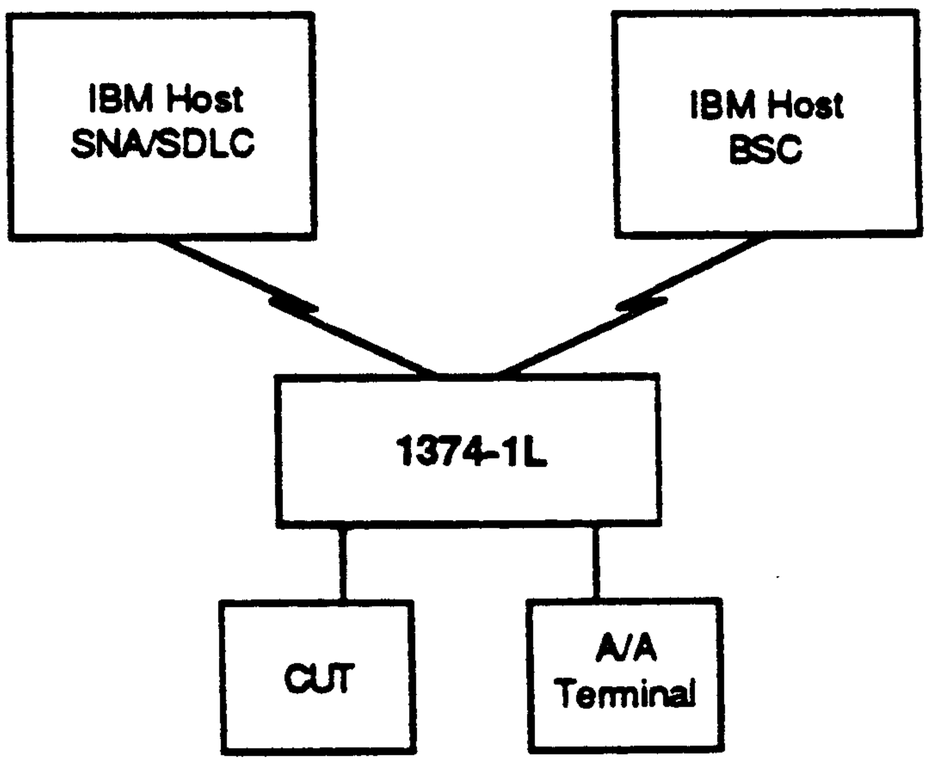


Figure 1-11. 1374-1R With Mixed BSC and SNA/SDLC Dual Host Support

MIXED LOCAL AND SNA/SDLC HOST SUPPORT

Mixed local (SNA or non-SNA) and SNA/SDLC support is available only for the 1374 Control Unit model 1L (see Figure 1-12). An 80386 board is required for mixed local and SNA/SDLC host support.

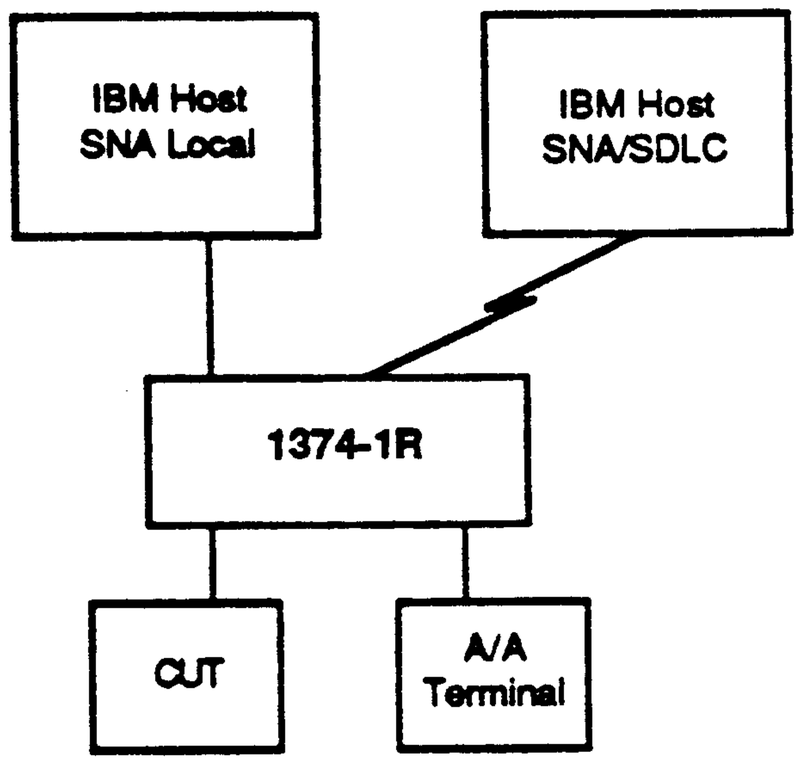


Figure 1-12. 1374-1L With SNA Local and SNA/SDLC Dual Host Support

INSTALLATION

Dual IBM host support is a user-installed option. The Host Serial Interface Extender (HSIE) provides the second host link. The *1374 Product Family Guide* describes how to install this option on the different 1374 Control Unit models.

REQUIRED DISKETTES

The dual IBM host support software is provided on a separate system diskette for each 1374 model and each type of dual IBM host combination (see Table 1-3).

Dual IBM Host Combination	1L	1R/2R	41R/42R	51R/52R	61R
Local and SNA/SDLC	X				
BSC and SNA/SDLC		X	X		
Dual SNA/SDLC		S	S	S	S

X = One diskette per machine type.
S = Same system diskette is used for both single and dual SNA/SDLC support.

Table 1-3. Required Diskettes for Dual IBM Host Support

LOGICAL UNITS

The dual IBM host feature supports two concurrent host links to one IBM host processor, or one link each to two different IBM host processors. In a configuration where the two host links are connected to a single host processor, each link appears as a separate PU to the host. The host, on the other hand, appears to the control unit as two separate host processors. In a configuration where the two host links are connected to two separate host processors, each link appears as a single PU to each host.

In an SNA environment, 254 LUs per host are supported. With dual IBM host support, the 254 available LUs are divided between the hosts in any manner. For example, one host can have 150 LUs and the other host can have 104 LUs. In a mixed SNA/SDLC and BSC dual host environment, 222 LUs are available for the SNA host and 32 host addresses are available for the BSC host.

LUs and host addresses are assigned with the LCP Configure Logical Units command. The LU screen for an SNA environment is used for configuring LUs/host addresses for all dual host environments. When a BSC host is being configured, a unique screen containing host addresses rather than LUs appears. When assigning LUs/host addresses to each port, type the LU assignment followed by a "/1" for host 1 and "/2" for host 2, e.g., "002/1" or "002/2" (see Figure 1-13).

```
===> DL
Enter new command option, or use PF3 to exit, or use PF7/8 to scroll
--------------------------------------------------------------------------------

PORT      LOGICAL UNITS                PORT      LOGICAL UNITS
00        002/1 002/2                  01        003/1 003/2
02        004/1                        03        005/1
04        006/1                        05        007/1
06        008/1                        07        009/1
08        010/1                        09        011/1
10        012/1                        11        013/1
12        014/1                        13        015/1
14        016/1                        15        017/1
16        018/1                        17        019/1
18        020/1                        19        021/1
20        022/1                        21        023/1
22        024/1                        23        025/1
24        026/1                        25        027/1 037/1 037/2 038/1
26        028/1                        27        029/1
28        030/1                        29        031/1
30        032/1                        31        033/1 034/1 035/1 036/1
  |                                      |
  |                                      |
  v                                      v
54                                     55
```

Figure 1-13. Configure Logical Units Screen – Dual IBM Host Support

MULTIPLE LOGICAL TERMINALS

Multiple Logical Terminals (MLT) support allows coax and A/A terminals to have a maximum of five concurrent IBM and/or A/A host sessions. A/A terminals must have 3270 emulation to establish sessions with an IBM host. Coax terminals must have A/A emulation to establish sessions with A/A hosts. The terminals can be assigned up to five logical units. Each LU assignment is an IBM host session. With dual IBM host support, the LUs allowed per terminal can be divided between both IBM hosts in any combination. (Maximum host sessions allowed per terminal are configured in LCP Configure Terminal Options.) For example, two of those five sessions may be on host 1 and the other three sessions may be on host 2. See Chapter 3 for details about MLT.

For MLT, type the assigned LUs next to the corresponding physical port. For example, type "002/1 003/2 004/1 005/1 006/1" next to the corresponding port number. See Chapter 2, "Local Control Point," for more information about assigning LUs and host addresses.

NOTE: DFTs support multiple LUs. There is no Memorex Telex software restriction for dividing DFT multiple LUs between hosts; however, it is recommended that all DFT LUs be assigned to a single host. Restrictions in DFT device software may cause a terminal malfunction when using multiple LUs in dual host operation. This restriction also applies to the IBM 3270 PC. See Chapter 2, "Local Control Point," for more details regarding LU/host address assignments to DFTs.

HOST SESSION ACCESS

A unique key sequence called the Jump key allows you to switch easily between all active IBM host sessions regardless of session residency (multiple sessions on one host or sessions divided between two hosts).

CONFIGURATION

LCP provides online configuration for both IBM hosts. The [h] variable, used with certain LCP commands, identifies the host being configured. For example, the mnemonic for the Display Host 1 command is DH1. The following LCP commands are used with dual IBM host support.

Configure Host [h] – The Configure Host command configures SNA/SDLC, local (SNA and non-SNA), and BSC IBM host parameters. Different CH screens display depending on the host environment.

Configure Logical Units – This command assigns logical units/host addresses to terminals and printers.

Configure RTM/Alerts [h] – This command customizes the Response Time Monitor (RTM) and Alerts features for each host.

Display Host [h] – This command displays the host configuration for either host 1 or host 2.

Display Logical Units – This command displays the LU/host address assignments.

Display RTM/Alerts [h] – This command displays the RTM/Alerts configuration per host.

Display Terminal – This command displays terminal configuration, status, and statistics for each host session.

Host Activate IBM-Compatible Host [h] – This command activates either host 1 or host 2.

Host Deactivate IBM-Compatible Host [h] – This command deactivates either host 1 or host 2. All active host links must be deactivated prior to using certain LCP commands.

DUAL HOST SUPPORT FOR PRINTERS

For SNA environments only, dual host support for printers allows two hosts to access the same printer. Both sessions are automatically initiated if the appropriate number of LUs is assigned to the printer. Automatic session control is necessary because a printer does not have Jump Key capability.

Dual host session printer requests are handled by active and background printer sessions. The active printer session is the session in which the last print request was executed or the first session before printing has occurred.

To control dual host session data output to the printer, select Yes for the Between Bracket Printer Sharing at the LCP Configure Control Unit Environment screen. If a host print request is received in the background session, the status of the active session is examined. If no activity is occurring, the background session becomes the active session and the print request is executed. If a local copy or a system print request is in the active session's queue, or if the active session is not between brackets (Configure Control Unit Environment), the background session request is rejected. When the task in the active printer session is finished, an availability indicator is sent to the host; the host, then, executes the background session request.

If an A/A printer in an IBM host session is assigned to an A/A host via LCP, a power-off notify is sent to the IBM host and the session is terminated.

The LU types (LU-1 and LU-3) for the two printer sessions are not restricted. Both sessions can be the same or different LU types. In addition, if a printer is defined as shared, local copy requests use the active session's resources.

HOST LINK COMBINATIONS AND RELATED LINK SPEEDS

Table 1-4 lists the possible host link combinations available on the different 1374 Control Unit models. The corresponding link speed is listed.

Control Unit Model	Host Combination 1st	2nd	Link Speed 1st	2nd
1L	SNA Local	–	1.25 MB	–
	Non-SNA Local	–	1.25 MB	–
	SNA Local	SNA/SDLC	1.25 MB	19.2 KB
1R & 4R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	BSC	–	19.2 KB	–
	SNA/SDLC	SNA/SDLC	19.2 KB	19.2 KB
	SNA/SDLC	BSC	19.2 KB	9.6 KB
2R & 42R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	SNA/SDLC	SNA/SDLC	19.2 KB	19.2 KB
	SNA/SDLC	BSC	19.2 KB	9.6 KB
51R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	BSC	–	9.6 KB	–
	SNA/SDLC	SNA/SDLC	9.6 KB	9.6 KB
52R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	SNA/SDLC	SNA/SDLC	9.6 KB	9.6 KB
61R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	BSC	–	9.6 KB	–
	SNA/SDLC	SNA/SDLC	9.6 KB	9.6 KB
71R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–
	BSC	–	9.6 KB	–
72R	SNA/SDLC	–	64.0 KB	–
	SNA/X.25	–	19.2 KB	–

Table 1-4. Host Link Combinations and Related Link Speeds

NETVIEW SUPPORT

NetView support is maintained for each SNA/SDLC session. Each host is provided with maintenance and RTM statistics appropriate to each session's activities.