DEFINITY® Extender
1100 Switch Module

System Administrator's Guide

555-025-114
Comcode 108315268
Issue 1
June 1998

Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

Your Responsibility for Your System's Security

Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

Lucent Technologies Fraud Intervention

If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call the Lucent Technologies National Customer Care Center at 1 800 643-2353.

Federal Communications Commission Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. For further FCC information, see "Customer Support Information" below.

Industry Canada (IC) Interference Information

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministère le ministère des Industrie Canada.

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DEFINITY is a registered trademark of Lucent Technologies in the US and other countries.

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Order: Document No. 555-025-114
Comcode 108315268
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For more information about Lucent Technologies documents, refer to the section entitled “Related Documents” in “About This Book”

Support Telephone Number

In the continental US, Lucent Technologies provides a toll-free customer helpline 24 hours a day. Call the Lucent Technologies Helpline at 1 800 242-2121 or your Lucent Technologies authorized dealer if you need assistance when installing programming, or using your system. Outside the continental US, contact your local Lucent Technologies representative.

Warranty

Lucent Technologies provides a limited warranty on this product. Refer to “Limited Warranty” in “Customer Support Information.”

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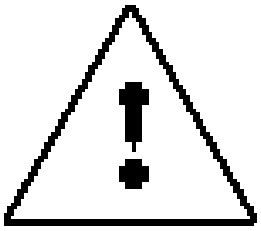

The exclamation point in an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT SAFETY INSTRUCTIONS

To reduce the risk of fire, electrical shock, and injury to persons when installing telephone equipment, always follow basic safety precautions including:

- Read and understand all instructions.
- Follow all warnings and instructions marked on or packed with the product.
- Never install this unit or the telephone wiring for it during a lightning storm.
- Never install a telephone jack in a wet location unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone wiring has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Use only Lucent Technologies-manufactured DEFINITY® Enterprise Communications Server (ECS) circuit packs, carrier assemblies, and power units in the DEFINITY® ECS control unit.

- Use only Lucent Technologies-recommended/approved DEFINITY ECS accessories.
- Do not install this product near water, for example, in a wet basement location.
- Do not overload wall outlets, as this can result in the risk of fire or electrical shock.
- Do not attach the power supply cord to building surfaces. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
- Unplug the product from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use cleaners or aerosol cleaners.
- Do not operate the system if chemical gas leakage is suspected in the area. Use telephones located in some other safe area to report the trouble.

WARNING:

DO NOT open the Switch Module. There are no user serviceable parts inside the unit. Only an authorized technician should open the unit for required maintenance or upgrading purposes.

SAVE THESE INSTRUCTIONS

Customer Support Information

Support Telephone Number

In the USA only, Lucent Technologies provides a toll-tree customer Helpline (1 800 242-2121) 24 hours a day. If you need assistance when installing, programming, or using your system, call the Helpline, or your Lucent Technologies authorized representative.

Outside the USA, if you need assistance when installing, programming, or using your system, contact your Lucent Technologies authorized representative.

Security of Your System: Preventing Toll Fraud

As a customer of new telephone equipment, you should be aware that there is an increasing problem of telephone toll fraud. Telephone toll fraud can occur in many forms, despite the numerous efforts of telephone companies and telephone equipment manufacturers to control it. Some individuals use electronic devices to prevent or falsify records of these calls. Others charge calls to someone else's number by illegally using lost or stolen calling cards, billing innocent parties, clipping on to someone else's line, or breaking into someone else's telephone equipment physically or electronically. In certain instances, unauthorized individuals make connections to the telephone network through the use of remote access features.

Common carriers are required by law to collect their tariffed charges. While these charges are fraudulent charges made by persons with criminal intent, applicable tariffs state that the customer of record is responsible for payment of all long-distance or other network charges. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

To minimize the risk of unauthorized access to your DEFINITY® Extender 1100 System:

- When possible, restrict the off-network capability of off-premises callers, using calling restrictions, Facility Restriction Levels, and Disallowed List capabilities.
- When possible, block out-of-hours calling through Time-of-Day Routing.
- Frequently monitor system call detail reports for quicker detection of any unauthorized or abnormal calling patterns.
- Limit Outcalling to persons on a need-to-have basis.

The DEFINITY® Extender 1100 System, through proper administration, can help you reduce the risk of unauthorized persons gaining access to the network. However, telephone numbers and authorization codes can be compromised when overheard in a public location, lost through theft of a wallet or purse containing access information, or when treated carelessly (writing codes on a piece of paper and improperly discarding them).

Additionally, hackers may use a computer to dial an access code and then publish the information to other hackers. Substantial charges can accumulate quickly. It is your responsibility to take appropriate steps to implement the features properly, to evaluate and administer the various restriction levels, and to protect and carefully distribute access codes.

Under applicable tariffs, you will be responsible for payment of toll charges. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit resulting from unauthorized access.

Lucent Technologies Fraud Intervention

If you *suspect you are being victimized* by toll fraud and you need technical support or assistance contact your Lucent Technologies authorized representative, or in the USA, call the Lucent Technologies National Customer Care Center at **1 800 242-2121**.

Lucent Technologies Limited Warranty

Lucent Technologies Inc. warrants this equipment to be free of defects in materials and workmanship for a period of one year from date of shipment. All defects within this time will be repaired without charge upon notification of Lucent Technologies or its authorized reseller.

This warranty is null and void if the manufacturer determines that any modifications have been made to the unit or the unit has been subjected to physical or electrical stress.

This warranty covers parts and labor only and does not include shipping costs, travel expenses, or travel time.

Installation of the equipment is the sole responsibility of the purchaser. The manufacturer, its agents, or its distributors accept no responsibility for malfunction or damage caused by improper treatment or connection of the unit.

The manufacturer, its agents, or its distributors are not liable for any losses incurred through use or malfunction of the equipment or any losses or damages incurred by the use of the equipment in any means whatsoever.

This warranty is limited to the repair of the equipment to its normal functioning capability.

This warranty is complete as stated and all other warranties, expressed or implied, are invalid.

The DEFINITY Extender 1100 System should be installed only by qualified personnel. No user-serviceable parts are contained within the units. Installation or programming should not begin prior to review of all sections of this manual.

FCC Notification and Repair Information

This equipment is registered with the FCC in accordance with Part 68 of its rules. In compliance with those rules, you are advised of the following:

- **Means of Connection.** Connection of this equipment to the telephone network shall be through a standard network interface jack, USOC RJ11C. These USOCs must be ordered from your telephone company.

- **Party Lines and Coin Telephones.** This equipment can not be used with party lines or coin telephone lines.

- **Notification to the Telephone Companies.** Before connecting this equipment, you or your equipment supplier must notify your local telephone company's business office of the following:

  — The telephone number(s) you will be using with this equipment.

  — The appropriate registration number and ringer equivalence number (REN). The REN for the DEFINITY Extender 1100 System is 2.

  — For each jack, the sequence in which lines are to be connected, the line types, the Facility Interface Code (FIC), and the Ringer Equivalence Number (REN) by position when applicable.

- **Ringer Equivalence Number (REN).** The REN is used to determine the number of devices that can be connected to the telephone line. Excessive RENs on the line can result in the devices not ringing in response to an incoming call. In most, but not all, areas the sum of the RENs should not exceed five (5.0). The DEFINITY Extender 1100 System REN is 2.

- **Disconnection.** You must also notify your local telephone company if and when this equipment is permanently disconnected from the line(s).

Installation and Operational Procedures

This manual contains information about installation and operational procedures.

- **Repair Instructions.** If you experience trouble because your equipment is malfunctioning, the FCC requires that the equipment not be used and that it be disconnected from the network until the problem has been corrected. Repairs to this equipment can be made only by the manufacturers, their authorized agents, or others who may be authorized by the FCC. In the event repairs are needed on this equipment, contact your authorized Lucent Technologies dealer or, **in the USA only**, contact the Lucent Technologies National Customer Care Center at 1 800 242-2121.

- **Rights of the Local Telephone Company.** If this equipment causes harm to the telephone network, the local telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

- **Changes at Local Telephone Company.** Your local telephone company may make changes in its facilities, equipment, operations, or procedures that affect the proper functioning of this equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

- **New Network Area and Exchange Codes.** The DEFINITY ECS software does not restrict access to any new area codes or exchange codes established by a local telephone company. If the user has established toll restrictions on the system that could restrict access, then the user should check the lists of allowed and disallowed dial codes and modify them as needed.

- **Equal Access Codes.** This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modifications of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

Federal Communications Commission (FCC) Electromagnetic Interference Information

The DEFINITY Extender 1100 System has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

About This Book

Intended Audience

This book is intended to help in the installation, system administration, and maintenance of the DEFINITY Extender 1100 System. It is intended for use as a reference by anyone needing such information, including system managers, support personnel, sales representatives, and account executives. It is also intended for technicians who are responsible for system installation, maintenance, and troubleshooting.

Terms and Conventions

The DEFINITY Extender 1101 System is henceforth referred to as the “Remote Module.”

The DEFINITY Extender 1100 System is henceforth referred to as the “Switch Module.”

Throughout this document, toll fraud security hazards are indicated by an exclamation point inside a triangle and the words Security Alert.

Security Alert:

Security Alert indicates the presence of toll fraud security hazard. Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party (e.g., persons other than your company’s employees, agents, subcontractors, or persons working on your company’s behalf). Be sure to read “Your Responsibility for Your System’s Security” on the inside front cover of this book and “Security of Your System: Preventing Toll Fraud” in About This Book.

Typographical Conventions

Certain type fonts and styles act as visual cues to help you rapidly understand the information presented:

Example	Purpose
Do *not* recycle old passwords.	Italics indicate emphasis.
If you do not want to disconnect, *go to Step 3.*	Italics also tell you instructions about what to do next in a procedure.
2:OK 3:Next	Italics indicate text that appears on the telephone display.
Press the **DROP** button four times.	The names of fixed-feature, factory-imprinted buttons on a telephone appear in bold.
At the *Go Online* screen, press **3** until the following screen appears.	A number in bold print is used to designate a key on your telephone.

How to Use This Book

This book is organized into chapters that give information on procedures necessary for the proper installation and administration of your DEFINITY Extender 1100 System.

“Related Documents,” later in this section, provides a complete list of system documentation, together with ordering information.

If you have problems with your Switch Module, contact your system administrator. If the problem can not be solved by the system operator, in the continental US, call our toll-free Helpline, available 24 hours a day, at 1 800 242-2121. Outside of the continental US, contact your Lucent Technologies representative or local Authorized Dealer.

Product Safety Labels

Throughout this document, hazardous situations are indicated by an exclamation point inside a triangle and the word *Caution* or *Warning*.

WARNING:

Warning indicates the presence of a hazard that could cause death or severe personal injury if the hazard is not avoided.

CAUTION:

Caution indicates the presence of a hazard that could cause minor personal injury or property damage if the hazard is not avoided.

Related Documents

The documents listed below are part of the DEFINITY ECS documentation set. These documents can be ordered from the Lucent Technologies Publications Center.

Call: Lucent Technologies Publications Center

Voice 1 800 457-1235
Fax 1 800 457-1764

International Voice 765 361-5353
International Fax 765 361-5355

Write: Lucent Technologies Publications Center
P.O. Box 4100
Crawfordsville, IN 47933

Document No.	Title
DEFINITY® Enterprise Communications Server (ECS) System Documents	
555-230-833	*CD-ROM for Maintenance and Installation Documents*
Toll Fraud Security	
555-025-600	*BCS Products Security Handbook*
DEFINITY® Enterprise Communications Server (ECS) Telephone User Support	
555-230-201	*Terminals and Adjuncts Reference Manual (on CD-ROM 555-230-833)*
555-230-763	*8410 Voice Terminal User's Guide*
555-230-765	*8434 Voice Terminal User's Guide*
555-230-792	*CALLMASTER II and CALLMASTER III User's Guide*
555-015-168	*CALLMASTER II and CALLMASTER III Voice Terminal Installation and Use*
555-015-171	*CALLMASTER IV Voice Terminal User and Installation Instructions*
555-015-172	*CALLMASTER II, CALLMASTER III, and CALLMASTER IV Voice Terminal Instructions for Programming the Options*
555-015-162	*CALLMASTER VI Voice Terminal Version 1.0 installation and User's Manual*
555-230-739	*6400 Series Multi-Line Telephones User's Guide*

How to Comment on This Document

We welcome your comments, both positive and negative. Please use the feedback form on the next page to let us know how we can continue to serve you. If the feedback form is missing, write directly to:

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Room 2W-226
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FEEDBACK FORM

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Document No.: **555-025-114** Issue: **1** Date: **June 1998**

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Introduction

1

An overview of the functioning and specifications of the DEFINITY® Extender 1100 System

The DEFINITY® Extender 1100 System enables DEFINITY® Enterprise Communications Server (ECS) telephone users to be a fully functional part of the DEFINITY ECS telephone system with a digital telephone located any distance off-premise. The DEFINITY Extender 1100 System is transparent to the user and retains access to the features and functions of the DEFINITY ECS. In addition, an RS-232D data port extension is incorporated, allowing the user to connect off-premise RS-232D equipment to equipment at the DEFINITY ECS location.

System Operation and Configuration

The DEFINITY Extender 1100 System is designed for use with a DEFINITY ECS of Release 3, Version 3 or later. The DEFINITY Extender 1100/1101 System consists of two modules. One module, identified as the Switch Module, connects to your DEFINITY ECS. The other module, identified as the Remote Module, connects to your DEFINITY ECS telephone at your off-premise location. Figure 1-1 shows the DEFINITY Extender 1100/1101 System configuration.

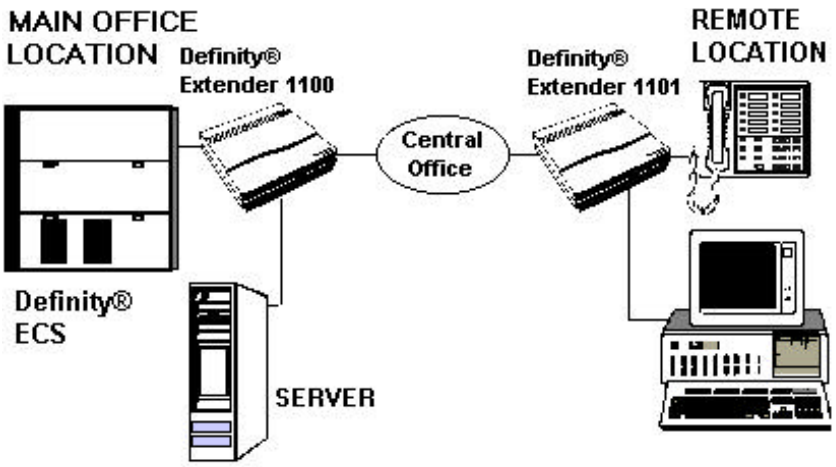

Figure 1-1. System Configuration

The modules communicate via a single two-wire voice-grade circuit that can extend your DEFINITY ECS telephone to virtually unlimited distances. See “Specifications” later in this chapter for detailed circuit specifications.

The Switch Module emulates your telephone, and the Remote Module emulates your DEFINITY ECS. Each module features a 56k Flex modem with V.34 compression for the transmission of all signals between the two modules. With the use of Lucent Technologies’ DEFINITY Extender 1100 System, the features and capabilities of your on-premise telephones are extended to the off-premise location.

Security Alert:

Using the Remote Module gains access to the features of the DEFINITY ECS, including access to WATS lines, FX lines, etc., which are subject to toll fraud. Guard passwords carefully!

Equipment List

The Switch Module comes with most of the necessary equipment. However, some additional items are required.

Switch Module

Your Switch Module package should include:

- One Switch Module (identified on the top of the unit)
- One AC adapter
- 7-ft. D2R line cord
- 7-ft. D8W cord to connect to the DEFINITY ECS
- *DEFINITY Extender 1100 System Administrator's Guide*

Customer-Supplied Equipment

NOTE:
DEFINITY ECS telephones are not supplied with either the Switch Module or the Remote Module and must be ordered separately. Contact your Lucent Technologies representative for information. Remote Modules are also ordered and shipped separately.

You must supply the following for installation:

- DEFINITY ECS two-wire, 24-port TN-2224 circuit pack or the older TN2181.
- Any additional DEFINITY ECS circuit packs needed (see the *DEFINITY® Communications System Generic 3, Installation for Single-Carrier Cabinets* manual, document #555-230-894, comcode #107595423, for further information).
- An adapter to convert to 120 VAC if you are connecting the Switch Module to a 240 VAC outlet.
- Power and central office line suppresser. Lucent Technologies recommends the 147C AC/CO Line Surge Protector (#8310-006). Contact your Lucent Technologies representative for ordering instructions.

NOTE:
Save your packing materials. Even though the Switch Module is a reliable product, it may be necessary to return it for maintenance. When returning the module, use the original package.

Compatibility

While the DEFINITY Extender 1101 System is not compatible with the original analog DEFINITY Extender, Model 846, it is compatible with the following commercial two-wire DEFINITY ECS display telephones:

- 8410DR
- 6408D+
- 6424D+
- 6416D+
- 8434D
- CALLMASTER® III
- CALLMASTER® IV
- CALLMASTER® VI

NOTES:

1. The Class B 8410DR which is identical to the 8410D but is FCC Class B for residential use. The CALLMASTER® VI and the CALLMASTER® IV are also FCC Class B.

2. The 6400 series telephones and the CALLMASTER® VI require DEFINITY Release 3, Version 6 or later.

Options

You can order a wall-mounted metal bracket with a slide-in style sleeve for use with the Switch Module. Contact your Lucent Technologies representative for ordering information.

Specifications

The DEFINITY Extender 1100/1101 Systems have been tested under transmission line conditions specified in TSB-37A. The specification calls for checking modem operation over the equivalent of 95% of the identified analog line types in North America. This means that the DEFINITY Extender 1100/1101 Systems should operate properly over nearly all telephone line conditions. However, the actual connect rate will vary based on the quality of the telephone line.

Connecting at rates greater than 19,200 over a lesser quality line will cause a high bit error rate which could result in breakups in the audio. A 19,200 connect rate is more than adequate to sustain proper audio quality and can be sustained on most line conditions. Any connect rate greater than 19,200 improves data performance through the RS-232D port of the DEFINITY Extender 1100/1101 Systems, but has no impact on voice quality. If you are not using the DEFINITY Extender 1100/1101 Systems for data, there is no reason to connect higher than 19,200.

If you are still having audio breakup problems when you connect at 19,200, you can lower the connection as low as 14,400 with little or no impact on audio quality. If you are still getting a high bit error rate even after lowing the connect speed to 14,400, you should contact the provider of your telephone line for support.

The DEFINITY Extender 1100/1101 Systems use a 56 Flex modem internally. Network configurations that support 56 Flex modems should work well. Your telephone line may not support 56 Flex modems. Although custom network configurations may work fine it is up to the end user to verify that the configuration will work.

LUCENT TECHNOLOGIES IS NOT RESPONSIBLE FOR MAKING THESE CONFIGURATIONS WORK.

Table 1-1 shows the specifications of the DEFINITY Extender 1100 System.

NOTE:
Specifications are subject to change without notice as technological or manufacturing changes warrant.

Table 1-1. Switch Module Specifications

Specification	Description
Size	8” x 8” x 1 ½” (205 mm x 205 mm x 40 mm)
Weight	1.5 pounds (0.68 kilograms)
Power Requirements	12 vdc supplied by 120 VAC adapters. 800 mA maximum
Approvals	UL CSA FCC Class A
Communication	
Data Type	V.34 compression
Data Impedance	600 Ohms
Data Tx Level	–15 dBm (+1 dBm/–3 dBm)
Data Rx Sensitivity	–40 to 0 dBm
User Data Port	
Data Type	RS-232D
Data Rate Setting	115.2 kbps, 57.6 kbps, 38.4 kbps, 19.2 kbps, 9.6 kbps, 4.8 kbps, 2.4 kbps
Parity Setting	None, Even, Odd
Data Bits Setting	7, 8
Stop Bits Setting	1 or 2

Considerations

Keep the following in mind when you use the DEFINITY Extender 1100 System:

- The DEFINITY Extender 1100 System is to be used with a DEFINITY ECS of Release 3, Version 3 or later.

- No custom calling features, such as Call Waiting or Call Forwarding, should be ordered for the line to which you connect the Switch Module.

NOTE:
A Call Waiting tone causes an interruption in the call, and the DEFINITY Extender 1100 System will begin the reconnect sequence.

- Sessions can be established only from the Remote Module.

- Only one Remote Module at a time can be “on-line” with the Switch Module.

- Order a separate central office (CO) line for each Switch Module and each Remote Module. Sharing lines or bridging the line on another station causes problems. For example, picking up an extension telephone causes the DEFINITY Extender 1100 System call to drop.

- Be sure that the DEFINITY ECS port to which the Switch Module is connected is programmed correctly for the telephone being used.

- Authorized connections require that a password 8 to 10 digits in length be entered from the Remote Module. You should always use the full 10 digits.

Security Alert:

Using the Remote Module gains access to the features of the DEFINITY ECS, including access to WATS lines, FX lines, etc., which are subject to toll fraud. Passwords should be as long as allowed. Passwords should be hard to guess and therefore should not contain:

- *all the same numbers (for example, 88888888)*
- *sequential characters (for example, 987654321)*
- *character strings associated with you or with the remote user or with your business. These include:*
  - *Names*
  - *Birthdays*
  - *Business name*
  - *Telephone number*
  - *Social security number*
- *Words and commonly used names*

Passwords should use as wide a variety of characters as possible. Passwords should be changed regularly, at least on a quarterly basis. Do not recycle old passwords.

Configuration 2

How the system administrator programs the passwords into the DEFINITY Extender 1100 System.

Before a Remote Module user can communicate with the Switch Module, the system administrator must program a password for each remote user.

Password Considerations

Consider the following when programming the Switch Module:

- Up to 100 passwords can be programmed into each Switch Module.
- Only one Remote Module at a time can be “on-line” with an individual Switch Module.
- Passwords are retained in non-volatile memory and are not affected by power outages.
- All passwords must contain 8 to 10 digits.

- Each password begins with two digits (00–99). The 00 password is reserved for the system administrator and can be used to change any of the remaining passwords.

Programming the Switch Module

The Switch Module can be programmed using a terminal or while online from the Disconnect Menu of the remote telephone, if logged on as the System Administrator..

The following Switch Module features can be programmed or viewed from the PC terminal:

- Passwords
- PBX COM Port Settings
- Show Settings
- Additional Modem Initialization
- Software Upgrade*

When configuring the Switch Module, ensure the PC or terminal has its communications parameters set to 9600 bps, No parity, 8 bits and 1 stop bit.

* For information about this feature, please contact your Lucent representative.

The Switch Module must be connected to the PC or terminal using an RS-232D serial cable, which connects to the RS-232D serial port on the module. Your terminal application should be configured for VT100 emulation.

The Enhanced Terminal Interface

The *Enhanced Terminal Interface* (ETI) provides you with a user-friendly interface with which to configure your system when accessing the Switch Module through the serial port. The ETI menu is the default menu that appears after powering up your module and operates using VT100 terminal emulation.

To access the configuration menu:

1. Plug in the Switch Module's RS-232D serial port to a PC with a terminal application.

   When the Switch Module is powered-up, the module undergoes hardware tests demonstrated by a series of yellow, green and red blinks. After a 6 second period of very fast red blinks, the LED blinks three green flashes and one red flash. The LED then blinks 3 sets of 8 yellow flashes.

2. On the first two sets of 8 yellow flashes, type the word "*MENU."*

   The following ETI menu is displayed:

   1) *Configure System*

   2) Exit

3. Press the **Enter** key, or **1**.

   The following menu is displayed on the screen*:*

   1) Passwords

   2) PBX COM port settings: 38.4 kbps N, 8, 1

   3) Show Settings

   4) Additional Modem Initialization

   5) Software Upgrade[*]

   6) Exit

The Terminal Edit Line

The *Terminal Edit Line* is where features can be entered or modified. When editing parameters on the terminal edit line, current parameters are highlighted if previously entered.

The following edit line key strokes can be used to modify parameters.

NOTE:
You can also toggle the display between ETI (Enhanced Terminal Interface) and TTI (Text Terminal Interface) modes by pressing **CTRL T**. TTI mode is used when user's terminal does not support VT-100 emulation.

[*] For information about this feature, please contact your Lucent Technologies representative

You can select a menu item by:

- Using a hot key (the number of the menu item).
- Using the arrow up and arrow down keys.
- Pressing the **Enter** key when your menu selection is highlighted.

Although rare, you may find the display becomes unrecognizable on occasion. If this occurs, press **CTRL R** to refresh the display.

You can modify the parameters accessed by the menu by pressing:

- The **Delete** key to erase the highlighted parameter, or the **Backspace** key to erase the character to the left of the cursor.
- Press the **left arrow** and **right arrow** keys to move through the parameter being edited.
- Press the **Enter** key to accept the changes.

Configuring the COM RS-232D Port

The COM port is for serial data communications. *Configuring the COM RS-232D Port* describes how to program the RS-232D serial port. All COM port settings should be configured at one time.

Select *COM* from the menu to access the following sub-menus.

- Data Rate
- Parity
- Data Bits

- Stop Bits

Setting Data Rate

To set the Data Rate:

Highlight the Data Rate you want and press **Enter**. Data Rate options are: 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2 Kbps.

OR

Press the **hot key** of the data rate you want.

When you make your selection, the Parity Menu appears.

Setting Parity

To change Parity:

Highlight the Parity you want and press **Enter**. Parity options are None, Even or Odd.

OR

Press the **hot key** of the Parity you want.

When you make your selection, the Data Bits Menu appears.

Setting Data Bit

To change the Data Bit setting:

Highlight the desired Data Bit and press **Enter**. Data Bit options are 8 or 7.

OR

Press the hot key for the Data Bits you want.

When you make your selection, the Stop Bits Menu appears.

Setting Stop Bits

To change Stop Bits:

Highlight the Stop Bit format you want and press **Enter**. Stop Bit options are 1 or 2.

You automatically return to the System Menu.

Show Settings

To display the current module settings:

1. Highlight Show Settings
2. Press **Enter**.

   All system settings are displayed.
3. Press any key to return to the System Menu.

Additional Modem Initialization

Select this menu item to enter additional AT command strings to initialize the modem.

NOTE:
This option should not be used for normal operation.

Setting Passwords

Before a Remote Module user can communicate with the Switch Module, the system administrator must program a password for each remote user. As a default, all passwords are disabled.

Up to 100 passwords can be programmed into the Switch Module. This allows a number of different users to access the Switch Module at different times. However, only one Remote Module user can be connected to an individual Switch Module at any one time.

The first two digits of each password identify each one of the 100 passwords (00–99). When you assign each remote user a two-digit user number, this user number becomes the first two digits of the user's password. The third digit of the password determines whether the user can change his or her password. If you want to prevent the user from changing the password, assign a 9 as the third digit of the password. If you want the user to be able to change the password, assign a digit from 0-8 as the third digit.

Users with a password that contains a 9 as the third digit, are instructed to contact the system administrator for assistance in changing the password.

A user that does not have a 9 as the third digit of the password is permitted to change only his or her own password. If the first two digits of the new password do not correspond to the user number, the new password is not accepted. An exception to the above is password "00," which is used by the system administrator.

NOTE:
If more than one Switch Module is connected to the DEFINITY ECS in a hunt group configuration, you should disable the remote users' capability of changing passwords by setting the third digit at "9". The reason for this action is that if the user changes a password, the change is stored only in the Switch Module to which the user is connected and not in all the Switch Modules in the hunt group.

Security Alert:

All information about passwords should be considered proprietary and should not be given to Remote Module users.

Users can change passwords by entering the old password and then the new password. As the system administrator, you can disable any password, except password "00," by changing the password to the two-digit code which represents the user whose password is to be disabled.

Security Alert:

A correct password permits the remote user access to the full DEFINITY ECS, including those areas, such as WATS lines, most liable to toll fraud. Passwords should be as long as allowed. Passwords should be hard to guess and therefore should not contain:

- *all the same numbers (for example, 88888888)*
- *sequential characters (for example, 987654321)*

- *character strings associated with you or with the remote user or with your business. These include:*
  - *Names*
  - *Birthdays*
  - *Business name*
  - *Telephone number*
  - *Social security number*
- *Words and commonly used names*

Passwords should be changed regularly, at least on a quarterly basis. Do not recycle old passwords.

Considerations

Consider the following when programming the Switch Module:

- Up to 100 passwords can be programmed into each Switch Module.
- Only one Remote Module at a time can be “on-line” with an individual Switch Module.
- Passwords are retained in non-volatile memory and are not affected by power outages.
- All passwords must contain 8 to 10 digits.
- To prevent a user from changing a password, assign a 9 as the third digit of the password.

- Each password begins with two digits (00–99). The “00” password is reserved for the system administrator and can be used to change any of the remaining passwords.

Security Alert:

Change your system administrator password as soon as possible, and store the new password in a secure place.

Programming Passwords Procedure

Follow these steps to program passwords for the Remote Module users:

1. If you are already in the DEFINITY Extender 1100 System programming menu, skip to Step 2. If you are not in the programming menu but the unit is powered, simply power down unit, and type “MENU” while the LED flashes yellow to access the programming menu from your PC.

   When you type “MENU,” the Main Menu appears:

2. Select *Configure System* from the Main Menu.

   The Configure System Menu appears.

3. Select *Password* from the Configure System Menu, and press **Enter**.

   The screen prompts you to enter your administrator password.

4. Type your system administrator password (the default is 00000000) and press **Enter**.

   The Password Menu is displayed.

5. Do one of the following:

   To check a password:

   1. Select *Display Password* from the Password Menu, and press **Enter**.

      The system prompts you to enter the user's two-digit user number.

   2. Type the user's two-digit user number, and press **Enter**.

      The user number and the password assigned are displayed.

      NOTE:
      You cannot display the Administrator Password (user 00). "Admin Password Display Denied" is displayed if user 00 is selected.

   To change a password:

   1. Select *Change Password* from the Password Menu, and press **Enter**.

      The system prompts you to enter the new password.

   2. Enter the new password (8 to 10 digits), beginning with the remote user's two-digit code, and press **Enter**.
   3. Repeat for each password you change.

To disable a password:

1. Select *Change Password* from the Password Menu, and press **Enter**.

   The system prompts you to enter the new password.

2. Enter the two-digit user number for the user whose password you want to disable, and press **Enter**. This action restricts the user's access to the system.

   NOTE:
   The system administrator password cannot be disabled. If you enter 00, "Admin Password must be at least 8 digits long" is displayed.

3. Repeat for each password you want to disable.

Configuring Passwords Online

Setting and changing passwords stored in the Switch Module can be done through the Remote Module while it is online with the Switch Module. Please refer to the DEFINITY Extender 1101 System manual for more information..

Configuring the PBX COM RS-232D Port from the Remote Telephone

If the System Administrator has logged on to a Switch Module from the Disconnect Menu, an additional menu option is displayed to allow configuration of the Switch Module's COM port.

1. While online, press **HOLD** button four times.

   Disconnect is displayed.

2. Press **3** until screen displays *Set PBX COM port.*

3. Press **2** to change Switch Module parameters. Selections available are: Data Rate, Data Bits, Parity, and Stop Bits.

   NOTE:
   Refer to the DEFINITY Extender 1101 System manual for more information on how to configure the Switch Module's COM port while online with the Remote Module.

Installation

3

How to install the DEFINITY Extender 1100 ystem

After you have programmed passwords for the Switch Module, you can physically install it. Installing the Switch Module involves choosing a proper location and connecting the appropriate cables to the Telco line and PHONE/SWITCH jacks, and connecting power cord.

Location Requirements

To ensure successful operation of the DEFINITY Extender 1100 System, place the Switch Module within 500 feet (150 meters) of the DEFINITY ECS. The Switch Module may be mounted in any position or may be wall-mounted by using the optional wall-mount bracket. Install the module's AC power adapter or power supply and cabling away from high-power/high-RF noise devices such as computers, fans, fluorescent ballasts, and power supplies.

Electrical Requirements

Use only the AC adapters provided with the DEFINITY Extender 1100 System. The Extender has been designed to operate from 120 VAC, 60 Hz.

CAUTION:

Do not apply power to the Switch Module until specifically instructed in the installation procedures.

NOTE:

Lucent Technologies strongly recommends that you supply both power and central office line surge protection for the PBX location and the remote location. Lucent Technologies recommends the 147C Line Surge Protector (#8310-006). Contact your Lucent Technologies representative for ordering instructions

Wiring Requirements

Use twisted-pair cable for all connections.

NOTE:
Before attaching your DEFINITY Extender 1100 System to the DEFINITY ECS, do the following:

- Administer the telephone that will be used at the remote location.
- Connect an identical model telephone to the DEFINITY ECS port that will be used for connecting to the Switch Module.
- Test that the telephones work as intended.

Connecting the Switch Module

All connections to the Switch Module are done via the back panel (see Figure 3-1). The current back panel elements are:

- **Telco Line** is the connection between the Switch Module and the DEFINITY ECS analog circuit pack or the central office line for transmission of the signaling information. The circuit packs to which the Switch Module can be connected are the 8-port TN742 and the 16-port TN746.
- **Phone/Switch** is the connection between the DEFINITY ECS 2-wire, 24-port circuit pack (TN2224) or the other 16-port, (TN2181) and the Switch Module.

- **RS-232D** provides for simultaneous RS-232D communication between equipment at the off-premise site and the on-premise site.
- The DIP switch under **Option Switch** is used for system configuration.
- The connection for the AC adapter is **+12VDC**.

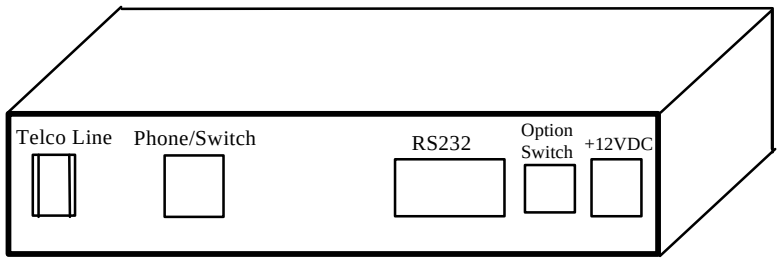

Figure 3-1. Switch Module Back Panel

In addition to the back panel connections, a three-color light-emitting diode (LED) is visible through the top of each unit and provides information about the status of the equipment.

Installation Procedure

Installing the Switch Module involves wiring the module to the DEFINITY ECS and connecting the power cord. You will need the applicable wiring to connect the Switch Module to the DEFINITY ECS. See the *DEFINITY® Communications System Generic 3, Installation for Single-Carrier Cabinets* manual, document #555-230-894, comcode #107595423, for complete installation requirements.

Following installation, administer the line and station ports that use the Switch Module according to the instructions in *DEFINITY® Communications System Generic 3 Implementation Guide, Issue 1,* document #555-230-655.

Follow these steps to install the Switch Module:

1. Ensure that the module has the proper DIP switch configuration (see Table 3-1).

Table 3-1. DIP Switch Configuration

Switch #	OFF	ON
1	μ-Law companding	A-Law companding
2	Normal operation	Reserved
3	Normal operation	Reserved
4	Normal operation	Test mode

NOTE:
You should not change the factory-set DP switches; all DIP switches be set at *OFF*. Check with your system administrator before making changes.

CAUTION:
Do not plug the A/C adapters into the electrical outlets until instructed to do so in the following procedure.

CAUTION:

Connecting the Remote Module to the DEFINITY ECS can result in damage to the module. Prior to installation, check that you have the Switch Module by looking at the name on the top of the unit.

2. Connect the wiring of the DEFINITY analog circuit pack (the 8-port TN742 or the 16-port TN746) or a dedicated central office line (provided only with this connection) with the TELCO LINE jack of the Switch module at the on-premise location. See the *DEFINITY® Communications System Generic 3, Installation for Single-Carrier Cabinets* manual for complete instructions.

3. If you have not already done so while programming passwords, connect the Switch Module PHONE/SWITCH jack to the 2-wire, 24-port TN2224 circuit pack or 16-port TN2181 circuit pack on the DEFINITY ECS. See the *DEFINITY® Communications System Generic 3, Installation for Single-Carrier Cabinets* manual for complete instructions.

CAUTION:

Do not plug the line cord into the PHONE/SWITCH jack of the Switch Module. Damage to circuits may result.

4. Connect the AC adapter, provided with your system, to the Switch Module. Plug the adapter into a standard 120 VAC electrical outlet**.**

CAUTION:

Do not plug the A/C adapters into a 240 VAC outlet because you will damage the adapter and the module. You must first obtain an adapter to convert 240 VAC to 120 VAC.

5. If applicable, administer the line and station ports by using the procedures in the *DEFINITY® Communications System Generic 3 Implementation Guide, Issue 1,* document #555-230-655.

   - If the Switch Module is connected to a DEFINITY ECS analog circuit pack, you should administer the line port for Direct Inward Dialing (DID) operation.

   - Administer the station port as you would any other on-premise station.

Connections for Data Transmission

The RS-232 port on the Remote Module can be used for data communications with the RS-232 port on the Switch Module. Your system administrator should provide you with information about the computer connections at the Switch Module. At the Remote Module, you will need to connect your personal computer (PC) or data terminal to the RS-232 port on the Remote Module. A 9-pin straight through cable will work for many PCs. You will need an adapter if your equipment does not have a 9-pin connector. Figure 3-2 lists the pin-out for the 9-pin female connector on the back of the Remote Module.

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The data settings for the Switch Module's COM port and the Remote Module's COM port must be the same. The factory settings of the Switch Module's COM port are the following:

- Data rate – 38.4 kbps
- Data bits – 8
- Parity – None
- Stop bits - 1

NOTE:
For more information on RS-232D, please refer to the Glossary.

Female Connector on Module
DCD 1
DSR 6
CTS 8
DTR 4
RXO 2
TXI 3
GND 5
RTS 7

Figure 3-2. RS-232D Cable Pin Connections

Hardware Flow Control

The Switch and Remote Modules use the CTS line for flow control. If the hardware flow control is not enabled on the PC, or if a cable without the CTS line connected is used, characters can be lost when the buffer is full.

NOTE:
The DEFINITY Extender 1100 System uses the CTS lead for flow control. When the internal buffer is 1024 characters from full, the CTS lead is turned off. While CTS is off, up to an additional 1024 characters can be transmitted without any loss of data. If hardware flow control is not enabled or if a cable without the CTS lead is used, characters will be lost when this buffer overflows.

The DEFINITY Extender 1100 System uses the DCD lead to indicate whether or not the modules have made a connection. When this lead is on, the modules have made connection.

Troubleshooting

4

Troubleshooting and LED Activity

As with all equipment of a sophisticated nature, occasionally an error in connection or transmission may occur. The DEFINITY Extender 1100 System provides indication of any errors via light-emitting diodes (LEDs) on the Remote and Switch Modules and by error messages on the display telephone connected to the Remote Module.

Troubleshooting

When an error occurs in the operation of the Switch Module, you should check for malfunctions in an organized manner. Follow these steps when troubleshooting the Switch Module:

1. Check all interconnecting cables to ensure that they are properly seated.

2. Verify that the DIP switches are set correctly.

3. Check the circuits to ensure that they are free of noise and meet the specifications listed in Chapter 1, Introduction.

4. Verify that the LEDs on the top of each module are illuminated.

5. If you cannot locate the source of the problem, contact Lucent Technologies by calling 1 800 242-2121 at any time. Please have ready the serial number found on your Switch Module and a description of the problem.

If a remote user reports a problem with the Remote Module, verify that the user has followed the appropriate troubleshooting steps:

1. Verify that the programmed telephone numbers are correct.

2. Check all interconnecting cables to ensure that they are properly seated.

3. Verify that the DIP switches are set correctly.

4. Check the circuits to ensure that they are free of noise and meet the specifications listed in Chapter 1, Introduction.

5. Verify that the LEDs on the top of the Remote Module are illuminated.

If you must contact Lucent Technologies on behalf of the remote user, be sure to obtain the serial number found on the Remote Module.

LED Sequences

The LEDs on the Switch Module help to indicate problems that occur.

During the power-up sequence, the DEFINITY Extender 1100 System performs a self-test, indicated by a sequence of 1 yellow, and 8 red flashes, followed by 1 green flash, fast blinking red flashes for about 6 seconds, 3 green flashes and 1 red flash. That series of flashes is followed by 3 sets of 8 yellow flashes.

Table 4-1 and Table 4-2 illustrate a detailed description of the LED sequences.

If your Switch Module power up LED sequence repeats itself, the last sequence displayed represents the test failure that occurred. See Table 4-1 for failure description. Power down the unit, and retry. If error persists, contact the Lucent Technologies Helpline.

Table 4-1. LED Power up Sequences

LED Sequence	Description
No LED blinks	Error with hardware or AC adapter.
First blink: Red or Green	LED is not functioning properly as units should blink Yellow.
Yellow	EPROM Checksum test failed. Faulty EPROM or Board problem.
Yellow & 1 Red	SRAM, Data test failed
Yellow & 2 Red	SRAM Address test failed
Yellow & 7 Reds & 1 Green	Passed all hardware tests

Table 4-2. LED Power up Verification Sequences

LED Sequence	Description
Rapidly blinking Red during process and then 1 Green to indicate process is complete.	6 - 10 seconds. FLASH code is being verified and if valid will be executed. 15-25 seconds FLASH code is invalid EPROM code copied to FLASH.
3 Reds or 3 Greens followed by a Red.	Red - Running EPROM code, FLASH write failed. Contact Helpline. Green - FLASH load passed, running FLASH code.
3 sets of 8 Yellow blinks	Access terminal configuration menu by typing 'MENU' during the first two sets of 8 yellow blinks.

Table 4-3 shows the LED flashes that may occur on the Switch Module after the power-up LED sequence.

Table 4-3. Module LED Blink Sequence

LED Sequence	Meaning
G	Module is online to a Remote Module; no abnormalities have been detected.
GG	Module is in COD (Call on Demand) waiting mode; no abnormalities have been detected.
GGG	Module is idle and waiting for connect sequence; no abnormalities have been detected.
R	DSP is off-line. Try to power cycle the module. If continues, contact the Helpline.
RR	Module is waiting for connection to DEFINITY DCP port. (*PHONE/SWITCH* port on the Extender is not connected) Check the connection and that the distance between the DEFINITY ECS port and the Switch Module is within 500 ft.
RRR	Modem error. Try to power cycle the module. If it continues, contact the Helpline.
Y	Modem is trying to connect, or modem is disconnecting. No abnormalities have been detected.

RGRG	Switch Module has been “Flagged” by remote user.

Error Messages

If a problem has been encountered during the connection process, an error message appears on the remote telephone. Table 4-4 shows the error messages and the suggested actions to take.

Table 4-4. Error Messages

Message	Cause	Action
No Dial Tone	The Remote Module is not properly connected to the local telephone company.	Connect a regular telephone to the telephone CO line jack, and listen for dial tone. Make sure the line is properly connected to the jack labeled *Telco Line* on the Remote Module. If there still is no dial tone, check the cable connection, as well as have the local telephone company check the line.
Line Busy	The line that the Switch Module is connected to is already in use.	Verify that the correct telephone number has been programmed and that no one else is using the Switch Module the remote user is calling.

Continued on next page

Table 4-4. Error Messages—*Continued*

Message	Cause	Action
No Answer	The Switch Module is not responding. The Remote Module does not receive a Ring-Back Tone or an Answer Back Tone.	Verify that the correct telephone number has been programmed. Verify that the Switch Module is connected to the line.

Specific Problems

Problems may develop with the DEFINITY Extender 1100 System when connecting. The problems that may occur with Switch Modules are listed with their solutions after each problem's heading.

No Display on Telephone at Remote Location

To correct this problem, answer or do the following:

1. Is the correct module at each location?
2. If this is an existing installation, has the installation moved or has any new wiring been done? Verify the connections.
3. Does the Remote Module have power?
4. Compare the LED on the Remote Module to the LED diagnostic sheet as is displayed in Table 4-1. The Remote Module may be defective.
5. Is the telephone working properly?

No Connection/No Answer

To correct this problem, answer or do the following:

1. Does the display on the telephone say "Go Online"? If so, press **2** to start the session. (A new user may never have seen the Remote Module off-line before.)
2. Check the power connection on the Switch Module.

3. Check the LED on the Switch Module and compare it to the LED diagnostic sheet as in Table 4-1. The Switch Module may be defective.

4. Check that the DIP switches on the Switch and Remote Modules are set properly. Unless your system administrator tells you otherwise, all of the DIP switches should be OFF.

5. Have there been any electrical storms that may have popped the line fuses?

6. Go on-line and monitor call progress on the Remote Module speaker.

7. If there still is no dial tone, do the following:

    a. Check the cables on the Remote Module; replace if necessary.

    b. Use a regular telephone to get dial tone on the CO line jack. If there is no dial tone, check the installation wiring or call the telephone company. If there is dial tone present, the cable to the Module or a popped line fuse is probably the problem.

8. If there is a ring but no answer, do the following:

    a. Check the telephone number.

    b. Check the power for the Switch Module.

    c. Check the cables at the Switch Module.

    d. Module.

Reporting a Faulty Switch Module

In a hunt group operation with multiple Switch Modules being used by different remote users, it may be beneficial to flag a particular Switch Module that has operational problems; audio quality issues (cut outs or breakup), connection problems or poor analog line (high 135A stat count, Frame Check sum errors). If a user is experiencing such problems, they may contact the system administrator who can instruct the user to “Flag” the bad switch module.

When the Remote user is online (connected) with a faulty Switch Module, they should press the **HOLD** key four times to access the Disconnect menu. When the telephone screen displays the Disconnect menu, the user should press the “*” key. This operation will clear the Disconnect menu, and will replace it with “Switch Unit Flagged.” This message will remain on the LCD display for 1.5 seconds, and once it is cleared, the Remote Module will reconnect the user for normal operation.

If a Switch Module has been flagged by a remote user, the LED blink on the Switch Module changes to “RGRG.” This LED blink has precedence if online or offline.

To clear the Flagged state of a particular Switch module, you must reset the diagnostic statistics while online with a Remote Module, or power cycle the Switch Module.

NOTE:
The problems may also be associated with an unique Remote Module. If only one user’s Remote Module is experiencing problems, it may be the remote setup, the analog line, or the Remote Module that has operational problems.

Glossary

+12 vdc
12 volt direct current.

120 VAC
120 volt alternating current (North American standard electrical supply).

B

Baud Rate
The speed in kbps at which digital data can be transmitted.

C

COD
Call on Demand

D

Dedicated Subscriber Lines
Communication lines (usually twisted pair) that are used to connect on-premise telephone equipment (such as a PBX) to the Central Office. Also referred to as direct lines.

Dial Line
A telephone line which is part of the Public Switched Telephone Network and is accessed through the DEFINITY Extender 1100 System's automatic dial-up function.

F

Facility
Transmission facilities. Usually a two metallic pair set of cords, but can be telephone company carriers, T-1, microwave or dial-up telecommunications lines.

L

LED
Light-emitting diode. A semiconductor diode which emits light when a current is passed through it, indicating that the power is on.

O

On-premise Lines
Communication lines (usually twisted-pair) that are used to connect the DEFINITY ECS to the DEFINITY ECS telephone.

P

PBX
Private Branch Exchange.

R

Remote Module

The DEFINITY Extender 1100 System that connects to the remote DEFINITY ECS telephone.

RS-232D (EIA/TIA-574 Interface Circuits)

While the EIA/TIA-574 is the actual jack used, the RS-232D is used for the ease of communication.

PIN	EIA DESIG	CCITT DESIG	DESCRIPTION	DIRECTION
1	CF 9RLSD)	109	Received Line Signal Detector	Output
2	BB (RD)	104	Received Data	Output
3	BA (SD)	103	Transmitted Data	Input
4	CD (DTR)	108/2	DTE Ready	Input
5	AB (SG)	102	Signal Ground	Common
6	CC (DSR)	107	DCE Ready	Output
7	CA (RTS)	105	Request to Send	Input
8	CB (CTS)	106	Clear to Send	Output
9	CE (RI)	125	No Connection	NA

9 Position Non-Synchronous Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data InterchangeANS/EIA/TIA-574-90) (Sept., 1990)

S

Switch Module
The DEFINITY Extender 1100 System that connects to the DEFINITY PBX.