



DEFINITY® Communications System

Generic 1 and Generic 3
Feature Description
Addendum

555-230-201ADD2
Issue 3
July 1992
Dated September 1992

Notice

While reasonable effort was made to ensure that the information in this document was complete and accurate at the time of printing, Lucent Technologies can assume no responsibility for any errors. Changes and/or corrections to the information contained in this document may be incorporated into future issues.

Your Responsibility for Your System's Security

You are responsible for the security of your system. 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. Product administration to prevent unauthorized use is your responsibility and your system administrator should read all documents provided with this product to fully understand the features available that may reduce your risk of incurring charges.

Federal Communications Commission Statement

This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at his/her own expense will be required to take whatever measures may be required to correct the interference.

TRADEMARK NOTICE

AUDIX, CALLMASTER, CONVERSANT, DEFINITY, and MERLIN are registered trademarks of Lucent Technologies.

4ESS AND VOICE POWER are trademarks of Lucent Technologies.

Audichron is a registered trademark of the Audichron Company.

MS-DOS is a trademark of Microsoft Corporation.

PagePac is a trademark of the Dracon Division of the Harris Corporation.

ACCUNET, DATAPHONE, DIMENSION, MEGACOM, MULTIQUEST and TELSEER are registered trademarks of AT&T.

ORDERING INFORMATION

Call: Lucent Technologies Publications Center
Voice 1-800-457-1235 Int'l Voice 317-322-6791
Fax 1-800-457-1764 Int'l Fax 317-322-6699

Write: Lucent Technologies Publications Center
P.O. Box 19901
Indianapolis, IN 46219

Order: Document No. 555-230-201ADD2

Published by
BCSystems Product Documentation Development Group
Middletown, NJ 07748-9976

Copyright 2000 Avaya Inc.

Disclaimer

Intellectual property related to this product (including trademarks) and registered to Lucent Technologies Inc., or AT&T Corporation, have been transferred or licensed to Avaya Inc.

Any reference within the text to Lucent Technologies Inc. or Lucent, American Telephone and Telegraph Corporation or AT&T, should be interpreted as references to Avaya Inc. The exception is cross references to books published prior to April 1, 2001, which may retain their original Lucent or AT&T titles.

Avaya Inc. formed as a result of Lucent's planned restructuring, designs builds and delivers voice, converged voice and data, customer relationship management, messaging, multi-service networking and structured cabling products and services. Avaya Labs is the research and development arm for the company.

Contents

Introduction	1
---------------------	----------

Call Pickup	3
Description	3
Considerations	5
Interactions	6
Administration	7
Hardware and Software Requirements	7

Integrated Services Digital Network — Basic Rate Interface (G3)	9
Description	9
Considerations	14
Interactions	16
Administration	17
Hardware Requirements	18

Internal Automatic Answer (G1 and G3i)	19
Description	19
Considerations	21
Interactions	21
Administration	23
Hardware and Software Requirements	24

Contents

MERLIN/System 25 Voice Terminal Support—	
731xH Series (G1 and G3i)	25
Description	25
Considerations	26
Interactions	28
Administration	28
Hardware and Software Requirements	28

Introduction

This document supplements the *DEFINITY® Communications System Generic 1 and Generic 3 Feature Description, 555-230-201*, and provides:

- An updated Call Pickup feature description that includes information on the new Call Pickup Alerting enhancement. Call Pickup Alerting provides a visual indication that a call is eligible for Call Pickup.

⇒ NOTE:

Call Pickup is available with G1 and G3; however, Call Pickup Alerting is only available with G3 and not with G1.

- An updated Integrated Services Digital Network—Basic Rate Interface (ISDN-BRI) feature description that includes information on transmitting two simultaneous B-channel data calls.

⇒ NOTE:

ISDN-BRI is available with G3 and is not available with G1.

- A description of the new Internal Automatic Answer (IAA) feature. This feature provides “hands-free” answering of calls on a MERLIN®/System 25 Voice Terminal using the built-in speakerphone.

⇒ NOTE:

IAA is available with G1 and G3i and is not available with G3r.

- A description of the support for the MERLIN/System 25 Voice Terminal—731xH Series.



NOTE:

This feature is available with G1 and G3i and is not available with G3r.

Call Pickup

Description

Allows voice terminal users to answer calls to other extension numbers within the user's specified Call Pickup group.



NOTE:

References to "Call Pickup Alerting" and the Call Pickup status lamp flashing apply to G3 and not to G1.

Call Pickup groups are established so that when one member of a group is away, other members of the group can answer that member's calls. A Call Pickup group usually consists of users who are located in the same area or have similar functions.

When a member of a Call Pickup group is away and receives an incoming call, any member of the Call Pickup group can answer the call. A member simply goes off-hook and dials the Call Pickup access code or presses a Call Pickup button. That group member is then connected to the calling party.

A Temporary Bridged Appearance is maintained at the called voice terminal. This allows the called party to bridge onto the call after it has been picked up by another member of the Call Pickup group.

If a Call Pickup group member's voice terminal is equipped with a Call Pickup button and status lamp, then:

- The status lamp has a steady light when Call Pickup is used to answer a call.
- The status lamp has a flashing light when the "Call Pickup Alerting" option on the "System Parameters Form" is enabled and there is an incoming call to any extension in the Call Pickup group, including the called station. Group members, other than the principal called station, can answer such calls using Call Pickup; the principal can answer such calls on the ringing call or bridged appearance.

⇒ NOTES:

The status lamp lights steady and does not flash if the voice terminal is using Call Pickup to answer a call, even when there are other calls eligible for Call Pickup.

For the called station only, both the Call Pickup and the Call Appearance status buttons flash.

- The status lamp is not lit when the voice terminal is not answering a call using Call Pickup and, if the Call Pickup Alerting option on the "System Parameters Form" is enabled, there are no calls that can be answered using Call Pickup.

If calls are ringing at two or more voice terminals in a Call Pickup group, and another group member presses his or her Call Pickup button, then a distribution algorithm determines which call is answered. In this way, equal treatment is given to all Call Pickup group members. Specifically, when a voice terminal's Call Pickup button is pressed, the algorithm "cycles" through the group extension numbers until it finds an extension with a call eligible for Call Pickup. The next time a Call Pickup button is pressed, the algorithm resumes cycling from the *next* extension number.

For example, if extension A has two calls ringing and extension B has one call ringing, and if one of extension A's calls is answered using Call Pickup, then extension B's call will be answered the next time Call Pickup is activated. After extension B's call is answered, Call Pickup can be used to answer the second call to extension A.

When multiple calls are ringing on a single voice terminal, and another member of the Call Pickup group activates Call Pickup, then:

- For G3, the call associated with the lowest call appearance number is answered. For example, if calls are ringing on the second and fourth call appearance button on a voice terminal, and a user at another voice terminal activates Call Pickup, then the call on the second call appearance button is answered.

- For G1, the call type and call appearance number determine which call is answered. The precedence order for call types is:
 1. Priority Calls
 2. Attendant or Trunk Calls
 3. Intercom Calls
 4. All other calls

If multiple calls of the same call type are eligible for Call Pickup, the call associated with the lowest call appearance number is answered. For example, if priority calls are ringing on the second and fourth call appearance button on a voice terminal, and a user at another voice terminal activates Call Pickup, then the call on the second call appearance button is answered.

Considerations

With Call Pickup, a user does not have to leave his or her voice terminal to answer a call at a nearby voice terminal. Instead, the user simply lifts the handset and dials an access code or presses a Call Pickup button. This allows unanswered calls to be handled quickly and efficiently.

The maximum number of Call Pickup groups is 100 for G3s, 800 for G1 and G3i, and 5000 for G3r. Each group can have up to 50 members; however, a voice terminal can be a member of only one Call Pickup group.

Setting the Call Pickup Alerting option on the "System Parameters Form" to "yes" provides voice terminals equipped with a Call Pickup button and status lamp with a visual notification that an incoming call is eligible for Call Pickup. Specifically, the voice terminal Call Pickup status lamp flashes when a call to another extension is available for Call Pickup.



NOTE:

Call Pickup Alerting for a voice terminal only takes effect when the Call Pickup status lamp is not lit. If Call Pickup is used to answer a call, the status lamp displays a steady light and does not flash if there are additional calls to this Call Pickup group.

When a member of a Call Pickup group is away from his or her voice terminal and receives an incoming call, the other members of the Call Pickup group voice terminals do not ring. As a result, the Call Pickup feature is only useful if either:

- The Call Pickup Alerting option is enabled and the Call Pickup group members have voice terminals equipped with a Call Pickup button and status lamp.
- The members of a Call Pickup group are located close to one another and can hear each other's voice terminal ring.

Interactions

The following features interact with the Call Pickup feature.

- Automatic Callback and Ringback Queuing

Callback calls cannot be answered by Call Pickup group members.

- Bridged Call Appearance

The interaction between Call Pickup and Bridged Call Appearance depends on whether the Call Pickup Alerting option on the "System Parameters Form" is enabled:

- If the Call Pickup Alerting option is set to "yes," activating Call Pickup while on a bridged call appearance will not pick up calls in the Call Pickup group of the bridged extension.

For example, if Adrian's voice terminal receives ringing on a call to a bridged extension number that is not in Adrian's Call Pickup group, then the incoming call cannot be picked up by members of Adrian's Call Pickup group.

- If the Call Pickup Alerting option is set to "no," and if a voice terminal receives ringing on a bridged call appearance, then the incoming call can be picked up by members of that voice terminal's Call Pickup group.

- Call Waiting Termination

A Call Waiting call cannot be picked up by a Call Pickup group member.

- Conference

If Call Pickup Alerting is enabled and a call is picked up and conferenced into a conference call, the Call Pickup status lamp flashes if additional calls are available for Call Pickup.

- Hold

A call, picked up and placed on hold at an extension, remains on that extension, even if the called party answers the call.

If Call Pickup Alerting is enabled and a call is picked up and placed on hold, the Call Pickup status lamp flashes if additional calls are available for Call Pickup.

- Hot Line Service and Manual Originating Line Service

Voice terminals assigned these features can be Call Pickup group members so their incoming calls can be answered. However, voice terminal users with these features assigned cannot answer calls for other group members.

- Intercom — Automatic

Call Pickup can be used to answer an Automatic Intercom call.

- Internal Automatic Answer (IAA)

Internal calls to a voice terminal in a Call Pickup group are eligible for IAA. If the called extension in a Call Pickup group is IAA-active, the call is answered automatically. An extension that is IAA-active is not able to automatically answer calls to other voice terminals in its Call Pickup group.

- Transfer

If Call Pickup Alerting is enabled and a call is picked up and transferred, the Call Pickup status lamp flashes if additional calls are available for Call Pickup.

Administration

Call Pickup is administered by the System Manager. The following items require administration:

- Call Pickup group number
- Members (extension numbers) of each Call Pickup group
- Call Pickup access code
- Call Pickup buttons

Also, to enable Call Pickup Alerting for voice terminals equipped with a Call Pickup button and status lamp, the "Call Pickup Alerting" option on the "System Parameters Form" must be set to "yes."

Hardware and Software Requirements

No additional hardware or software is required.

Integrated Services Digital Network—Basic Rate Interface (G3)

Description

Allows connection of the system to equipment or endpoints that support an Integrated Services Digital Network (ISDN) by using a standard ISDN frame format called the Basic Rate Interface (BRI).

An ISDN provides end-to-end digital connectivity and uses a high-speed interface which provides service-independent access to switched services. Through internationally accepted standard interfaces, an ISDN provides circuit or packet-switched connectivity within a network and can link to other ISDN supported interfaces to provide national and international digital connectivity. Two types of ISDN interfaces are currently defined: the PRI and the BRI. This description focuses on ISDN-BRI.

The ISDN-BRI is a 192-kbps interface that carries two 64-kbps B-channels and one 16-kbps D-channel. Each B-channel supports voice and data, while the D-channel transports data, signaling, and other bits for framing.

⇒ NOTES:

- Although ISDN-BRI can support data transmission on the D-channel, DEFINITY Generic 3 does not support this capability. DEFINITY Generic 3 only provides signaling on the D-channel.
- ISDN BRI is only available on DEFINITY switches that support μ -law companding. See the *DEFINITY Communications System Generic 3 System Description*, 555-230-200, for further details.
- The word “endpoint” is used whenever statements apply to BRI voice terminals, BRI data modules, and integrated BRI voice/data terminals.

The DEFINITY switch supports the following across the ISDN-BRI interace to an endpoint:

- a single voice call
- a single data call
- a voice call and a data call simultaneously
- two simultaneous data calls

ISDN-BRI Endpoint Configurations

There are two possible configurations with ISDN-BRI:

- Point-to-point — only one endpoint connected to a BRI port
- Multipoint — multiple endpoints connected to a BRI port. This configuration is also referred to as “passive bus configuration.”

Because DEFINITY BRI provides non-blocking voice and data services, a maximum of two endpoints are supported on one BRI port in a multipoint configuration.

The DEFINITY switch dynamically allocates the two B-channels on a BRI interface to handle voice and data requests. Because there are two B-channels, only two simultaneous service requests can be granted at any time on a BRI port to provide non-blocking service (either through point-to-point or multipoint configurations).

When one endpoint is capable of providing two service requests (such as an integrated voice/data endpoint or an endpoint that supports two simultaneous B-channel data calls), the endpoint must be configured as point-to-point because both B-channels can potentially be used simultaneously by the two services. You can have the following endpoint types in the point-to-point configuration:

- one voice-only endpoint
- one stand-alone data endpoint
- one integrated voice/data endpoint

NOTE:

Even though an integrated voice/data endpoint supports two service requests (that is, both voice and data), the integrated endpoint is not considered to be in multipoint configuration because it is only one endpoint.

If two endpoints are each capable of providing only one service request, then they can be administered on the same BRI port. Doing so provides a multipoint configuration. In this case, both B-channels can potentially be used simultaneously by two service requests and, since each BRI port provides two B-channels, no additional endpoints can be administered on this BRI port. You can have the following endpoint types in the multipoint configuration:

- Two voice-only endpoints
- Two stand-alone data endpoints
- One voice-only endpoint and one stand-alone data endpoint



NOTE:

An endpoint that supports two simultaneous B-channel data calls is not supported in a multipoint configuration.

Terminal Equipment Identifier (TEI)

The terminal equipment identifier (TEI) is used to set up communication between the switch and an endpoint. DEFINITY G3 supports two types of TEIs: fixed and automatic. A fixed TEI endpoint supports one fixed TEI value (0 to 63), which is encoded into the terminal equipment, and the fixed TEI initialization procedure. When administering a fixed TEI endpoint, you must assign the endpoint's fixed TEI value to the station or data module forms for that endpoint. If the endpoint's fixed TEI value differs from the TEI assigned to the station or data module forms for that endpoint, no communication is established between the switch and the endpoint. As a result, the endpoint is incapable of providing services. Normally, the manufacturer specifies the fixed TEI value encoded into the terminal or provides procedures for modifying the fixed TEI value.

An automatic TEI endpoint supports automatic TEI initialization procedures and receives a TEI from the system during initialization. With automatic TEI endpoints, you are not entering any TEI values to the station or data module forms. In DEFINITY G3, only the automatic TEI endpoints are permitted to be used in multipoint configurations. Currently, all supported BRI endpoints are automatic TEI endpoints.

Service Profile Identifier (SPID)

When more than one endpoint is connected to a BRI port (for example, a multipoint configuration), the switch uses the Service Profile Identifier (SPID) to associate endpoints with the administered station or data module extensions. The SPID enables the switch to differentiate between the endpoints connected to the same BRI port.

You must administer the SPID on the station or data module forms, and then program the SPID in the BRI endpoint using the procedure in the endpoint's users' manual. During initialization, the endpoint sends the SPID to the switch. The SPID administered on the station or data module administration forms must match the SPID which is programmed into the endpoint. If the SPID on the station or data module administration forms does not match the SPID programmed into the endpoint, the system restricts service to that endpoint.

SPID administration and programming are required for a multipoint configuration. However, SPID administration is optional in a point-to-point configuration because there is only one endpoint connected to the BRI port. If the SPID is administered in a point-to-point configuration, it must match the SPID programmed into the endpoint. If the SPID is not administered, the switch uses the port to associate the endpoint to the administered station or data module extension.

ISDN-BRI Voice/Data Terminal Equipment

Voice transmission on ISDN-BRI is provided by the 7505, 7506, 7507, and 8503T voice terminals. All tests and services available to DCP users are also available to BRI users.

Data transmission on ISDN-BRI is provided by the 7500 Data Module (or a compatible stand-alone data module) and the Asynchronous Data Module (ADM). The 7500 Data Module is a stand-alone unit that supports asynchronous or synchronous DCE and asynchronous DTE:

- In asynchronous mode, the 7500 supports packet- or circuit-switched data communications, and can be controlled via the front panel or the keyboard of a connected terminal.
- In synchronous mode, the 7500 supports circuit-switched or nailed-up data communications, requires either the Multi-purpose Enhancement Board or the High-Speed Synchronous Enhancement Board, and can only be controlled via the front panel.

The ADM may be used with asynchronous DTE as a data stand for 7500-series BRI voice terminals. Consisting of a board located inside the BRI voice terminal, the ADM allows the transmission of integrated voice and data through one voice terminal. (Separate extensions numbers are used for the voice and data calls.) The ADM supports the Hayes command set for compatibility with PC communications packages.

Endpoint Initialization

To be fully operative, BRI endpoints must successfully complete endpoint initialization procedures. These procedures are usually done at installation time or as part of reconfiguration.

Multipoint Configurations on BRI Ports

In a passive bus multipoint configuration, the system supports two BRI endpoints per port, thus doubling the capacity of the BRI circuit pack. When changing the configuration of a BRI from point-to-point to multipoint, the original endpoint need not be reinitialized. However, only endpoints that support SPID initialization can be administered in a multipoint configuration.

Exchange of User Information

The BRI protocol provides the users with the capability of exchanging up to 128 octets of user information end-to-end. The information is passed in the User-to-User Information IEs to the receiving endpoint without being interpreted by the switch. However, there are some limitations to the exchange of User Information IEs.

ISDN-BRI Data Service

Basic Digit Dialing

Regular digit dialing is provided through the ADM. Digits from 0 to 9, “*” and “#” can be entered. This feature can be used by the user either from the set keypad or from the EIA terminal interface.

Default Dialing

Default Dialing is also an enhancement to the user dialing capabilities of the Data Call Setup feature. By either typing a *d* followed by *Return* or pressing the data button twice, if a default address is administered, the switch terminates the call to the default address. If no default dialing has been administered, the call is disconnected in less than one second. This feature and the Data Hotline feature are mutually exclusive.

Data Hotline

Data Hotline is a security feature that allows a user to enter a Dial command, with no address specified, followed by a *Return*. The switch terminates the call to a preadministered hotline destination. If a user enters an address, either intentionally or unintentionally, the call processing discards the address string received for the hotline endpoint. The call processing automatically routes the call just as if the hotline destination address had been entered by the user. This service does not impose any restriction on incoming calls received at the endpoint.



NOTE:

This feature and the Default Dialing feature are mutually exclusive.

Administered Connections

An Administered Connection is an end-to-end connection between two access endpoints or data endpoints that is automatically established by the system whenever the system is restarted or the Administered Connection is administered and the Administered Connection is due to be active. The attributes of these connections are user-defined and administered on the Administered Connection Form via the G3-MT.

Once the ADM has been administered as one endpoint of an administered connection, the system waits for the scheduled time to set up the connection. At the scheduled time, the system establishes the connection and maintains it for the specified length of time. Once the call is accepted, the set enters into the continuous mode for the specified length of time. If the switch is rebooted during the continuous connection, the connection reinitiates the call setup. At any time that the connection drops (for example, disconnected cabling), the switch reinitiates the call setup.

Call Request

DEFINITY Generic 3 call processing handles all various BRI Bearer data call requests that are presently defined. Some capabilities that are not supported by AT&T terminals may be provided by a non-AT&T terminal. The switch completes most call requests. For those capabilities that the switch does not support, a proper cause value is sent back to the terminal.

Cause Value

BRI stations receive a cause or reason code that identifies why the call is being cleared. The BRI data modules converts certain cause values to text messages and display them for the user.

Considerations

The system supports up to 60 simultaneous voice calls on a BRI since two 7507 terminals (that support 30 call appearances/bridged appearances each) can be administered on a BRI port.

A system that is fully configured for BRI can support a maximum of 1,000 voice and data BRI endpoints for G3i and 5,000 for G3r. The actual system maximum depends on the mix of the various types of BRI endpoints. For example, the capacity of the system is considerably reduced if all of the endpoints are BRI stations with 30 call appearances/bridged appearances and display capabilities.

The system can support a maximum of 800 data modules for G3i and 5,000 for G3r. This value includes both BRI and DCP data modules.

The following features are not provided to BRI users:

- Since the ISDN-BRI protocol requires that the Bearer Capability must be specified at the time of sending the SETUP message (and cannot be changed during the call), the following data functions are not provided to the BRI voice users:
 - One button voice call setup transfer to data
 - One button data call setup transfer to voice

- Preindication of a data call
- Voice call transfer to data and data call transfer to voice

These functions require a change in the Bearer Capability after the establishment of the call, which is currently not allowed by the BRI protocol.

- BRI attendant is supported on G3r switches but not on G3i switches.
- Features that use the switchhook and Recall button (for example, Call Waiting and Analog Conference/Transfer/Hold/Drop) are applicable to analog voice terminals only

G3 supports BRI data endpoints that perform layer 2 disconnect. BRI data endpoints that support layer 2 disconnect are administered as non-Management Information Message (MIM) supporting data only endpoints.

G3 supports non-AT&T BRI voice and data terminals that perform enbloc sending using any one of the following formats:

- A SETUP message with all the digits in the Keypad IE and a Sending Complete IE.
- A SETUP message with all the digits in the Called Party Number IE and a Sending Complete IE.
- A SETUP message with all the digits in the Called Party Number IE and no Sending Complete IE.

If you are using a 7506D or 7507D to make calls that require additional digits, you can place a comma in the dial sequence after you receive a second dial tone or after the call has been set up. The comma is used to separate the called number from subsequent information.

Interactions

The following features interact with the ISDN-BRI services:

- Data Button

Besides the call appearance and feature function buttons, BRI voice/data terminals have a fixed, dedicated data button (button 7 on the 7505D and 7506D voice terminals, and button 31 on the 7507D voice terminal) that is used for data call setup. In general, feature function buttons such as Call Forwarding or Send All Calls buttons are always associated with voice features, and cannot be used in conjunction with the data button. For example, the user cannot activate call forwarding for the associated data endpoint by using the data button followed by the Call Forwarding button and the designated extension.

- Interworking

The same off-premises call types are permitted as for DCP, with the exception of voice to data and data to voice transfer.

- Modem Pooling

The Modem Pooling feature provides the necessary protocol conversion between Mode 2 digital data endpoints and analog data facilities. A modem pool resource needs to be inserted by call processing during call setup for both call origination and call answering. This resource translates data between DMI Mode 2 protocol used by BRI data endpoints and the modulated signal used by the modem.

- Voice Terminal Display

BRI terminals take control of the display. For example, when the user is in dialing state (BRI terminal is in the Overlap Sending state) any display information sent to the terminal from the switch is buffered until the state changes and is displayed when the state changes.

The 7506 BRI voice terminal, which has a 2-line 24-character display, splits a message when it recognizes a blank closest to the 24th character. This is left to the discretion of the terminal. As a result, the switch has no control over it.

Administration

BRI Voice/Data

Administration of BRI voice terminals requires all the fields associated with the standard DCP station administration. Additional fields are used to enter the following information:

- **TEI information:** If the BRI terminal supports a fixed TEI value, it has to be entered at the time of station administration. The allowed values are 0 through 63. There are two fields: Fixed TEI and TEI value. If the answer to the first field is “yes,” the second field shows up where the TEI value is administered. The TEI value on the administration form must match the value supported by the terminal.
- **MIM support:** This is an administrable field on the BRI station form. If the answer to this field is “yes,” the following two fields need to be filled in:
 1. **Endpoint Initialization:** If the BRI terminal supports endpoint initialization, the administrator has to enter the SPID value. The default value is the extension; however, the value can be changed at the time of administration. The SPID can be up to 10 digits, and uniquely identifies the terminal on the BRI. The SPID on the Administration form and the SPID programmed into the endpoint must be the same. (Refer to the terminal’s user manual in order to change the terminal’s SPID.) All SPIDs must be different for each endpoint on the same port. All SPIDs must be different from the service SPID, which is administered on the System Maintenance form.
 2. **MIM Maintenance / Management support:** This is another BRI specific field that indicates if the terminal supports other maintenance and management messages.

For multipoint (passive bus) environment, the system administration checks the number of B-channels used for a port. Administration denies any attempt which might cause call blocking by restricting the number of endpoints on a port.

NOTE:

Separate extensions numbers are used for voice and data calls to the same endpoint.

BRI Data

The 7500 Data Module is administered through the data module administration form. The ADM is administered through the station administration form, using the data module administration page. In addition to the fields used by the DCP endpoints, the following new fields are used for BRI data module administration:

- **Default Duplex:** Full/Half (default Full)
- **Default Mode:** Synchronous/Asynchronous (default Asynchronous)

- Default Speed: 1,200, 2,400, 4,800, 9,600, 19,200, 56,000, and 64,000 (default 1,200)

(In synchronous mode, the speed of the 7500 data module may be set to 56,000 or 64,000 bps.)

- Default Data Application: mode 0, mode 1, mode 2 sync, mode 2 async, and mode 3/2 adaptable

Default Duplex, Default Mode, and Default Speed values are used for initializing data module default attributes. The defaults are required for modem pooling conversion resource insertion when the endpoint does not support MIM query capability. If you are using supported endpoints (7500 and ADM), you should not change the default values. Changing the default values with the MIM Maintenance/Management support option as “y” has no effect on modem pooling. These endpoints support the MIM query capability, which enables the switch to query the endpoint when a call arrives.

Default Data Application specifies the default data protocol to be used for originating data calls if mode is not specified with the calling parameters. This mode is also used for Administered Connections and for terminating trunk calls that do not have bearer capability specified.

Data modules that support two simultaneous data calls should be administered as a 7500 and the MIM Maintenance/Management support option should be set to “n.”



NOTE:

Two simultaneous data calls to a single endpoint use the same extension number.

Hardware Requirements

BRI services require the following hardware:

- The TN778 Packet Control circuit pack. This circuit pack provides the interface to the LAN (packet) bus on G3i (but not G3r) for establishing the signaling connectivity.
- The TN556 BRI port circuit pack, which is the Basic Rate Line circuit pack. Each BRI port board can support 12 line interfaces, each operating at 192 kbps.
- ISDN-BRI Type B and Type D Terminal Management S/T interface terminals
- The AT&T ISDN 7505, 7506, 7507, and 8503T voice terminals
- The 7500 Data Module and the ADM. The ADM is supported by the AT&T ISDN 7505, 7506, and 7507 voice terminals with firmware version FP2.0 or later.

Internal Automatic Answer (G1 and G3i)

Description

Allows specific voice terminals to answer incoming internal calls automatically. Internal Automatic Answer (IAA) is intended for use with selected hybrid voice terminals (the MERLIN/System 25 7313H, 7314H, 7315H, 7316H, and 7317H terminals) that have a built-in speakerphone; IAA cannot be administered on any other voice terminals.



NOTE:

IAA is available with G1 and G3i and is not available with G3r.

Internal calls eligible for automatic answer by the IAA feature are:

- Station-to-station voice calls, with both voice terminals on the same switch. (This includes redirected intra-switch calls.)
- An internal call over a DCS configuration to another internal extension. (This includes redirected inter-DCS calls.)
- External calls that are extended by an attendant console when the “Internal Automatic Answer for Attendant Extended Calls” option on the “System Parameters Form” is enabled.

The following types of calls are *not* eligible to be answered automatically via IAA:

- Calls from public network trunks
- Calls arriving on tie trunks
- Automatic Callback calls
- Automatic Circuit Assurance calls

- Data calls
- External calls that are extended by an attendant console when the “Internal Automatic Answer for Attendant Extended Calls” option on the “System Parameters Form” is disabled
- Calls that are redirected because of queue overflow of Emergency Access to the Attendant calls

An eligible call is answered automatically via the IAA feature if IAA is activated at the answering voice terminal and the answering voice terminal is idle (on-hook and able to accept an incoming call). A voice terminal that is off-hook, in the process of dialing digits, or using features such as conference or transfer is not idle.

IAA Feature Operations

With IAA, a single programmable feature button (IAA) can be assigned to specific hybrid voice terminals during voice terminal administration. When this feature button is pressed, the associated green status lamp lights and the IAA feature is activated. Pressing the same button again causes the status lamp to go dark and the IAA feature is deactivated. (Pressing the feature button has no effect on a currently active call.) As long as the IAA button's status lamp is on, the IAA feature remains activated. The IAA button may be toggled on or off at any time, regardless of the state of the voice terminal; the voice terminal's speakerphone is not affected by this action. Also, using the speakerphone to place calls does not affect the state of the IAA feature.

The calling voice terminal receives a tone when its call is answered automatically by a voice terminal with IAA activated.

The called voice terminal receives a tone (a “ring ping”) via the speaker or headset, and then goes logically off-hook when automatically answering an IAA-eligible call. Both the answering voice terminal's speaker and microphone are turned on.

If the user of a voice terminal with IAA activated is currently busy on a call or is in the process of dialing digits, subsequent incoming calls are treated as if IAA is not activated. Thus, an already established call or call establishment activity temporarily disables the IAA feature for incoming calls.

Considerations

IAA provides convenient hands-free answering of internal calls.

The user of a voice terminal with IAA activated should always deactivate the feature when leaving the work area. Otherwise, incoming calls are unintentionally “answered”.

For G1 and G3i, IAA is only available with the MERLIN/System 25 731xH series voice terminals and is not available with any other voice terminals.

There is no feature access code for the IAA feature; however, the station “int-aut-on” button must be administered.

Interactions

The following features interact with the Internal Automatic Answer (IAA) feature:

- **ACD Calls**

IAA applies to internal calls to an ACD agent.

- **Automatic Answer**

IAA and Automatic Answer cannot be administered simultaneously on the same station.

- **Automatic Callback**

Callback calls via Automatic Callback are not answered automatically by the IAA feature.

- **Automatic Circuit Assurance (ACA)**

Calls generated by the ACA feature are not eligible for IAA.

- **Bridged Call Appearance — Multi-Appearance Voice Terminal**

Calls terminating to a bridged appearance of an IAA-eligible station are not eligible for IAA.

- **Bridged Call Appearance — Single-Line Voice Terminal**

Calls terminating to a bridged appearance of an IAA-eligible station are not eligible for IAA.

- Call Coverage

If an internal call is redirected to another voice terminal by a Call Coverage redirection criteria, then that call is eligible for IAA at that voice terminal.

IAA does not apply to calls to the original called extension when:

- The called voice terminal has activated Send All Calls
- The called voice terminal has selected Cover All Calls
- The calling voice terminal has selected Go To Cover before placing the call

Calls directed to a Coverage Answering Group are not eligible for IAA.

- Call Forwarding All Call

Calls to a station with IAA and Call Forwarding activated are forwarded and are not answered by the station dialed.

 **NOTE:**

If the "forwarded to" station, is internal and has IAA active, the "forwarded to" station automatically answers the call.

- Call Pickup

Internal calls to a voice terminal in a Call Pickup group are eligible for IAA. If the called extension in a Call Pickup group is IAA-active, the call is automatically answered. An IAA-active voice terminal is not able to automatically answer calls to other voice terminals in it's Call Pickup group.

- Conference

Internal conference calls are eligible to be automatically answered via the IAA feature. If more than one conference party has joined a conference call through automatic answer, such parties remain connected until either they or the controlling party drops the call.

- Data Call Setup

Data calls are not eligible for IAA.

- Direct Department Calling (DDC) and Uniform Call Distribution (UCD)

Internal calls to a DDC or UCD group member are eligible for IAA.

- Distributed Communications System (DCS)

If a call is from another switch in a DCS configuration and the origin of the call is known to be an internal voice terminal on that switch, then that call is considered internal and is eligible for automatic answer.

- Do Not Disturb

Activation of the Do Not Disturb feature preempts IAA at the called voice terminal.

- Go To Cover

IAA does not apply to calls to the original called extension when the called voice terminal has selected Go To Cover before placing the call.

- Ringback Queuing

Automatic calls generated by the Ringback Queuing feature are not eligible for IAA.

- Send All Calls

IAA does not apply to calls to the original called extension when the called voice terminal has selected Send All Calls.

- Terminating Extension Group

Calls to a Terminating Extension Group extension are not eligible for IAA; however, calls placed to the individual extension are eligible.

- Transfer

Transferred calls are eligible to be automatically answered via the IAA feature.

Administration

Internal Automatic Answer (IAA) is administered on a per-voice terminal basis by the System Manager. The only terminal administration required is an IAA button ("int-aut-an"), which must be assigned to each voice terminal desiring IAA.

If a voice terminal's IAA button is removed via administration while the IAA feature is active, the IAA feature is deactivated and the associated status lamp goes dark. Current calls are not affected by this action.

A system-wide option determines whether IAA-administered voice terminals automatically answer external calls that are extended by an attendant console. Typically, to avoid redirecting an external call to an unattended IAA voice terminal, the IAA option on the "System Parameters Form" is disabled. However, you can allow automatic answering of extended external calls by enabling the System Parameters Form's IAA option.

Hardware and Software Requirements

The following voice terminal types support IAA:

- 7313H
- 7314H
- 7315H
- 7316H
- 7317H

Each of the hybrid voice terminals listed above requires a port on a TN762B Hybrid Line circuit pack.

No additional software is required.

MERLIN/System 25 Voice Terminal Support — 731xH Series (G1 and G3i)

Description

Allows MERLIN/System 25 customers to re-use the following 731xH series ATL (hybrid) voice terminals with DEFINITY G1 and G3i:

- 7309H
- 7313H
- 7314H
- 7315H (with built-in display)
- 7316H
- 7317H (with built-in display)

All of the above voice terminals connect to the DEFINITY switch via existing TN762B hybrid circuit pack and are supported in native mode. However, not all fixed-feature buttons on these terminals function completely when connected to the DEFINITY switch.



NOTE:

Support for the above MERLIN terminals is available with G1 and G3i and is not available with G3r.

Both the 7315H and 7317H are equipped with integrated 16-character LCD displays.

- Use the “disp-norm” button to toggle between “normal” display mode (to display incoming and outgoing call data) and “local” mode (to display the voice terminal supplied date and time).

⇒ NOTE:

When in local mode, the voice terminal can receive incoming calls or you can go “off hook” and dial an outgoing call. In these cases, the voice terminal automatically returns to normal display mode.

- Displayed Messages consist of one or two 16-character lines. The “scroll” button is used to toggle between the two lines of a display. (For one-line displays, pressing the “scroll” button has no effect.)

⇒ NOTE:

For redirected calls sometimes the name is truncated at 14 characters and is followed by a space and “<” character. The “<” character indicates that the call was originally directed to the named party who then redirected the call (for example, using call forwarding or call coverage). Scroll to the second line of the display to view the name of the calling party.

The 7315H and 7317H voice terminals display information differently from other voice terminal displays. For example, the 7315H and 7317H do not identify which call appearance is in use.

Considerations

The following features of the 731xH series voice terminals are affected when used with the DEFINITY switch:

- Call Appearance Button LEDs

Both the red and green LEDs associated with the first 10 dual-LED feature buttons are supported for the 7313H, 7314H, 7315H, 7316H, and 7317H voice terminals when these buttons are administered as call or bridged appearances:

- The red “on” LED indicates the call appearance that is selected when the user goes off-hook.
- The green “on” LED indicates the call at that appearance or at a bridged appearance.

- Feature Buttons

Call appearances or bridged appearances can be assigned only to feature buttons 1 to 10 on the 731xH voice terminals.

- Feature Button LEDs

The 731xH voice terminals have two LEDs (one red and one green) associated with each administrable feature button. G1 and G3i only support the green LEDs associated with the feature buttons. Operation of the green LEDs is identical to operation of the 7400 series terminals.

- HFAI

G1 and G3i replaces the HFAI capability on System 25 with the Internal Automatic Answer (IAA) feature. When an internal call arrives at an idle 731xH series terminal that has IAA activated, the speakerphone and microphone at that terminal activate and automatically answer the call. When this occurs, the calling voice terminal receives a distinctive tone burst, while the called voice terminal emits a distinctive tone burst via the speaker.

- Message Button

The message button is not supported for the 731xH voice terminals. As a result, pressing the Message button on one of these voice terminals has no system or local effect.

- Message LED

The Message LED is supported for the 731xH voice terminals. This LED is controlled by existing AUDIX and Leave Word Calling features on the DEFINITY switch. With these terminals, users cannot control the state of the Message LED by pressing the Message buttons. The Message LED operation is identical to that provided by the 7400 series voice terminals.

The Message Retrieval and Retrieval Using Display modes are not supported for ATL terminals. As a result, these modes do not affect Message LEDs on ATL terminals.

- Microphone

Microphone button operation is supported for the 731xH voice terminals. Each of these voice terminals support the following capabilities:

- If the terminal is off-hook on the handset, pressing the Microphone button has no effect.
- If the terminal is off-hook with the speakerphone active, pressing the Microphone button toggles the microphone between “on” and “off.”

- Mode Switch

The DEFINITY switch does not support the mode switch for testing or programming.

- Recall Button

The Recall button is not supported for the 731xH voice terminals. As a result, the Recall button has no system or local effect when pressed by the user.

- Speakerphone

Full speakerphone and headset-adjunct operation are supported for the 731xH voice terminals. For each of these voice terminals, the DEFINITY switch supports the following capabilities:

- Activation/deactivation of the terminal's microphone via the fixed MIC button or HFAI/MIC button.
- Activation/deactivation of the speakerphone function via the Speakerphone button.
- Control of the terminal's microphone and speaker LEDs in accordance with the states of the microphone and speakerphone.

If the speakerphone function is activated while the terminal is off-hook on the handset, the handset becomes inactive and the microphone (and speaker) become active.

- Stop and Pause (Drop and Hold) Sub-designated buttons

The Stop and Pause functions are not supported for the 731xH voice terminals.

Interactions

The 7313H, 7314H, 7315H, 7316H and 7317H voice terminals may be combined with other switch features.

- Display Services

MERLIN display sets (7315H and 7317H) only support the "local" and "normal" display modes; all other display services (such as Date/Time, Elapsed Time, Inspect, Integrated Directory, Leave Word Calling, and Stored Numbers) are not supported.

Administration

The System Manager must administer a station form for each 7313H, 7314H, 7315H, 7316H and 7317H voice terminal.

Hardware and Software Requirements

No additional hardware or software is required.

Index

B

Basic Rate Interface (BRI), 9

C

Call Pickup, 3
Call Pickup Alerting, 5

I

Internal Automatic Answer
MERLIN, 19
ISDN,
BRI, 9

M

MERLIN
Internal Automatic Answer, 19
MERLIN/System 25 Voice Terminal Support — 731xH S

