Lucent Technologies
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DEFINITY® ECS Interface
for the **DEFINITY**® Wireless Business System Guide

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- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user
- This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:
- A call is unanswered
- A busy tone is received
- A reorder tone is received

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About This Book

Introduction

This document contains information regarding the relationship and interactions between the DEFINITY® Wireless Business System (DWBS) and the DEFINITY Enterprise Communications Server (ECS). The guide serves as both a reference and an administration tool.

Audience

This guide can be used by various personnel, including system configurators, system administrators, service technicians, telecommunications managers, and trainers.

Electromagnetic Compatability Warning

Important Safety Guidelines for Users

For safe and efficient operation of your Wireless Business System Pocket Phone (wireless telephone), observe these guidelines.

Your wireless telephone is a radio transmitter and receiver. When the battery is installed, the phone is on and it receives and also sends out radio frequency (RF) energy. The phone operates in the frequency range of 1920-1930 MHz. Your handheld wireless telephone uses the digital TDMA mode; the power is transmitted in bursts at a 100 Hz pulsed repetition rate. The peak envelope transmit power is 100 mW or less.

Exposure to Radio Frequency Energy

The design of your wireless telephone complies with the latest Institute of Electrical and Electronic Engineers (IEEE) and the American Standards Institute (ANSI) safety levels with respect to human exposure to RF energy. Of course, if you would like to limit RF exposure even further, you may choose to control the duration of your calls.

Cardiac Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation distance of six inches be maintained between a hand-held wireless telephone and a pacemaker to avoid potential interference with a pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

- Always keep the pocket phone more than six inches from the pacemaker whenever the battery is in the pocket phone.

- Do not carry the pocket phone in a breast pocket.

- Use the ear opposite the pacemaker to minimize the potential for interference.

- If you have any reason to suspect that interference is taking place, take the battery out of your phone immediately.

Hearing Aid Compatibility

Most electronic equipment, such as equipment in hospitals, is shielded from RF energy. However, RF energy from wireless telephones may affect some electronic equipment.

Although the DEFINITY Wireless Business System pocket telephone is compatible with inductively coupled hearing aids, you should consult your physician or hearing aid manufacturer to determine if your hearing aid is adequately shielded from external RF energy. The operation of inadequately shielded medical devices may be adversely affected when a portable wireless telephone is operating in close proximity.

Organization

This document contains the following chapters:

- **Chapter 1, "System Description and Components"** — discusses the DEFINITY ECS components that are required within the Wireless Business System. The chapter also indicates the differences between the 9601 Pocket Phone within the DWBS and DEFINITY ECS wired phones.

- **Chapter 2, "Feature Descriptions"** — discusses DEFINITY ECS voice management features that are supported by but function differently within the Wireless Business System. The chapter also discusses features that are not supported by the DWBS as well as those features that should be turned off to ensure proper functioning of the DWBS.

- **Chapter 3, "Operations"** — discusses DWBS operations vis-a-vis the DEFINITY ECS.

- **Chapter 4, "DEFINITY Wireless Business System Guide Builder"** — discusses using software to create a customized DWBS guide.

- **Chapter 5, "Administration"** — explains how to use DEFINITY ECS administration functions to administer DWBS components.

- **Chapter 6, "Maintenance"** — explains how to use the DEFINITY ECS maintenance model to test and determine the status of DWBS components.

- **Chapter 7, "Traffic Measurements"** — discusses generating and using traffic and performance reports to help analyze problems within the DWBS and to provide data for growth planning.

This document also has a glossary and an index.

Related Information

Use this document in conjunction with the following documents:

- *DEFINITY ECS WBS Site Planning, 555-232-601*
- *DEFINITY ECS WBS Installation and Test Guide, 555-232-102*
- *DEFINITY ECS WBS Maintenance Guide, 555-232-103*
- *DEFINITY ECS WBS Quick Reference Guide, 555-232-104*
- *DEFINITY ECS WBS 9601 Pocket Phone User Guide, 555-232-105*
- *DEFINITY ECS WBS Estimator Online, 555-232-106*
- *DEFINITY ECS WBS Predictor, 555-232-107*

Typographic Conventions

Several conventions are used to convey information quickly. These conventions are as follows:

- This *typeface* is used for references to titles of other documents and when referring to fields on screens.
- This **typeface** is used to identify commands and values for fields within screens.
- The following icon:

⚠ **WARNING:**

emphasizes information that is important to your safety.

- The following icon:

⚠ **CAUTION:**

indicates information you need to prevent equipment damage.

- The following icon:

⇒ **NOTE:**

identifies additional information pertinent to the text preceding it.

System Description and Components

1

Introduction

This chapter discusses the DEFINITY ECS Release 5 components that are required within the DEFINITY Wireless Business System (DWBS). Where appropriate, the chapter also explains how the system interfaces with these components, and it discusses the system capabilities corresponding to these components. First, however, a discussion of the 9601 Pocket Phone is provided.

9601 Pocket Phone

The user phone for the DWBS is the DEFINITY 9601 Pocket Phone. The 9601 Pocket Phone is a portable 2-call appearance wireless voice terminal with a 3-line by 16-character display. It is a small and lightweight phone that does not have an external antenna. The phone contains three soft keys for a menu item interface, three hard keys for display control, and three hard keys for call management.

Coupled with the DWBS, the 9601 Pocket Phone provides mobility to the user. This means that the user can place and receive calls on the pocket phone regardless of location as long as the phone is within system range. As such, the user can provide a more timely handling of work-related matters and also manage the flow of information more effectively. For a complete description of the 9601 Pocket Phone and its functions, refer to the *DEFINITY Wireless Business System 9601 Pocket Phone User's Guide*, 555-232-105.

Software Environment

The DWBS is provisioned as a customer option on the DEFINITY ECS Release 6.1 common software base.

Terminals and Trunks

The DWBS supports all the wired voice terminals supported by the DEFINITY ECS. The pocket phone can make or receive calls over any trunk type supported by the DEFINITY ECS.

Cabinets and Configurations

The DWBS is available on current DEFINITY ECS cabinets, including:

- Compact Single-Carrier Cabinet (CSCC)
- Compact Modular Cabinet (CMC)
- Enhanced Single-Carrier Cabinet (ESCC)
- Single-Carrier Cabinet (SCC)
- Multicarrier Cabinet (MCC)

The system also supports all the reliability options, including standard, high, and critical.

Circuit Packs and Cards

The following list identifies and discusses the required circuit packs and cards:

- **Radio Controller (RC) circuit pack (TN789)** — connects Wireless Fixed Bases to the DEFINITY ECS cabinet. This circuit pack can be located in any universal port slot in any DEFINITY ECS port carrier except (currently) a DS1-remote Expansion Port Network. To ensure a seamless handover of active calls, RC circuit packs must be located within a single port network. The RC circuit pack follows DEFINITY ECS standards for numbering and labeling as a port (service) circuit pack, and it has a purple label.

  The RC circuit pack is not a typical circuit pack because its ports are not directly assigned to specific pocket phones. However, since the circuit pack is not restricted to specific port slots, it is labeled like a service circuit pack.

- **Tone-Clock circuit pack (TN780, TN768, TN2182)** — provides the system clock used by the fixed part radio components to synchronize the system. The circuit pack must have a stability of at least 10 ppm to satisfy the required air interface. Therefore, the TN756 Tone Detector/Generator circuit pack cannot be used for this purpose. If this circuit pack is in the system, it must be replaced by either a TN2182 Tone Detector/Generator circuit pack or a Tone-Clock (TN780 or TN768) circuit pack and a TN748 Call Classifier circuit pack.

- **Call Classifier circuit pack (TN744C)** — One or more of these circuit packs may be added, depending on the number of users. The pocket phone requires this circuit pack during the dialing phase. The number of ports should be engineered according to the expected traffic load.

Capacities

The following table indicates the maximum number of various DWBS components according to the DEFINITY ECS switch.

Table 1-1.   Component Capacities

Component	DEFINITY ECS R6.1 or Greater Capacities
9601 Pocket Phone	260
Radio Controllers (RCs)	10
Wireless Fixed Bases (WFBs)	20
Cell Antenna Units (CAUs)	80

➡ **NOTE:**
WFBs and CAUs are discussed in the Installation and Test document.

Each fully configured RC circuit pack can support up to 24 simultaneous wireless connections. All DEFINITY ECS versions support 10 RC circuit packs. For each RC circuit pack, a maximum of two WFBs is allowed. For each WFB, a maximum of four CAUs is allowed. Finally, the maximum distance between the RC circuit pack and the WFB is 5,000 feet.

System Coverage Areas

The following table indicates a typical coverage area for systems in an area-constrained configuration according to several CAU/WFB setups and the DEFINITY ECS. These areas assume 10,000 square feet per WFB for a single CAU, and 40,000 square feet per WFB with four CAUs, along with the number of WFBs per switch as defined in the table in the previous section.

Table 1-2. System Coverage Areas (Area-Constrained Configuration)

	DEFINITY ECS R6.1 or Greater
CAU/WFB Setup	**Coverage Area**
One CAU per WFB	200,000 sq. ft.
Four CAUs per WFB	800,000 sq. ft.

> **NOTE:**
> Coverage area is dependent on many factors, including building layout and construction materials.

WFB Power

Power to the WFB may be provided by the RC circuit pack. This circuit pack has the same reserve power standby as the DEFINITY ECS. Auxiliary power is required for WFBs with CAUs or if the distance between the RC circuit pack and the WFB (or, accordingly, the length of the I2 cable) is more than 1,000 feet long.

The following figure illustrates the WBS.
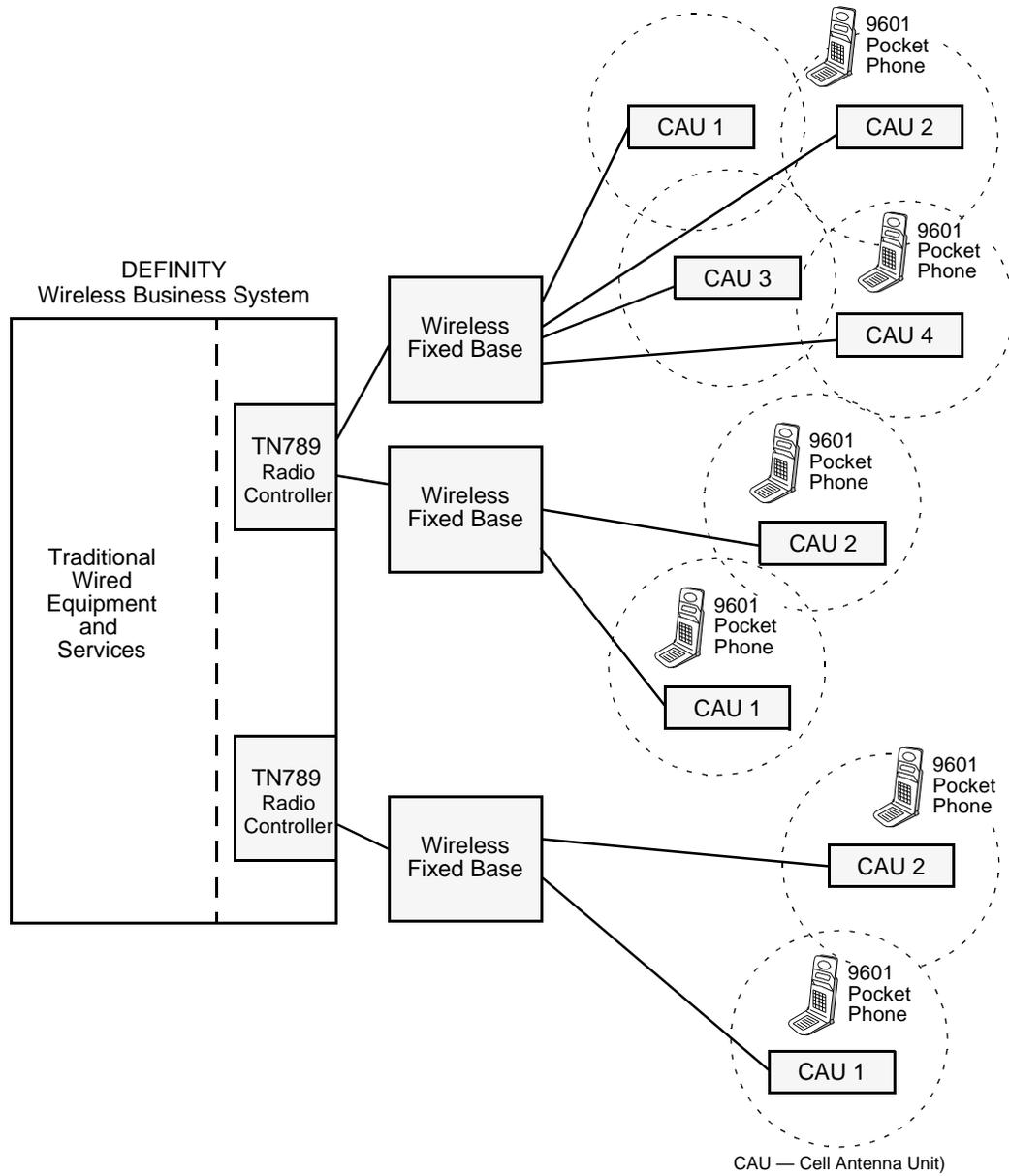
Figure 1-1.   DEFINITY Wireless Business System

Feature Descriptions

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Introduction

The DEFINITY Wireless Business System (DWBS) allows the user of a 9601 Pocket Phone to access all DEFINITY ECS features available to a digital voice terminal via Feature Access Codes (FACs). It also allows access to any display features available to a wired digital station, as long as these features do not require administered buttons. FACs are available to all DEFINITY ECS phones.

Like for any DCP station, users calling a pocket phone immediately listen to ringback tone while the pocket phone is being paged. If the pocket phone has no call coverage assigned, and if it cannot be reached because it is not within the system coverage area and due to wireless resource exhaustion conditions, the caller continues to listen to ringback tone. If call coverage is assigned, the call goes to coverage according to the administered coverage criteria.

The first part of this chapter discusses the unique characteristics of the 9601 Pocket Phone from a system perspective, including features and processes. The second part of the chapter discusses DEFINITY ECS features that behave differently whenever they are interacting with the DWBS. Accordingly, each feature description includes the appropriate commentary in this regard. Finally, this chapter also discusses DEFINITY voice management features that are not supported by the DWBS, and it discusses recommended administration options.

Unique Characteristics of the 9601 Pocket Phone

The following list identifies and comments on the unique characteristics of the 9601 pocket phone.

— **Buttonless Feature Activation**

The pocket phone does not have a feature button. However, the pocket phone can access features by using FACs in conjunction with the "conference/transfer" soft key flashing operations. Among the features that can be accessed via this method are Automatic Callback (ACB), Leave Word Calling (LWC), and Call Park/Answer Back. For example, if the pocket phone is active on a call and the user wants to access LWC, the user first presses the **Conference** or **Transfer** soft key to obtain dial tone; the user then enters the FAC for LWC. Finally, the user presses the **Conference** or **Transfer** soft key again to complete the operation.

— **Deep Sleep Mode**

The pocket phone enters this mode whenever it repeatedly tries to access the system and fails to do so due to out-of-range conditions. This mode allows the pocket phone to conserve battery power. Each deep sleep mode period lasts for approximately three minutes. Thereafter, the phone "wakes up" after a moment to retry system access. If access is not gained, the phone reenters deep sleep mode. Therefore, during deep sleep mode, the system may temporarily fail to deliver incoming calls or indicator updates even when the pocket phone is currently being walked into system range.

The user can force the pocket phone to exit this mode by pressing any of the buttons on the phone.

— **Hot Battery Replacement**

The system maintains a pocket phone's call(s) for 60 seconds whenever the phone's battery is being swapped. After the battery is replaced, the system automatically reconnects the call(s).

— **Incoming Call Delivery**

Whenever a pocket phone is called, the system must locate and establish a connection to the phone before the system can ring the phone. This process usually takes about two seconds to complete. However, if the pocket phone is in a busy system or bad coverage area, this process may take up to approximately 10 seconds (during which time the calling party hears ringback tone). Therefore, it may be necessary to increase the "don't answer" interval assigned to the switch's pocket phone's coverage path so that the call does not go to the pocket phone's coverage point prematurely.

— **Systemwide Mobility**

Systemwide mobility is provided within the same port network as well as across port networks.

If a user is active on a call and stays within one port network, the user can roam freely across RC coverage areas within that port network. This is possible due to a seamless call handover capability.

RCs in multiple port networks should be radio-frequency-(RF-)-isolated from each other. Once a call is established within a port network, the user must remain within the coverage area of that port network to stay on the call.

You can put a call on hold by parking the call. To park a call, press the **Transfer** soft key and dial the Call Park FAC; then press the **Transfer** soft key. To reconnect to the same call, dial the Answer Back FAC followed by "#."

— **Location Registration**

> **⇒ NOTE:**
> This is not a user-observable feature.

This process allows the pocket phone to report its location within the system. Whenever a pocket phone enters system coverage, the phone automatically selects an RC circuit pack with the strongest signal strength and then registers to it. As the phone moves through the system, the phone continuously monitors the signal strength of the neighboring RC circuit packs. If the signal strength of another such RC circuit pack becomes the "strongest," the pocket phone may register with this circuit pack.

— **Mobility States**

9601 Pocket Phones within the DWBS are always in a specified *mobility state*. The mobility state of a pocket phone is indicated in the *Mobility State* field of the Status Station report. (Refer to Chapter 6.) The following list identifies and discusses several of these mobility states:

— *in-system*

The pocket phone is location-registered to an RC. Whenever a pocket phone has this mobility state, the phone's service state can either be "off-hook" or "on-hook," as indicated in the Status Station form.

— *out-of-system*

A pocket phone assumes this mobility state under any one of the following conditions:

— Pocket phone has been administered, but it has not yet obtained access to the system.

— Incoming call has been offered to the pocket phone, but the phone has not responded to subsequent paging requests.

— RC circuit pack to which the pocket phone is location-registered is taken out of service.

Whenever a pocket phone assumes this mobility state, the phone's service state is always "disconnected," as indicated in the Status Station form.

— **No Off-Hook Idle State**

If a wired phone is in the off-hook idle state, the phone is off-hook and not actively involved in a call (for example, the other party on the call ends the call, therefore leaving the phone off-hook but idle; or a call is being held at a station that is off-hook). Because it does not have a physical switch hook, the pocket phone does not support this state. Therefore, the pocket phone is forced on-hook by the DWBS whenever the pocket phone is not active on a call. Also, the pocket phone does not support features that require a station to be in the off-hook idle state (for example, Auto-Answer or Service Observing).

— **No Switch Hook**

The 9601 pocket phone does not have a physical switch hook. To go off-hook, press the "CALL" button or a call appearance soft key; to go on-hook, press the "END" button.

— **Preorigination Dialing**

A call can be made from a pocket phone by first dialing a number and then pressing the "CALL" button instead of the reverse sequence.

— **Wireless Resources**

For a pocket phone to access the system, wireless resources, such as a radio channel and radio circuit hardware, must be allocated. These resources can be highly contended within a "busy" system. In such a case, the pocket phone displays a failure message as a call is being made. Similarly, when an incoming call is being delivered to a pocket phone that cannot access wireless resources, the calling party experiences a "don't answer" situation.

Supported Features with a Variation in Function

This section discusses DEFINITY ECS features that are supported by the WBS but function differently due to their interactions with the DWBS.

Attendant Direct Extension Selection with Busy Lamp Field

The lamp of an out-of-system pocket phone is always off. The lamp of an in-system pocket phone is always on.

Attendant Override of Diversion Features

With this feature activated, a failed page of a pocket phone by the system does not cause a call from an attendant to follow the coverage path. Instead, the call remains at the called station, and ringback is provided indefinitely.

Attendant Priority Queue

Calls involving pocket phones may be held in the attendant's priority queue. If such a pocket phone leaves the system, or if the pocket phone's link to the system is dropped, the pocket phone is dropped from the call.

Attendant Serial Calling

If a pocket phone leaves the system while it is on a serial call, or if the pocket phone's link to the system is dropped, the pocket phone is dropped from the call.

Automatic Call Distribution (ACD) Features

Any ACD features that are available via FACs are available on the pocket phone.

Also, the following points should be noted:

- ACD directs calls only to the primary extension; it does not direct calls to bridged appearances. Furthermore, if a bridged appearance is active, the primary extension is also considered active; therefore, in such a case, no calls are directed to the primary extension from the ACD group.

- Auto-Answer is not available on the pocket phone; therefore, any pocket phone user within an ACD group must go off-hook to answer incoming calls manually.

- Call is undelivered due to a lack of wireless resources, or the ACD member pocket phone is out of system.

■ Call Coverage or Redirection on No Answer is required to prevent the call from being left unanswered.

Automatic Callback, DCS Automatic Callback, and Ringback Queuing

Automatic Callback (ACB) and DCS Automatic Callback allow internal users who placed a call to a busy or unanswered internal voice terminal to be called back automatically when the called voice terminal becomes available. If an outgoing call is placed and all trunks are busy, the call is placed into an ordered queue. Ringback Queuing automatically calls back the user when a trunk for the call becomes available. ACB, DCS Automatic Callback, and Ringback Queuing are available to the pocket phone without an administered button.

A pocket phone user can activate ACB by selecting the **Conf** or **Trans** (conference or transfer) soft key and then dialing the appropriate auto-callback FAC. The system administrator does not need to program an ACB button for this to occur. Once the FAC is dialed, the switch gives the user confirmation tone. The user must then press the **Conf** or **Trans** soft key again to activate the auto-callback.

Whenever ACB is activated to a pocket phone, the system originates the callback call if that pocket phone disconnects from a call and the ACB request has not been canceled by the calling party or timer expiration.

Whenever ACB is activated by a pocket phone and the callback call begins and finds that the activating pocket phone cannot be reached (because it is out of the system or no wireless resources are available), the callback call is canceled. Finally, the callback call is also canceled whenever ACB is activated to a pocket phone and the callback call begins and finds that the called pocket phone cannot be reached.

➡ **NOTE:**
Automatic Callback calls cannot originate from a bridged call appearance. (See the next section.)

Bridging with Pocket Phones

In addition to conventional bridging applications, the Bridging with Pocket Phones feature is available. This feature is intended for users who have a pocket phone as well as a wired phone; accordingly, it allows one telephone number to be assigned to both phone types. This allows both phones, for example, to ring on identical incoming calls or to initiate calls with the same calling number ID.

A maximum of one pocket phone is allowed in a bridging group. A multifunction terminal may have one or more pocket phone bridged call appearances. The pocket phone may be administered only with one of the following setups:

- — Two primary call appearances
- — Two bridged call appearances of a multifunction principal
- — One call appearance and one a-bridge of an analog principal

Bridging with Pocket Phones functions almost like standard DEFINITY ECS Bridging. (Therefore, refer to the appropriate DEFINITY ECS document for details on Bridging.) However, the following must be noted:

- Only the presence or absence of bridged calls is transmitted to the pocket phone. Calls that are placed on hold or being conferenced in or transferred are not transmitted to the pocket phone.

- The "OWN EXT" field on the pocket phone soft key menu contains the extension for which the pocket phone is administered; therefore, this may not be the extension at which incoming calls are being received.

➡ NOTE:
Be sure to refer to the other features in this chapter for a discussion of their interaction with Pocket Phone Bridging.

Busy Verification of Terminals and Trunks

Whenever the "verify" button of a wired phone is pressed and the extension of an out-of-system pocket phone is dialed, the user hears a reorder tone.

Call Appearances

Two call appearances are supported on the pocket phone.

Call Coverage

Calls to an out-of-system pocket phone are redirected to coverage immediately. Also, ringing calls that fail paging or for which a wireless resource is not available are redirected to coverage according to the administered coverage criteria.

Call Forwarding All Calls

An out-of-system pocket phone does not affect its forwarding status. Therefore, calls placed to an out-of-system pocket phone are forwarded to the destination station. If an out-of-system pocket phone is the destination station for a call, the call follows the coverage criteria for the pocket phone.

Call Vectoring/Call Prompting

Whenever a call is redirected to a call vector that executes a vector step to route the call to an out-of-system pocket phone, it is as if the pocket phone does not answer the call. Vector steps that may be involved in such an operation include "route to digits" or "route to number."

CallVisor Adjunct/Switch Application Interface (ASAI)

ASAI adjuncts are allowed to monitor and, in some cases, control pocket phones. The following sections discuss specific restrictions that apply to pocket phones.

Notification Capabilities Group

ASAI adjuncts may request notification of splits containing pocket phones as members and of Vector Directory Numbers routing calls to pocket phones.

Request Feature Capabilities Group

If a pocket phone is the selected party, all request feature capabilities are denied with cause value 63 ("service/option not available, unspecified").

Set Value Capabilities Group

ASAI adjuncts can use this capability to set the state of a pocket phone's message waiting indicator.

Third-Party Call Control Capabilities Group

ASAI adjuncts may take control of calls involving pocket phones. However, third-party make call requests with a pocket phone as the originator or destination are denied with cause value 63 ("service/option not available, unspecified"). Also, if a pocket phone is the selected party, the following functions are denied with cause value 63: third-party selective drop, selective hold, reconnect, and merge.

Third-Party Domain Control Capabilities Group

ASAI adjuncts may request domain control of pocket phones and splits containing pocket phones as members. However, the following functions are denied with cause value 63: third-party answer, selective drop, selective hold, reconnect, merge, and pocket phone autodial requests. All other third-party domain control capabilities interact with the pocket phone in the same way as a wired DCP terminal with no programmable feature buttons.

Value Query Capabilities Group

ASAI adjuncts may request the following:

- ACD split query for splits with pocket phones as members

- ACD agent login query for splits with pocket phones as members

- ACD agent status query for pocket phones serving as ACD split agents

- Call queries for pocket phones

- Status station queries for pocket phones

  > **NOTE:**
  > DEFINITY ECS responds with the talk (idle/busy) state of the voice terminal.

- Extension query for a pocket phone

  > **NOTE:**
  > DEFINITY ECS responds with an indication of type "voice terminal."

- Party ID query for a call to find out the party IDs and extension of all parties (including pocket phones) on the call

- Station feature query to determine the current setting of the following functions for a pocket phone: message waiting indication, Send All Calls, and call forwarding

Consult

A consult call rings only the principal at the primary extension number; it does not ring the principal at any bridged appearance. Also, a consult call cannot be bridged onto by a bridged appearance.

Coverage Answer Group (CAG)

Bridged appearances are not rung whenever there is an incoming CAG call. Also, bridged appearances cannot bridge onto CAG calls.

Facility Busy Indication

An out-of-system pocket phone appears as idle (that is, the "busy-ind" lamp is dark).

Hospitality

A pocket phone can activate the Hospitality features via FACs for its own extension number. These features function regardless of whether the pocket phone is in system or out of system. The pocket phone can also receive these features if they are activated by another terminal.

Several points about Automatic Wakeup (AWU) should be noted:

- AWU calls to an out-of-system pocket phone are indicated as **incompl** (event) and **busy** (reason) on the List Wakeup Station form.
- If an out-of-system pocket phone registers with the system before a subsequent retry, the call is delivered to the pocket phone.
- If a pocket phone remains out of system after the maximum number of retries, the AWU request is cancelled.

Intercom (Automatic and Intercom) Dial

The pocket phone can receive, but cannot originate, Automatic Intercom and Dial Intercom calls. The pocket phone supports the appropriate tones for Intercom calls. Also, DEFINITY ECS provides ringback to a station that makes a dialed intercom call to an out-of-system pocket phone.

Bridged appearances are not rung for intercom calls. Furthermore, if a station has no call appearances, it can never be rung for an intercom call.

Leave Word Calling (LWC) and DCS LWC

Leave Word Calling (LWC) and DCS LWC are available on the pocket phone whenever the feature is activated via FACs before the desired extension number is dialed. These features can also be enabled via a transfer and FAC. In other words, the pocket phone user can use either one of the following methods to activate this feature: dial the LWC FAC before calling someone; or, after calling someone, press the **Conf** or **Trans** soft key and then enter the LWC FAC.

Manual Signaling

Whenever a wired station invokes manual signaling for an out-of-system pocket phone, the station receives confirmation from the steady status lamp on the button.

Personal Central Office Line (PCOL)

Bridged appearances are not rung whenever there is an incoming PCOL call. Also, bridged appearances cannot bridge onto PCOL calls.

Redirection Notification

This feature is not provided at stations with a bridged appearance.

Ringback Queuing

A pocket phone can activate or cancel Ringback Queuing toward a trunk group without an administered ACB button. Also, if either the pocket phone is out of system or no wireless resource is available, and when a ringback queuing callback call is delivered, Ringback Queuing is canceled.

Ringback Queuing can be activated only from a primary extension number; however, the ringback rings all appearances, and it may be answered from any of these appearances.

Send All Calls

In a wireless bridging environment, activating Send All Calls from either the principal voice terminal or a pocket phone with bridged call appearances sends calls to coverage with a ring ping sent to both the principal terminal and the pocket phone.

Terminating Extension Group (TEG)

A pocket phone can be administered in a TEG group, and it can respond to a TEG call by answering the call with the call appearance on which the TEG call terminates. However, the pocket phone cannot bridge onto a TEG call that is answered by one of the other TEG group members. Also, bridged appearances are not rung whenever there is a call to a TEG of which the primary extension is a member.

Voice Terminal Display

The pocket phone is provided the same call-related display as a DCP phone. However, the pocket phone has a much smaller display area than the DCP phone. As is true for most DEFINITY ECS display terminals, a pocket phone's display may be administratively disabled.

Unsupported Multifunction Station Features

The following list identifies the DEFINITY ECS multifunction station features that the pocket phone does not support.

- Features that:
    - Require the use of a button (except ACB and Ringback Queuing)
    - Support an off-hook idle state
- Service Observing
- Terminal Dial-up Testing (TDT)
- Terminal Translation Interface (TTI)

Recommended Administration Options

This section discusses recommended administration options for the DWBS to ensure that the system functions properly.

Off-Hook Alert

Off-Hook Alert (OHA) automatically activates emergency access to the attendant whenever a station is off-hook idle for an administrable period. This feature is turned on and off via the Class-of-Service form. It is recommended that OHA be turned off for all pocket phones within the DWBS; otherwise, pocket phones that go on-hook improperly will cause air channels to be locked if the administrable period is set too long, or if there is no attendant to take the "call."

Restrict Last Call Appearnance

The default value **n** should not be changed for the *Restrict Last Call Appearance* field in the Station form. Value **y** restricts the pocket phone from answering a second incoming call.

Operations

3

Introduction

The DEFINITY Wireless Business System allows the user to make calls within a typical coverage area of 800,000 square feet and to access the DEFINITY ECS features. Users of wired stations or attendant consoles have full transparency when communicating with users of pocket phones.

System Functions and Characteristics

Indicating System Relocation

To meet the legal requirements of the Federal Communications Commission (FCC) and UTAM, Inc., the DWBS uses the DEFINITY ECS detection of power-up resets to indicate that the DWBS is possibly being relocated. Whenever the entire system is being relocated, the DEFINITY ECS detects power-up resets and keeps the system's radio fixed part from emitting radio signals until the system location can be verified by authorized personnel. Finally, WFBs and CAUs can be relocated within the customer premises where the system was originally installed.

> ⟹ **NOTE:**
> **It is recommended, though not required, that the DWBS customer have a maintenance contract with Lucent Technologies. The contract establishes an Initialization and Administration System (INADS) connection from the Lucent Technologies technicians to the customer's DWBS. This connection allows the technicians to service the DWBS remotely.**

Using INIT and INADS Logins

An initialization (INIT) login must be used to enable the Wireless Business System. Using this login type allows the user to access the Optional Features form, which contains a field for enabling the DWBS. (Refer to the "Administration" chapter.)

An Initialization and Administration System (INADS) login allows the user to diagnose problems within and perform maintenance on the system.

DEFINITY Wireless Business System Guide Builder

4

The DWBS Guide Builder is a software application used to create a customized DWBS guide. This application will be available during a future DWBS release.

Administration

5

Introduction

Standard DEFINITY ECS administration is used to administer components for the DEFINITY Wireless Business System. The standard **add**, **remove**, **change**, **display**, and **list** actions can be included in the commands relevant to these components.

This chapter discusses and presents the commands and forms required to administer DWBS components.

General System Management

The Optional Features form contain a field for administering the DWBS. The form can be accessed by entering the **change system-parameters customer-options** command at the prompt.

An example of the form appears as follows:

```
change system-parameters customer-options              Page  2 of  4

                        OPTIONAL FEATURES

                       ISDN-PRI? y     Restrict Call Forward Off Net? y
                                               Secondary Data Module? n
            Malicious Call Trace? n            Station and Trunk MSP? n
         Multifrequency Signaling? n              Tenant Partitioning? n
    Personal Station Access (PSA)? n     Terminal Trans. Init. (TTI)? n
                  PNC Duplication? n               Time of Day Routing? n
                                                  Uniform Dialing Plan? y
       Processor and System MSP? n     Usage Allocation Enhancements? n
              Private Networking? y

                                                    Wideband Switching? n
                                                              Wireless? y













         (NOTE: You must logoff & login to effect the permission changes.)
```

Figure 5-1.   Optional Features Form (Page 2)

The following list identifies and discusses the appropriate fields.

- *Wireless?*

    Provides the user with access to all wireless switch services. Values include **y** and **n** (default).

    ### ➡ NOTE:
    This option is valid only if the *G3 Version* field is set to **V5** or greater.

Once the Wireless option is enabled and the user has logged off and logged back in, the following wireless parameters on the switch are administrable.

- System-wide wireless parameters

- Carrier frequencies

- Radio Controller

- Pocket phone type

- Radio Controller TN code

- Firmware download servers

Administering Systemwide Wireless Parameters

Systemwide wireless parameter administration includes the following tasks:

- Defining a DWBS identification number

- Identifying which port networks will contain RC circuit packs

- Identifying specific carrier frequencies in the unlicensed part of the Emerging Technologies (ET) band (1920-1930 MHz) within which the system is allowed to transmit

- Defining the maximum number of Radio Controllers and pocket phones to be administered on the switch

The Wireless-Related System Parameters form contains fields relevant to this information. The form can be accessed by entering the **change system-parameters wireless** command at the prompt.

An example of the form appears as follows:

```
change system-parameters wireless

                   WIRELESS-RELATED SYSTEM PARAMETERS
                   System Identification: 0100015-2176


 Maximum Radio Controllers: 5                      Master Port Network: 1_
Maximum Wireless Terminals: 40                      Radio Transmission: y


 Allowable Carrier Frequencies (MHz)

 1: 1920.625  n          5. 1925.625  y
 2: 1921.875  n          6. 1926.875  n
 3: 1923.125  n          7. 1928.125  n
 4: 1924.375  n          8. 1929.375  n

 Port Networks With Radio Controllers
 1: n     6: n   11: n   16: n    21: n   26: n   31: n   36: n   41: n
 2: n     7: n   12: n   17: n    22: n   27: n   32: n   37: n   42: n
 3: n     8: n   13: n   18: n    23: n   28: n   33: n   38: n   43: n
 4: n     9: n   14: n   19: n    24: n   29: n   34: n   39: n   44: n
 5: n    10: n   15: n   20: n    25: n   30: n   35: n   40: n
```

Figure 5-2.   Wireless-Related System Parameters Form

The following list identifies and discusses the appropriate fields.

- *System Identification*

  Provides the system with an identifier that it broadcasts regularly in its beacon or traffic-bearing channels. The system ID contains a fixed part and an administrable part. The fixed part is set by the system, and it is displayed as a read-only prefix to the administrable part. The administrable part contains a default value of 2176.

- Maximum Radio Controllers

  Indicates the maximum number of Radio Controllers allowed in the system. Values include **0** (default), as well as **1** and multiples thereof up to the maximum number of RCs allowed per system type as indicated in Chapter 1. This field is set by the init login to accommodate port sensitive pricing following an upgrade from a release that did not have the wireless port sensitive pricing option. For new installations, the default value is 0.

- *Master Port Network*

  Not applicable.

■ *Radio Transmission*

Indicates whether the radio fixed part of the system should be enabled. Values include **y** and **n**. This field is defaulted to **y** whenever the *Wireless* option (field) on the Optional Features form is enabled. The field is defaulted to **n** whenever the *Wireless* option on the Optional Features form is disabled.

Whenever the value for this field is changed to **n**, the radio fixed part of the system is disabled.

Whenever the *Wireless* option of the Optional Features form is enabled and the switch is power-cycled, the *Radio Transmission* field value is changed to **n**, and the radio transmission on the switch is disabled. Radio transmission is restored once the *Radio Transmission* field is enabled.

A save translation system operation is done following a power cycle of a switch for which the *Wireless* option on the Optional Features form is enabled.

This field is accessible via the init and inads logins.

■ *Maximum Wireless Terminals*

Indicates the maximum number of pocket phones allowed in the system. Values include **0** (default), as well as **1** and multiples thereof up to the maximum number of pocket phones allowed per system type as indicated in chapter 1. This field is set by the init login to accommodate port sensitive pricing following an upgrade from a release that did not have the wireless port sensitive pricing option. For new installations, the default value is 0.

■ *Allowable Carrier Frequencies*

This eight-field option supports the administration of the superset of carrier frequencies that are allowed for a system as determined by UTAM. (UTAM has been designated by the FCC as a frequency coordinator for the unlicensed band.) Values include **y** and **n**. The fields are defaulted to **n** to ensure that the Lucent Technologies engineer is taking positive action to select the frequencies that UTAM determined for a particular DWBS. The allowable carrier frequencies administered in this field define the frequencies that the customer is allowed to administer on the *Carrier-Frequencies* form.

■ *Port Networks with Radio Controllers*

Indicates the port networks in which the RC circuit packs may be located. A subfield is allotted for each port network in the system. For a G3r system, there are 44 port networks; for a G3si system, there are three port networks. Values include **y** and **n**. The subfields are defaulted to **n** for new installations. For each port network that will contain administered RC circuit packs, the associated subfield for that port network must be changed to **y**.

Administering Carrier Frequencies

The actual carrier frequencies that a system *will use* are administered on the Carrier-Frequencies form. The carrier frequencies that a system *is allowed to use*, as defined by UTAM, are administered on the System-Parameters Wireless form. The Carrier-Frequencies form enables the user to limit radio transmission to a subset of those carrier frequencies allowable for the DWBS. The form allows the user to limit radio transmissions without infringing upon any UTAM restrictions. Users with the one or more of the following logins can use the form: non-super-user login type who has permission to administer features, **init**, **inads**, **craft**, or **super-user**.

Only those frequencies that are administered as **y** on the System-Parameters Wireless form are administrable on the Carrier-Frequencies form. All frequency fields that are administered as **n** on the System-Parameters Wireless form contain **n** and are read-only fields on the Carrier-Frequencies form.

To access and make changes on the form, enter the **change carrier-frequencies** command. To view the carrier frequencies administered on the form, enter the **display carrier-frequencies** command.

An example of the form appears as follows:

```
display carrier-frequencies                               Page  1 of  1

                        WIRELESS CARRIER FREQUENCIES


 Customer Carrier Frequencies (MHz)

 1: 1920.625  n
 2: 1921.875  n
 3: 1923.125  n
 4: 1924.375  n
 5. 1925.625  y
 6. 1926.875  n
 7. 1928.125  n
 8. 1929.375  n
```

Figure 5-3.   Carrier-Frequencies Form

The eight *Customer Carrier Frequencies* fields support the administration of a subset of carrier frequencies chosen from the allowable carrier frequencies that are enabled on the System-Parameters Wireless form. All of the frequencies administered as **y** on the System-Parameters Wireless form are defaulted to **y** and are administrable on the Carrier-Frequencies form. All of the frequencies administered as **n** on the System-Parameters Wireless form are defaulted to **n** and are read-only values on the Carrier-Frequencies form.

Remote Administration

The DWBS has the same remote administration capabilities as the DEFINITY ECS. The same command interface that is available to a directly connected administration terminal is available remotely.

Administering the 9601 Pocket Phone

The Station form is used to provide native support for the 9601 pocket phone. The administration of this terminal is the same as that for wired sets. Each 9601 pocket phone has its own Station form and is assigned a unique primary extension number (as defined by the dialplan). The wireless version of the form appears only whenever **9601** is entered into the *Type* field of the form. Within this string, "9" denotes a portable device, "6" the DWBS air interface, "01" the feature set on the phone, and "A" the series within the feature set.

To add a pocket phone, enter the **add station *<extension>*** or **next** command, where *<extension>* is a primary extension number as defined by the dialplan. To change the parameters of a pocket phone, enter the **change station *<extension>*** command.

An example of the form appears as follows:

```
add station 30001                                    Page   1 of  3
                            STATION

Extension: 30001                    Lock Messages? n_
     Type: 9601                      Security Code: _____       TN: 1
     Port: WT                      Coverage Path 1: ____       COR: 1
     Name: _____           Coverage Path 2: ____       COS: 1
                                   Hunt-to Station:

STATION OPTIONS

         Display Module? y                       Message Lamp Ext: 30001
       Display Language: english
                   IPEI: 001151622
            Access Code: 00000
                  Home? y
```

Figure 5-4.   Station Form (Page 1)

```
add station 30001                                       Page   2 of  3
                               STATION


FEATURE OPTIONS
            LWC Reception: msa-spe     Auto Select Any Idle Appearance? n
           LWC Activation? y                     Coverage Msg Retrieval? y
              CDR Privacy? n
     Redirect Notification? y                           Data Restriction? n
  Per Button Ring Control? n          Idle Appearance Preference? n
     Bridged Call Alerting? n
   Active Station Ringing: single          Restrict Last Appearance? n


          H.320 Conversion? n




                                      Display Client Redirection? n
                                      Select Last Used Appearance? n
```

Figure 5-5.   Station Form (Page 2)

```
 add station 30001                                          Page   3 of  3
                                  STATION
 SITE DATA
       Room: _____
      Info1: ____
      Info2: ____
      Floor: _____
   Building: _____                            Set Color: _____



 ABBREVIATED DIALING
       List1: _____        List2: _____        List3: _____

 BUTTON ASSIGNMENTS
  1: brdg-appr  Btn:    Ext:
  2: brdg-appr  Btn:    Ext:



```

Figure 5-6. Station Form (Page 3)

The following list identifies and discusses fields in the form that are new or
changed for wireless administration.

- *Type*

  Enter **9601** for the pocket phone type.

  ➡ **NOTE:**
  Value **9601** requires that the *Wireless* option is enabled on the
  System-Parameters Customer-Options form.

- *Port*

  There are no physical connections between the 9601 station type and the
  Switch Processing Element (SPE). Therefore, this read-only field will
  contain **WT** whenever the set type is changed to 9601.

- *Display Module*

  Enter **y** (default) to enable this option or **n** to disable it.

- *Display Language*

  Enter one of the following values: **english** (default), **french**, **italian**,
  spanish, and **user-defined**.

■ *IPEI*

This field allows the user to administer each pocket phone's factory-assigned International Portable Equipment Identity (IPEI) number. The IPEI is a unique 9-digit hexadecimal number used to identify a pocket phone for administration and through-the-air communication. This number can be obtained from the pocket phone via several button pushes. (Refer to the Installation document.) The IPEI number that is entered on the form must match the IPEI number that was assigned to the terminal at the factory.

The value for this field must be unique among all other switch-administered IPEIs. The value must contain nine characters. The first four characters should be currently administered as "0011" to denote a pocket phone built by Lucent Technologies. The next five characters are variable and may be any combination of the numbers **0** through **9** and/or the letters **a** through **f** and/or **A** through **F**.

This field may be blank when the form is submitted.

■ *Access Code*

This field contains a short security code assigned to the specific 9601 Pocket Phone. The same code must be entered locally at the 9601 Pocket Phone and on its associated Station form. This field must be administered whenever the *IPEI* field contains valid data.

▭▷ **NOTE:**
The 9601 pocket phone can store only a single access code. Therefore, there must be coordination between system administrators for administered roamers to ensure that a pocket phone has the same switch-administered access code on all systems for which the pocket phone is administered.

The access code must contain 5 decimal digits, and it can include any digits in the range 0 through 9 in any order. The default for the field is blank.

■ *Home*

Indicates the location of the 9601 phone. Enter **y** if the terminal is on its Home system; enter **n** if the phone is a roamer.

■ *Bridged Call Alerting*

Enter **y** (default) to enable bridging or **n** to disable it. Activating this features also activates the PCOL/TEG alerting feature.

■ *Restrict Last Appearance*

Enter **y** to enable this option or **n** (default) to disable it.

▭▷ **NOTE:**
It is recommended that **n** (default) not be changed.

■ *Display Client Redir*

Enter **y** (default) to enable this option or **n** to disable it.

⟹ **NOTE:**
This field requires that the *Display Module* field be set to **y**.

The following two fields are included within the "Site Data" area on page 3 of the form:

■ *Info1*

Enter a maximum of five alphanumeric characters for identification purposes. Default value is blank.

■ *Info2*

Enter a maximum of five alphanumeric characters for identification purposes. Default value is blank.

Finally, for the *Button Assignments* area, the pocket phone supports only the following administrable types for buttons 1 and 2: **call-appr** (default), **brdg-appr**, and **abrdg-appr**. The following configurations are possible:

■ Both buttons administered as **call-appr**

■ Both buttons administered as **brdg-appr** with the same principal extension

■ One button administered as **call-appr**, the other as **abrdg-appr**

The associated fields may contain a maximum of 10 characters.

⟹ **NOTE:**
In a bridging arrangement, only one wireless terminal is allowed.

Whenever the pocket phone is administered with two brdg-appr buttons, the *Auto Select Any Idle Appearance* field must be set to **y**.

Unsupported Features and Components

The 9601 pocket phone does not support, or has nothing to do with, the following features or components:

■ Data modules

■ Personalized Ringing

■ Auto-Answer

■ Speakers

■ Mounting

■ Cord length

■ Buttons 3 through 9

Adding Radio Controller Circuit Packs

RC circuit packs are added to the system usually by physically inserting the circuit packs into the appropriate carrier slots. As an alternative, RC circuit packs can be added via logical administration, as discussed in the following section.

Logical Administration

The Circuit Packs form is used to complete a logical administration of the TN789 RC circuit pack. Logical administration means that the circuit pack is not physically inserted into the cabinet but rather added to it via administration. The RC circuit pack may be logically administered into any universal port slot on the SPE.

An example of the form appears as follows:

```
change ciruit-packs                                       Page  3 of  5


                            CIRCUIT PACKS

     Cabinet: 1                              Carrier: C
                                             Carrier Type: port

 Slot Code  Sfx  Name                  Slot Code  Sfx  Name
  00:                                   11:
  01: TN742       ANALOG LINE           12:
  02: TN754       DIGITAL LINE          13: TN789        RADIO CONTROLLER
  03: TN762  B    HYBRID LINE           14: TN762  B    HYBRID LINE
  04: TN556  B    BRI LINE              15:
  05: TN760  B    TIE TRUNK             16:
  06:                                   17:
  07:                                   18:
  08:                                   19:
  09:                                   20:
  10:


   '#' indicates circuit pack conflict.
```

Figure 5-7.   Circuit Packs Form

To administer the RC circuit pack logically, first access the Circuit Packs form by entering the **change circuit packs** command. Then enter **TN789** into the *Code* field. The string **Radio Controller** will appear in the Board Type field associated with the slot.

Administering Radio Controller Circuit Packs

RC circuit packs are administered for the following purposes:

- Define where RC circuit packs are located

- Identify the wireless fixed bases (WFBs) associated with the RC circuit pack

- Identify the cell antenna units (CAUs) associated with each WFB

- Indicate the location of all WFBs and CAUs associated with the RC circuit pack

Administration is done via the Radio Controller Circuit Pack form. To add or make changes to the form, enter the **add radio-controller** *<PPCSS>* or **change radio-controller** *<PPCSS>* command, where *<PPCSS>* identifies the physical location of an RC circuit pack according to a port network, carrier, and slot designation (for example, 01B04).

Two versions of the form appear as follows:

```
change radio-controller 1b12                              Page  1 of  1

                    RADIO CONTROLLER CIRCUIT PACK     RC Location: 01B12
 WFB A PARAMETERS
 Internal Antenna? n
      WFB Location: mtmm3 1b-505_____
          CAU   Conn? CAU Location
           1      y    mtmm3 1b-505_____
           2      n    _____
           3      n    _____
           4      n    _____


 WFB B PARAMETERS
 Internal Antenna? n
      WFB Location: _____
          CAU   Conn? CAU Location
           1      n    _____
           2      n    _____
           3      n    _____
           4      n    _____


```

Figure 5-8.   Radio Controller Circuit Pack Screen

```
change radio-controller 1b12                               Page  1 of  1

                    RADIO CONTROLLER CIRCUIT PACK     RC Location: 01B12


 WFB A PARAMETERS
 Internal Antenna? y
     WFB Location: mtmm3 1b-505




 WFB B PARAMETERS
 Internal Antenna? n
     WFB Location:
         CAU  Conn? CAU Location
          1      n
          2      n
          3      n
          4      n


```

Figure 5-**9.   Radio Controller Circuit Pack Screen (With WFB Internal Antenna)**

The following list identifies and discusses the fields in the form:

- *RC Location*

  Read-only field that displays the <PPCSS> address where the RC circuit pack is inserted or logically administered.

The form contains two WFB Parameter areas: "WFB A Parameters" and "WFB B Parameters." The following items identify and discuss the fields in these areas:

- *Location*

  There are a total of 10 *Location* fields on the form.

  Under the WFB A Parameters area, the *WFB Location* field is used to administer the location of WFB A. Each CAU field (1-4) under the WFB A Parameters area has its own *Location* field to administer its physical location. If at least one of the *CAU* or *Internal Antenna* fields associated with WFB A is set to **y**, the WFB A's *Location* field is required to submit the form. If the *Conn* field associated with a CAU (1-4) under the WFB A Parameters area is set to **y**, the *Location* field associated with that CAU is required to submit the form.

Under the WFB B Parameters area, the *WFB Location* field is used to administer the location of WFB B. Each *CAU* field (1-4) under the WFB B Parameters area has its own *Location* field to administer its physical location. If at least one of the *CAU* or *Internal Antenna* fields associated with WFB B is set to **y**, the WFB B's *Location* field is required to submit the form. If the *Conn* field associated with a CAU (1-4) under the WFB B Parameters area is set to **y**, the *Location* field associated with that CAU is required to submit the form.

To specify a location, enter an alphanumeric string of no more than 40 characters. The default is blank.

> **NOTE:**
> Internal antennas and CAUs are mutually exclusive. As such, each WFB can have either one internal antenna or one or more CAUs.

■ *Internal Antenna*

Enter **n**. Otherwise, the WFB will not work.

■ *Conn*

Specifies, for each CAU, whether that CAU is connected to a particular WFB. One such field is needed for each CAU. Each form contains a total of eight such fields, four for each WFB. Values include **y** and **n**.

> **NOTE:**
> If the field is set to **y**, the *Location* field for the relevant CAU and WFB must be populated. Also, the relevant CAU must be busied out before changing the *Conn* field value from **y** to **n**

Enabling RC Circuit Packs to Upgrade Components

The Feature-Related System Parameters form is used to administer certain RC circuit packs to receive firmware files and to act as download servers to upgrade the pocket phones, RCs, and WFBs in the system. Only RC circuit packs added to the system via the **add radio-controller** command are accepted as valid field entries. Also, entries are accepted only if the *Wireless* option has been enabled on the System-Parameters Customer-Options form.

To access and make changes to the form, enter the **change system-parameters features** command. An example of page 2 of the form appears as follows:

```
change system-parameters features                          Page  2 of  8

                    FEATURE-RELATED SYSTEM PARAMETERS
LEAVE WORD CALLING PARAMETERS
  Maximum Number of Messages Per Station (when MSA not in service): 10
  Stations with Systemwide Retrieval Permission (enter extension)
    1:          3:          5:          7:          9:
    2:          4:          6:          8:          10:

     WARNING!  SEE USER DOCUMENTATION BEFORE CHANGING TTI STATE
               Terminal Translation Initialization (TTI) Enable? n


                  Prohibit Bridging Onto Calls With Data Privacy?
                      Enhanced Abbreviated Dial Length (3 or 4): 3
                                        Call Forward Override? n
      External Coverage Treatment for Transferred Incoming Calls? n
                  Coverage of Calls Redirected Off-Net Enabled? n
WIRELESS PARAMETERS
  Radio Controllers with Download Server Permission (enter board location)
    1:          2:          3:          4:          5:
```

Figure 5-10.   Feature-Related System Parameters Form (Page 2)

Within the "Wireless Parameters" area of the form, the *Radio Controllers with Download Server Permission* field contains five subfields to support the administration of up to five Radio Controller download servers. For each field, enter the board location according to the following components in the prescribed order:

- Cabinet (1 [G3si, G3vs]; 1 through 3 [G3i]; 1 through 44 [G3r])
- Carrier (A through E)
- Slot (0 through 20)

For example, 2D15.

The default for the field is blank.

Maintenance

6

Introduction

The DEFINITY Wireless Business System uses the DEFINITY ECS maintenance model for determining status and for testing. The maintenance-related functions described in this chapter include testing various components in the system via a command interface. The activities discussed in this chapter are done from the DEFINITY ECS administration terminal.

➡ NOTE:

For information on WBS Maintenance Objects (MOs), refer to the DWBS Maintenance document.

Determining Pocket Phone Health

The system can test the pocket phone to determine the pocket phone's health. The test passes if the pocket phone can communicate and does not have internal errors. An indication is provided if internal errors are present and the pocket phone can communicate (that is, a connection is established). If the pocket phone does not respond (because, for example, it is not linked), this condition is reported.

Determining Pocket Phone Status

The Status Station report provides the following information regarding the DWBS:

- ■ New service states (as needed)
- ■ Cell association (that is, CAU in use)

To access the report, enter the **status station <ext>** command.

The following report is an output for the **status station *52600*** command.

```
status station 52600
                         GENERAL STATUS

                 Type: 9601A              Service State: disconnected
            Extension: 52600            Download Status: not applicable
                 Port: WT                  SAC Activated? no
          Call Parked? no              User Cntrl Restr: none
     Ring Cut Off Act? no             Group Cntrl Restr: none
 Active Coverage Option: 1           CF Destination Ext:
       Mobility State: out-of-system    Access Rights: no
                                       Key Allocation: not applicable

          Message Waiting:
          Connected Ports:



              ACD STATUS                     HOSPITALITY STATUS
 Grp/Mod Grp/Mod Grp/Mod Grp/Mod Grp/Mod    AWU Call At:
    /       /       /       /       /          User DND: not activated
    /       /       /       /       /         Group DND: not activated
    /       /       /       /       /       Room Status: non-guest room
    /       /       /       /       /
       On ACD Call? no
```

Figure 6-1.   General Status Report

Displaying RC, WFB, and CAU Status

The system displays in the Radio Controller Status report the RC, WFB, and CAU status, including the connected ports and pocket phones active on a bearer channel per WFB provided. To access the Radio Controller Status report, enter the **status rc <PPCSS>** command.

The report appears as follows:

```
status radio-controller 1b12                          Page  1 of  2

                        RADIO CONTROLLER STATUS

    RC Location: 01B12         Busied-out?: n         Connected WFBs: 1

                             ACTIVE WTs

           WFB A                                    WFB B

    WT Ext  CAU    WT Ext CAU            WT Ext  CAU    WT Ext CAU

    _____  _____  _____  _____           _____  _____  _____  _____
    _____  _____  _____  _____           _____  _____  _____  _____
    _____  _____  _____  _____           _____  _____  _____  _____
    _____  _____  _____  _____           _____  _____  _____  _____
    _____  _____  _____  _____           _____  _____  _____  _____
```

Figure 6-2.   Radio Controller Status Report (Page 1)

```
status radio-controller 1b12                              Page  2 of  2

                          RADIO CONTROLLER STATUS

   RC Location: 01B12          Service State: in-service        Busied-out?: n
No. Active WTs: 0          Connected WFBs: 1


WFB A STATUS: Port: 01B12A    Int. Antenna?: n   Service State: in-service
          Conn?: y            Busied-out?: n  No. Active WTs: 0


           Conn?    Service State      Busied-out?    No. Active WTs
    CAU 1:    y     in-service              n               0
    CAU 2:    n     _____           _               _
    CAU 3:    n     _____           _               _
    CAU 4:    n     _____           _               _

WFB B STATUS: Port: 01B12B    Int. Antenna?: _   Service State: _____
          Conn?: n            Busied-out?: _  No. Active WTs: _


           Conn?    Service State      Busied-out?    No. Active WTs
    CAU 1:    n     _____           _               _
    CAU 2:    n     _____           _               _
    CAU 3:    n     _____           _               _
    CAU 4:    n     _____           _               _
```

Figure 6-3.   Radio Controller Status Report (Page 2)

Displaying Circuit Pack Information

The **list configuration all** and **list configuration board** *<PPCSS>* commands produce the System Configuration report. If **all** is specified, all the circuit packs installed (RC and non-RC) are displayed. If **board** is specified, only the circuit pack at location *<PPCSS>* is displayed.

The following report is an output for the **list configuration board** *01b12* command.

```
list configuration board 1b12


                        SYSTEM CONFIGURATION

Board                                             Assigned Ports
Number    Board Type        Code      Vintage   u=unassigned t=tti p=psa
01B12     RADIO CONTROLLER    TN789    000001
```

Figure 6-**4.   System Configuration Report (For One Circuit Pack)**

For an RC circuit pack, the *Assigned Ports* field in the report identifies the I2 ports that have been administered. The information in this field within the previous figure indicates that the specified RC circuit pack has both I2 ports administered.

Displaying Vintages, Software Versions, and Configurations

The Radio Controller Circuit Pack Configurations report displays the following:

- Hardware vintage of the WFB

- Software version of each RC circuit pack in the system

- Hardware and firmware configuration for the RC circuit pack at location <PPCSS> and the hardware configuration for any connected WFBs

Enter either the **list all** or **list configuration radio-controller** *port network/carrier/slot/circuit* command to access the report. The report appears as follows:

```
list configuration radio controller all


             RADIO CONTROLLER CIRCUIT PACK CONFIGURATIONS

            Cluster  Board    Board    WFB A    WFB A    WFB B    WFB B
Loc    Code    ID    Vintage  Version  Vintage  Version  Vintage  Version

01A03          5     no board
01B10          3     no board
01B12  TN789   1     000001   5.4.1    000001   000001   no WFB   no WFB
01B15          2     no board
01B17          4     no board
```

Figure 6-5. Radio Controller Circuit Pack Configurations Report

Displaying Pocket Phone Hardware Vintage and Firmware Version

The WT Configuration-Wireless Terminal Stations report displays the hardware vintage and firmware version of the pocket phones. To access the report, enter the **list configuration wt-stations** command**.**

The report appears as follows:

```
list configuration wt-stations


             WT CONFIGURATION - Wireless Terminal Stations

Extension      WT         WT Firmware     WT Hardware          Last
              IPEI          Version          Vintage       Access Rights

30001      001130001       02.8.0        00.00.05.1      08/22/1996 08:59
30002      001130002       00.0.0        01.00.05.1      02/15/1996 19:18
30004      001130004       02.8.0        01.00.05.1      08/22/1996 11:39
```

Figure 6-**6.   WT Configuration**-**Wireless Terminal Stations Report**

Storing Pocket Phone Information

The hardware vintage and firmware version of the pocket phone are stored in the Switch Processing Element (SPE) software. This information is updated each time a pocket phone successfully completes access rights.

Establishing and Releasing the Maintenance Busy State

The DWBS uses several **busyout** and **release** commands. The **busyout** commands are used to place a maintenance object (MO) into a maintenance busy state. The maintenance busy state causes active calls on the MO to disconnect, and it prevents DEFINITY ECS call processing from using the busied-out resource. A warning alarm is logged to indicate the busied-out status. The **release** commands are used to return the MO to its normal service state after a **busyout** command is issued.

Disconnecting Calls on a Pocket Phone

The **busyout station** (port network/carrier/slot) command enables DEFINITY ECS call processing to disconnect all calls on the pocket phone. The pocket phone is not available for new origination or for new termination of calls. Whenever the command is issued, the system does not direct incoming calls to the specified pocket phone. If the pocket phone attempts to originate a call, the system does not allow the call, and it gives the pocket phone the reason for the maintenance busy state. If the pocket phone attempts to originate the access rights procedure or location registration procedure, it succeeds. Successful completion of these two procedures while the pocket phone is in the maintenance busy state allows the Mobility Manager (MM) to find the pocket phone when the **release station** (port network/carrier/slot) command is issued.

The **release station** (port network/carrier/slot) command returns the pocket phone to its previous state.

Disconnecting Calls on an RC Circuit Pack

The **busyout board** (port network/carrier/slot) command causes DEFINITY ECS call processing to disconnect all calls on the RC circuit pack. The RC circuit pack is not available for new origination or new termination of calls. All radio transmissions from WFBs or CAUs connected to that RC stop. The **release board** (port network/carrier/slot) command returns the RC to its power-up state.

Disconnecting Calls on a WFB

The **busyout WFB** (port network/carrier/slot) command causes DEFINITY ECS call processing to disconnect all calls on the WFB. The WFB is not available for new origination or new termination of calls. All radio transmissions from the WFBs stop. The **release WFB** (port network/carrier/slot) command returns the WFB to its power-up state.

Dropping the Radio Beacon Signal

A WFB does not transmit a radio beacon signal on any CAUs (including the internal antenna) associated with the WFB after the WFB is busied out. Similarly, a CAU does not transmit radio signals after the CAU is busied out. The appropriate **release** (port network/carrier/slot) command for each object returns the object to its initial power-up state.

Stopping Radio Transmission and Reception on a CAU

The **busyout CAU** (port network/carrier/slot/circuit/CAU) command stops radio transmission and reception on the CAU. The command does not drop active calls; however, it is not available for new origination. The **release CAU** (port network/carrier/slot) command returns the CAU to its previous state.

Traffic Measurements

7

Introduction

Periodic reports regarding traffic measurements for the DWBS are provided on a per-cell basis. These reports allow customers to verify that they are making the most efficient use of their telecommunications facilities. The reports provide DWBS usage data.

To enable wireless measurements, the *Wireless* field in the System-Parameters Customer-Options form must be enabled. (See the "Administration" chapter.)

Accessing Measurements Reports

DWBS Measurements reports can be accessed locally at customer sites by system administrators and technicians via the DEFINITY ECS Management Terminal (DMT). The reports can also be accessed by service technicians remotely through the INADS interface; this allows customers at multiple sites to centralize the maintenance and traffic data evaluation process.

The general command syntax for accessing measurements reports is
list measurements cell-traffic [<cell-addr><cell-address>/summary] [yesterday-peak/today-peak/last-hour] [print/schedule].

Cell Traffic Report

The Cell Traffic report provides several wireless system traffice measurements. Three versions of the report are available.

To access information on the cell traffic for the previous hour, enter the **list measurements cell-traffic summary last-hour** command. An example of this version of the report appears as follows:

⇒ NOTE:
Within the following reports, information for all the CAUs associated with a WFB are reported first, followed by the information for the associated WFB. For example, in the report immediately following this note, the first four lines of information starting with "01B10B1" contain information for the four CAUs associated with the WFB for which information is provided in the fifth line starting with "01B10B."

```
list measurements cell-traffic summary last-hour

Switch Name:                                    Date: 11:03 am   THU NOV 20, 1997
                    WIRELESS REPORT : CELL TRAFFIC
                                         ' '=No Measurements *=Invalid Hour
          Total wireless call connectivity for the hour : 2
          Total wireless call connectivity for the day : 50


Cell     Meas %Time  Usage  TotBch  PeakBch %Time %Time   Hand
Address  Hour In-Sys (CCS)  Seized  In-Use  ACB   OutServ Overs
-------  ---- -----  -----  ------  ------- ----- ------- -----
SYSTEM   1000 NA     72     4       NA      NA    NA      0
01B10B1  1000 *      *      *       NA      NA    NA      *
01B10B2  1000 *      *      *       NA      NA    NA      *
01B10B3  1000 *      *      *       NA      NA    NA      *
01B10B4  1000 *      *      *       NA      NA    NA      *
01B10B   1000 *      *      *       NA      NA    NA      *
01B12A1  1000 NA     72     4       NA      NA    NA      0
01B12A   1000 100    72     4       2       0     0       NA
```

Figure 7-**1.   Cell Traffic Report (Summary for Last Hour)**

To access information on today's peak hour cell traffic, enter the **list measurements cell-traffic summary today-peak** command. An example of this version of the report appears as follows:

```
list measurements cell-traffic summary today-peak

Switch Name:                             Date: 11:03 am  THU NOV 20, 1997
                  WIRELESS REPORT : CELL TRAFFIC
                                     ' '=No Measurements *=Invalid Hour
          Total wireless call connectivity for the hour : NA
          Total wireless call connectivity for the day : 50
Cell    Meas %Time  Usage TotBch PeakBch %Time %Time   Hand
Address Hour In-Sys (CCS) Seized In-Use  ACB   OutServ Overs
------- ---- ------ ----- ------ ------- ----- ------- -----
01B10B1 *    *      *     *       NA      NA    NA       *
01B10B2 *    *      *     *       NA      NA    NA       *
01B10B3 *    *      *     *       NA      NA    NA       *
01B10B4 *    *      *     *       NA      NA    NA       *
01B10B  *    *      *     *       NA      NA    NA       *
01B12A1 800  NA     84    8       NA      NA    NA       0
01B12A  800  100    84    8       3       0     0        NA
```

Figure 7-2. Cell Traffic Report (Peak Hour Summary for Today)

To access information on yesterday's peak hour cell traffic, enter the **list measurements cell-traffic summary yesterday-peak** command. An example of this version of the report appears as follows:

```
list measurements cell-traffic summary yesterday-peak

Switch Name:                              Date: 11:03 am  THU NOV 20, 1997
                    WIRELESS REPORT : CELL TRAFFIC
                                       ' '=No Measurements *=Invalid Hour
            Total wireless call connectivity for the hour : NA
            Total wireless call connectivity for the day : 50
Cell      Meas %Time  Usage TotBch PeakBch %Time %Time   Hand
Address   Hour In-Sys (CCS) Seized In-Use  ACB   OutServ Overs
-------   ---- -----  ----- ------ ------- ----- ------- -----
01B12A1 900  NA     72    4      NA      NA    NA      0
01B102A 900  100    72    4      2       0     0       NA
```

Figure 7-**3.   Cell Traffic Report (Peak Hour Summary for Yesterday)**

The following list identifies and describes the fields in the forms.

- *Date*

  Indicates the date and time when the customer entered the command on the DMT to access the report. This value is based on the system time maintained by the system.

  ⇒ **NOTE:**
    The system time can be set by using the **set time** command. However, it is recommended that you not use this command. Changing the system time may affect the traffic measurements.

- *Total Wireless Call Connectivity for the hour*

  This field provides a count of the actual number of calls originated by pocket phones and also offered to pocket phones within the DWBS as a whole. The field value represents call attempts that may or may not have been completed. Call originations and call terminations (that is, calls ringing at a pocket phone) are considered two separate activities. A pocket phone can handle multiple call originations and terminations during the same session once a traffic bearer channel is established. The pocket phone does this by using multiple call appearances.

  The following list provides examples of how some call scenarios are counted in this measurement.

  - Whenever a pocket phone originates a call that rings at another pocket phone (which may or may not be on the same cell), this counts as two wireless call activities.

  - Whenever a pocket phone calls a wired station, this counts as one activity.

  - Whenever a call rings at a pocket phone, this counts as a call activity at that pocket phone, irrespective of whether the call is answered by that pocket phone.

  - Whenever a call to a pocket phone is redirected due to activation of the Call Forwarding feature, this does not count as a call activity at the pocket phone because the call does not actually terminate at the pocket phone.

  - Whenever a call is redirected to another pocket phone due to any coverage criteria (including Send All Calls), and the call rings at that covering pocket phone, this counts toward this metric.

  - Whenever several pocket phones are involved in a conference call scenario, all the pocket phones within this conference count toward this metric.

The report contains the system-wide count of the total wireless call connectivity for the hour and the total wireless call connectivity for the day at the top of the report. The last-hour report shows the cumulative total of the wireless call activity, while the "peak" reports merely display "NA" within the field.

■ *Total Wireless Call Connectivity for the day*

This field provides a count of the actual number of calls originated by pocket phones and also offered to pocket phones within the DWBS as a whole. The field value represents call attempts that may or may not have been completed. Call originations and call terminations (that is, calls ringing at a pocket phone) are considered two separate activities. A pocket phone can handle multiple call originations and terminations during the same session once a traffic bearer channel is established. The pocket phone does this by using multiple call appearances. (See the previous bullet list for examples of how some call scenarios are counted in this measurement.)

A cumulative of the total call connectivity for the last hour from midnight until the last hour for the current day is collected and reported on a system-wide basis. The last-hour report shows the cumulative total of the wireless call activity.

■ *Cell Address*

Identifies the port ID associated with the WFB and the CAU number (if applicable) in terms of the Port Network Number/Carrier/Slot of the RC/WFB/CAU. The address information does not provide the physical location or the DECT format of address of these devices; rather, it provides the DEFINITY system's knowledge of their addresses as they are administered on the switch.

On the report, the same field is used to denote the cell address or the WFB address. The cell-based reporting lines contain the cell address in the form "PPCSSwc." The WFB-based report line contains the WFB address in the form "PPCSSw."

The WFB is considered to be administered if any of the CAUs at the associated WFB are administered. This includes the internal antenna; the antenna is displayed as "CAU 0" in the measurements reports.

The following field applies to both cell-based and WFB-based information on the Wireless Traffic Measurements report.

■ *Meas Hour*

Indicates the starting time of the hour during which the data was recorded. A 24-hour clock is used. The peak hour for a cell/WFB is the starting time of the measurement hour during the day with the greatest total usage in time. The total usage for a WFB is determined by adding up the total usage for *all associated cells.* Therefore, the peak hour for a WFB may be different from those for cells.

This field contains either measurement hour or peak hour information, depending on the type of report requested.

For the last-hour report, the most recently completed measurement hour is shown. (In this case, each cell/WFB measurement hour is identical.) For example, if the **list measurements** command is entered between 10 o'clock and 11 o'clock, the measurement provided is for 9 o'clock to 10 o'clock, and the field contains "9:00."

For the today-peak report, the measurement hour field contains the peak hour for each cell/WFB to this point on the day of the report (therefore, each cell/WFB's measurement/peak hour could be different).

For the yesterday-peak report, the measurement hour field contains the peak hour for each cell/WFB to this point on the previous day (therefore, each cell/WFB's measurement/peak hour could be different).

The following field applies only to WFBs.

- *% Time in-Sys (Percent of Time In-System)*

   Indicates the percentage of time during the polling interval that a WFB was administered. This data is useful because the WFB may have been added at any time during the measurement hour. For example, a WFB that was administered for 15 minutes may not have been used as much as another WFB that was in the system during the complete hour. In this case, the first WFB was in the system 25% of the time, and the other WFB was in the system 100% of the time.

   This value provides a base measurement on which many of the other traffic measurements are based. The amount of time during which the WFB has been administered affects the calculation of the following measurements:

   — **Usage in CCS, Total Bearer Channels Seized, Peak Bearer Channels in Use, Percentage of Time ACB, Handovers**. These are computed or counted by the system over the interval during which the WFB has been administered and in service. There cannot be any call-related activities at the WFB unless this is administered and in service.

   — **Percent of Time Out of Service (OOS)**. This is based on the amount of time the WFB was made busy by maintenance versus the amount of time the WFB has been administered. For example, assume that WFB A was administered at 10:15 and that WFB B was already administered at 10:00. Also assume that WFB A was out of service from 10:30 to 10:40 and that WFB B was in service during the complete measurement hour (10:00 to 11:00). At 11:00, the last hour measurements are calculated as follows: WFB A has been out of service for ten minutes out of 45 minutes, and WFB B has been out of service zero minutes out of 60 minutes. The percent of time out of service is 22% for WFB A and 0% for WFB B.

Example 1: WFB A was administered at 9:45 AM, and it has been kept out of service since that time. At 10:15, a technician brings WFB A in service. WFB A is in service for 20 minutes and then goes out of service
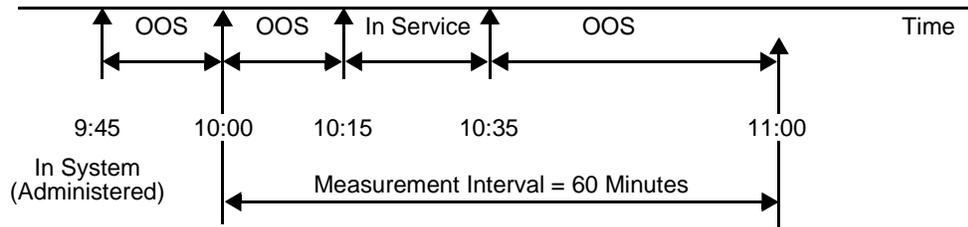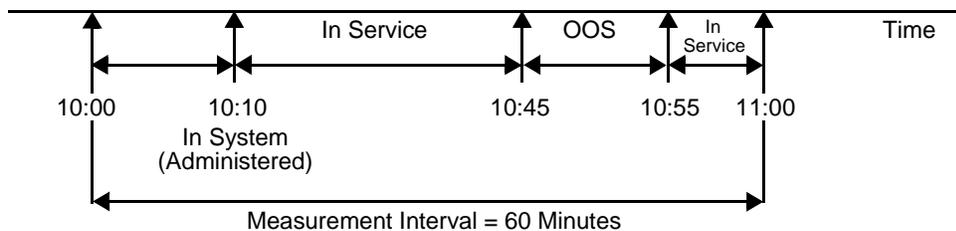

Figure 7-4.   Example 1: Percent of Time In-Service Measurements

At 11:00 AM the MM computes the WFB A time in service and time out of service for the last hour as follows:

% Time in System = 100%, since WFB A was already administered at 10:00

% Time Out of Service = 66%, since WFB A was out of service 40 minutes out of 60 minutes

Example 2: WFB B was administered at 10:10 AM, and it came in service immediately after this time. At 10:45 AM, WFB B was made maintenance busy for an interval of ten minutes. At 11:00 AM, the WFB B was active again.

Figure 7-5.   Example 2: Percent of Time In-Service Measurements

At 11:00 AM, the MM computes the WFB B time in service and time out of service for the last hour as follows:

% Time In System = 83%, since WFB B was administered during 50 minutes of the last measurement interval

% Time Out of Service = 2%, since WFB B was out of service during 10 minutes out of 50 minutes during the last measurement interval

- *Usage (CCS)*

  Indicates the total time in CCS (hundred call seconds) that bearer channels are allocated for the pocket phones at a cell.

  This field is provided for cell-based as well as WFB-based reporting. In order to provide easy access to system-wide usage data, the last-hour report contains the value for this field for the entire system at the top of the report.

- *TotBch Seized (Total Bearer Channels Seized)*

  Indicates the number of times the bearer channels were seized by the associated cell for call- or mobility-related activities. This count does not exclusively include successfully completed calls during the polling interval.

  This field is not necessarily the same as the *Total Wireless Call Connectivity* field described previously. This is true because a pocket phone can handle multiple call originations and terminations during the same session once a traffic bearer channel is established by using multiple call appearances. There may be several calls that correspond to one bearer channel seizure. In addition, there may be channel seizures that do not result in any call since bearer channels may be used for location registrations and other mobility tasks.

  This field appears in cell-based reports and WFB-based reports. WFB-based reports contain the sum of bearer channels seized by each of the cells on the WFB. To provide easy access to system-wide usage data, the last-hour reports contain the field value for the entire system at the top of the report.

  ⇒ **NOTE:**
  The count for total wireless call activity is purely call-related. This field includes the count of bearer channels used for inter- and intra-RC handovers as well.

- *PeakBch In-Use (Peak Number of Bearer Channels in-Use)*

  Indicates the peak number of traffic bearer channels that are simultaneously in use at a WFB during the polling interval. This includes channels carrying voice and data commmunications. It does not include channels that are unavailable for allocation because they are being made busy by maintenance.

  This measurement is reported as WFB-based information only. The range of values is 0 through 12. The field is reported as "NA" on the CAU-based reporting lines on the Traffic Measurements screen.

- *% Time ACB (Percent of Time All Channels Busy)*

  Indicates the percentage of time that all traffic bearer channels are simultaneously in use at a WFB during the measurement interval. "In use" means that the traffic bearer channels are busy on call-related or mobility activities and are therefore unavailable to be allocated to pocket phones that make an allocation request. This measurements indicates the percent

of time that no new traffic bearer channel allocation requests can be honored at the associated WFB because the channels were busy with wireless activities.

This measurement does not provide blocking data. However, a high percentage here and a low OOS percentage may indicate a blocking situation caused by a lack of resources.

This measurement is valid for WFB-based reporting only. This is true because all CAUs on a WFB share the same traffic bearer channels. Also, this measurement is reported as WFB-based information only. The field shows "NA" on the CAU-based reporting lines of the Traffic Measurements screen.

— *% Time OutServ (Percent Time Out of Service [OOS])*

Indicates the percentage of time during the polling interval that a WFB was made busy by maintenance and was therefore not available for call-related activities. This measurement provides some indication of the health of the I2 link. A WFB or an RC may be taken out of service by the switch whenever an excessive number of errors occur, by maintenance personnel to run diagnostic tests, or whenever the circuit pack is physically removed. Whenever a WFB or an RC is taken out of service, all the I2 traffic bearer channels at the WFB or RC become unavailable for normal wireless traffic. However, individual traffic bearer channels cannot be taken in or out of service. The objective is to minimize the OOS time and to bring the resources back "in service" as soon as possible.

This measurement is valid on a WFB basis. Therefore, it is collected on a per-WFB basis. The system keeps track of the start and stop of the maintenance busy state for the WFB or RC. This time length is used to determine the actual percentage of time that a WFB is out of service.

This measurement is reported as WFB-based information only. The field shows "NA" on the CAU-based reporting lines of the Traffic Measurements screen.

— *Handovers*

Indicates the number of handovers handled by the cell during the measuring period. This includes handovers between CAUs on the same WFB (intra-WFB and intra-RC) and on different WFBs on the same RC (inter-WFB but intra-RC). It also includes handovers between CAUs that are on different RCs (inter-RC handovers).

This measurement is reported as CAU-based information. In addition, the last-hour reports contains the handovers for the entire system at the top of the report. The field shows "NA" on the CAU-based reporting lines of the Traffic Measurements screen.

Glossary

A

access rights
Air interface procedure that assigns to the pocket phone a Temporary Portable User Identifier (TPUI) and its extension number. The pocket phone initiates this procedure each time it enters a system. A successful completion of the procedure includes an implicit Location Registration.

Auto-Reconnect
Feature that enables a calling party to reconnect to a called party if the latter walks out of the coverage area and then back into the coverage area within 60 seconds.

B

Bridging
Feature that allows both the pocket phone and the wired phone to ring at the same time.

C

CAU. See **Cell Antenna Unit.**

cell
Radio coverage area of a CAU or WFB with an internal antenna cluster. Also, cells supported by all the WFBs connected to one RC.

Cell Antenna Unit (CAU)
Optional remote antenna that connects to a Wireless Fixed Base. It contains a transmit power amplifier, transmit/receive switch, low-noise receive amplifier, and antenna.

D

Deep Sleep Mode
Mode assumed by the pocket phone whenever the phone repreatedly tries to access the system and fails to do so due to out-of-range conditions. This mode allows the pocket phone to conserve battery power.

DEFINITY Management Terminal
Data determinal used for the administration and maintenance of the DEFINITY system.

E

Emerging Technologies Band
20 MHz of unlicensed spectrum for Personal Communication Service (PCS) in North America. The band is isochronous (1920-1930 MHz) with eight channels of 1.25 MHz bandwidth per channel primarily for voice, and asynchronous (1910-1930 MHz) primarily for data.

Estimator
Tool within the WiSE Expert Design System that is used to gather information about the customer site. This tool is used to provide an initial price quote and to configure the DWBS.

F

FCC. See **Federal Communication Commission**

FDMA. See **Frequency Division Multiple Access**

Federal Communication Commission (FCC)
Government agency within the US that is reponsibile for assigning and regulating the radio spectrum so that it can be shared by many users without unacceptable interference.

fixed part
Part of the DWBS radio infrastructure that is not portable. This includes the Radio Controllers, Wireless Fixed Bases, and Cell Antenna Units.

Frequency Division Multiple Access (FDMA)
Radio access method for which each call uses a different carrier frequency. FDMA allows one conversation per radio.

H

hard keys
Dedicated buttons on the pocket phone that are labeled for particular functions (for example, making calls).

hardware vintage
Numbering scheme for identifying the components and physical design of a DWBS part, such as a circuit pack.

I

I2
Interface between a Radio Controller and a Wireless Fixed Base.

I3
Interface between a Wireless Fixed Base and a Cell Antenna Unit.

Initialization and Administration System
Services support system for PBX administration and maintenance.

International Portable Equipment Identity
Unique number used to identify a pocket phone for administration and through-the-air communication. This number is sent by the pocket phone to the fixed part during the access rights procedure.

International Portable User Identity
Number sent by the fixed part to a pocket phone during the access rights procedure. Also, this number is sent by the pocket phone to the fixed part during the location registration procedure.

IPEI. See **International Portable Equipment Identity**

IPUI. See **International Portable User Identity**

L

local features
Features that are supported by the pocket phone (for example, the directory).

local tones
Tones produced locally in the pocket phone. Includes the following tones: ringer, warning, error, error beep, confirmation, key click.

Location Registration
Through-the-air procedure used by the pocket phone to inform the fixed part that it has moved to a new cluster. If the pocket phone is active on a call, Location Registration is implied whenever there is an inter-RC or connection handover.

M

Mobility Manager (MM)
Software added to the DEFINITY system to control and track pocket phones as they change location within the DWBS coverage area. The Mobility Manager directs all control and voice information to the appropriate Radio Controller for each pocket phone. It is also responsible for the maintenance and administration of the DWBS and pocket phones.

P

pre-origination dialing
Dialing that occurs before dial tone is granted.

portable part
Part of the DWBS radio infrastructure that is portable (most notably, the pocket phones).

post-origination dialing
Dialing that occurs after dial tone is granted.

Predictor
Tool within the WiSE Expert Design System that uses site information as input to determine the optimal placement of the antennas within the DWBS.

R

Radio Controller (RC)
Circuit pack that provides the interface between the DEFINITY system and the radio subsystem. It controls one or more Wireless Fixed Bases.

Radio Propagation Measurement Tool (RPMT)
Tool within the WiSE Expert Design System that is used to provide basic radio measurements. The RPMT looks like a pocket phone and, once it is administered, it can also initiate and receive phone calls. The RPMT can supplement the Predictor, serve as a troubleshooting device, and be used at site surveys.

RC. See Radio Controller

RPMT. See Radio Propagation Measurement Tool

S

soft keys
Buttons whose labels appear on an associated display and whose labels and functions can change dynamically as the user performs functions and makes selections.

T

TDMA. See **Time Division Multiple Access**

Terminal Portable User Identifier (TPUI)
Number returned by the fixed part to the pocket phone during the Location Registration procedure.

Time Division Multiple Access (TDMA)
Radio access method for which each call uses a different time slot. TDMA permits multiple conversations per radio.

TPUI. See **Terminal Portable User Identifier**

U

UTAM
Group charged by the Federal Communications Commission to coordinate the relocation of microwave incumbents out of the unlicensed spectrum (1910 to 1930 MHz) and to coordinate the deployment of unlicensed devices and systems in that spectrum.

W

Wireless Fixed Base (WFB)
Component that houses the fixed radio hardware. It provides the radio functions to transmit digitally to the pocket phones and to receive digital signals from the pocket phones. A WFB can support a maximum of four external Cell Antenna Units.

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