

Lucent Technologies
Bell Labs Innovations



DEFINITY[®] Wireless Business System
Installation and Test

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Comcode 108214446
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- Answered by the attendant
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About This Book

Introduction

DEFINITY® Wireless Business System Installation and Test provides both hardware and software background information and procedures for the installation and testing of the DEFINITY Wireless Business System (DWBS).

 **NOTE:**

Before using this book, all planning and site preparation steps must be completed. The technician's function is to install the hardware and load the software to bring up the system. For additional planning and site information, see the documents listed under the *Related Information* heading in this chapter.

Audience

The primary audience for this book is the installation technician.

Important Safety Guidelines for Users

Observe these guidelines for safe and efficient operation of your DWBS 9601 Pocket Phone (wireless telephone).

Your wireless telephone is a radio transmitter and receiver. When the battery is installed, the phone is on and it receives and sends out radio frequency (RF) energy. The phone operates in the frequency range of 1920-1930 MHz. Your handheld wireless telephone uses the digital Time Division Multiple Access (TDMA) mode. 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 safety levels of the Institute of Electrical and Electronic Engineers (IEEE) and the American National Standards Institute (ANSI) 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 handheld wireless phone 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 DWBS 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.

Typographic Conventions

The following typographic conventions are used in this book to convey information consistently and quickly.

- *This typeface* is used for references to titles of other information and for emphasis within other typefaces.
- **This typeface** emphasizes key words to help clarify meaning in a sentence or to call attention to a distinction.
- The following note icon identifies additional information pertinent to the text preceding it.

 NOTE:

Organization

This book is organized as follows:

- **Chapter 1, “UTAM Disablement,”** discusses the general requirements and caveats for installing and moving the DWBS.
- **Chapter 2, “Switch Administration,”** deals with the administration of the DEFINITY Enterprise Communications Server and the Mobility Manager for system operation.
- **Chapter 3, “Hardware Installation,”** provides the technician with background and procedural information to install the hardware.
- **Chapter 4, “DWBS Testing,”** provides the installer with background and procedural information to ensure that the system is operational.
- **Chapter 5, “Commands,”** provides a list of DEFINITY Enterprise Communications Server Release 5 and Mobility Manager commands associated with the installation of the system.
- **Appendix A, “DWBS Installation Checklist,”** provides a checklist for performing a DWBS installation. Page references to the appropriate background information are provided.

A glossary and an index are also included.

Related Information

This book serves as a user's guide for the installation and test of the DWBS. Additional books in the series are as follows:

- *DEFINITY Wireless Business System Site Planning*, 555-232-601
- *DEFINITY Wireless Business System Maintenance*, 555-232-103
- *DEFINITY Wireless Business System Pocket Phone Quick Reference*, 555-232-104
- *DEFINITY Wireless Business System 9601 Pocket Phone User Guide*, 555-232-105
- *DEFINITY Wireless Business System Estimator*, 555-232-106

Introduction



NOTE:

The rules of the Federal Communications Commission (FCC) apply only to the US.

Do not activate the DWBS until you receive the installation package and UTAM clearance for the site from the Sales and Design Support Center (SDSC).

The rules of the FCC and UTAM, Inc. (designated by the FCC as a frequency coordinator for the unlicensed band) mandate that any wireless system, including the DWBS, that operates in the 1910-1930 MHz band automatically disables itself if the system is moved from the initial premises where it is installed. (This means that Wireless Fixed Bases (WFBs) and Cell Antenna Units (CAUs) may be moved within a customer building, *but they may not be moved to another customer location.*) In keeping with this requirement, the DWBS automatically disables the radio transmission if the DEFINITY Enterprise Communications Server® (ECS) experiences a total loss of power. The radio transmission may be enabled only after the Lucent Technologies remote maintenance center is able to contact the DEFINITY ECS to confirm the system's location. This confirmation occurs within approximately 30 minutes after power is restored.

A power-up reset of the DEFINITY ECS generates a major power alarm, and the *DWBS will not operate until the location of the DEFINITY ECS can be verified by an authorized Lucent Technologies representative.* (However, a wired set would operate without this verification.) The radio transmission is activated only upon confirmation of the DEFINITY ECS location. Activation will occur automatically once the Lucent Technologies remote monitoring center receives the alarm and can reconnect with the DEFINITY ECS. The process normally occurs within 30

minutes of power-up. If the remote center cannot contact the switch, a technician must be dispatched to restore the wireless service.

Introduction

This chapter provides the steps necessary to administer the DEFINITY® Enterprise Communications Server (ECS) Release 5 Generic 3 for system operation.

DEFINITY ECS administration is done via Generic 3 switch commands and the Mobility Manager administration software. The Mobility Manager software comprises fields and commands specific to the system operation.

Procedure: Software Installation

The following procedure explains how to install the DWBS software. Additional commands are available to change or delete information. See Chapter 5 for a list of DEFINITY ECS and Mobility Manager commands associated with DWBS installation.

1. (This step can be completed only with the permission of the regional Customer Service Associate [CSA] either remotely or on-site.) From the DEFINITY ECS management terminal (MT), log on as **init** and execute the **change system-parameters customer-options** command. Verify that the *G3 Version* field on page 1 of the Optional Features form contains **V5** or greater. The system will not operate on an earlier version. Page 1 of the form appears as follows:

```
change system-parameters customer-options Page 1 of 4

OPTIONAL FEATURES

G3 Version: V5 Maximum Ports: 2000

Abbreviated Dialing Enhanced List? n DCS (Basic)? y
A/D Grp/Sys List Dialing Start at 01? n DCS Call Coverage? y
Answer Supervision by Call Classifier? n DCS with Rerouting? n
ARS? y DS1 MSP? n
ARS/AAR Partitioning? y Emergency Access to Attendant? y
ASAI Interface? n Extended Cvg/Fwd Admin? y
ASAI Proprietary Adjunct Links? n External Device Alarm Admin? n
ATMS? n Flexible Billing? n
Audible Message Waiting? n Forced Entry of Account Codes? n
Authorization Codes: n Global Call Classification? n
CAS Branch? n Hospitality (Basic)? y
CAS Main? n Hospitality (G3V3 Enhancements)? n
Cvg of Calls Redirected Off-net? y Hospitality Parameter Reduction? n

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

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

2. Go to Page 2 of the form, which appears as follows:

```
change system-parameters customer-options Page 2 of 4
                                OPTIONAL FEATURES
                                ISDN-BRI Trunks? n Restrict Call Forward Off Net? y
                                ISDN-PRI? y Secondary Data Module? y
                                ISDN-PRI over PACCON? n Station and Trunk MSP? n
                                Malicious Call Trace? n Tenant Partitioning? n
                                Mode Code Interface? n Terminal Trans. Init. (TTI)? n
                                Multifrequency Signaling? y Time of Day Routing? n
                                Multimedia Appl. Server Interface (MASI)? n Uniform Dialing Plan? y
                                Multimedia Call Handling (MMCH)? n Usage Allocation Enhancements? y
                                                                Wideband Switching? n
                                                                Wireless? y

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

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

3. Change the *Wireless* field value from **n** to **y**.
4. Submit the form.
5. Log off and then log on again to the DEFINITY ECS local or remote MT as **init**.
6. Execute the **change system-parameters wireless** command to generate the Wireless System-Parameters form. Two versions of the form are shown in the following figures:

```
change system-parameters wireless Page 1 of 1

WIRELESS-RELATED SYSTEM PARAMETERS
System Identification: 0100015-2176

Maximum Radio Controllers: 9 Master Port Network: 5
Maximum Wireless Terminals: 22 Radio Transmission: y

Allowable Carrier Frequencies (MHz)
1: 1920.625 y 5. 1925.625 y
2: 1921.875 y 6. 1926.875 y
3: 1923.125 y 7. 1928.125 y
4: 1924.375 y 8. 1929.375 y

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: y 10: n 15: n 20: n 25: n 30: n 35: n 40: n
```

Figure 2-3. Wireless System-Parameters Form (G3r)

```
change system-parameters wireless Page 1 of 1

WIRELESS-RELATED SYSTEM PARAMETERS
System Identification: 0100015-2176

Maximum Radio Controllers: 30 Master Port Network: 1_
Maximum Wireless Terminals: 260 Radio Transmission: y

Allowable Carrier Frequencies (MHz)
1: 1920.625 y 5: 1925.625 y
2: 1921.875 y 6: 1926.875 y
3: 1923.125 y 7: 1928.125 y
4: 1924.375 y 8: 1929.375 y

Port Networks With Radio Controllers
1: y
2: n
3: n
```

Figure 2-4. Wireless System-Parameters Form (G3si/vs/Prologix)

7. Allow the administrable part of the *System Identification* field to remain at the default value of **2176**.



NOTE:

This field provides the system with an identifier that is broadcast regularly in its beacon or traffic-bearing channels. The system ID includes two parts: system-generated digits and administrable digits. The system-generated part is displayed as a read-only prefix to the administrable part.

If this field is changed, you must busy out, reset, and release the RC before the change will be read into the RC.

8. In the *Maximum Radio Controllers* field, enter the maximum number of Radio Controllers (RCs) that may be administered in the system. This number is based on the UTAM clearance for the site from the SDSC, and it should match the number of RCs designated in the SDSC package. **UTAM clearance from the SDSC and the SDSC package are required for DWBS activation.** Valid values for the field are from **0** to **30** inclusive.

 **NOTE:**

The field determines the number of RCs that are added to the system via the **add radio-controller** command. The field does not limit the number of RC circuit packs that may be physically inserted into and recognized by the system.

9. Enter the maximum number of wireless terminals (pocket phones) that are in the system. This number is based on the order of rights-to-use (RTUs) per station. Valid values are from **0** to **260** inclusive.

 **NOTE:**

The number of administered pocket phones is included in the system-wide count of station and trunk ports administered in the *Maximum Ports* field within the Customer-Options form. The value in the *Maximum Wireless Terminals* field must always be less than or equal to the value in the *Maximum Ports* field.

10. Set the *Master Port Network* field to a number identifying a port network that contains an RC circuit pack. Values for a G3si system include **1**, **2**, and **3**. Values for a G3r system include **01** through **44**. The default value is a blank field.

 **NOTE:**

This field is displayed only for DEFINITY ECS G3i and DEFINITY ECS G3r configurations.

11. In the *Allowable Carrier Frequencies* list, enable all frequencies by updating the specific field value to **y** unless otherwise directed by the SDSC.

 **NOTE:**

The 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.) The allowable carrier frequencies administered in this field define the frequencies that can be administered in the Carrier-Frequencies form.

If this field is changed, you must busy out, reset, and release the RC before the change will be read into the RC.

12. Enable all port networks that will contain RC circuit packs by updating the specific field value to **y**.

 **NOTE:**

During a power-up system reset, the *Radio Transmission* field is set to **n** and wireless capabilities are disabled until Lucent Technologies can verify that the system has not been moved. Refer to Chapter 1 of this document for details.

13. Submit the completed form.
14. Execute the **change carrier-frequencies** command to administer the carrier frequencies.



NOTE:

All frequencies that are administered as **y** on the System-Parameters Wireless form are also defaulted to **y** on the Carrier-Frequencies form. This form must be changed only if the customer is not going to use a frequency that has been approved for use by the FCC.

If this field is changed, you must busy out, reset, and release the RC before the change will be read into the RC.

change carrier-frequencies		Page 1 of 1
WIRELESS CARRIER FREQUENCIES		
Customer Carrier Frequencies (MHz)		
1:	1920.625	y
2:	1921.875	y
3:	1923.125	y
4:	1924.375	y
5:	1925.625	y
6:	1926.875	y
7:	1928.125	y
8:	1929.375	y

Figure 2-5. Wireless Carrier-Frequencies Form



NOTE:

This form enables the user to limit the 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.

15. Submit the form.
16. If the hardware is present, install the RCs. (See Chapter 3, "Hardware Installation," for specific information before returning to this step.) If the hardware is not present, execute the **change circuit-packs** command for the port network in which the RC circuit pack will reside.

```
change circuit-packs Page 3 of 5

                CIRCUIT PACKS

Cabinet: 1                      Carrier: C
                                Carrier Type: port

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

`#` indicates circuit pack conflict.
```

Figure 2-6. Change Circuit-Packs

17. Enter **TN789** into the appropriate fields and submit the form.



NOTE:

Designating the TN789 RC circuit pack in lieu of actually installing it is known as "logically" administering the circuit pack. This enables the installation to continue without the hardware because the system verifies that these fields are populated. When the circuit pack arrives, it can simply be inserted into its previously designated slot.

18. Execute the **list configuration all** command to generate the System Configuration form, as follows:

```

list configuration all                                     Page 1

                                SYSTEM CONFIGURATION

Board
Number Board Type          Code      Vintage      Assigned Ports
u=unassigned t=tti

01A01  RADIO CONTROLLER      no board
01A04  CO TRUNK                TN747       000008       01 02 u  u  u  u  u  u
01A05  SPEECH SYNTH.          TN725       000005       01 02 03 04
01A06  ANNOUNCEMENT           TN750       000004       01 02 03 04 05 06 07 08
                                                09 10 11 12 13 14 15 16

01A07  MAINTENANCE/TEST      TN771C      000003       u 02 03 04
01A08  AUXILIARY TRUNK       TN763B      000004       u u u u
01A09  TONE DETECTOR         TN748C      000005       01 02 03 05 06 07
01B04  DATA LINE            TN726       000011       u u u u u u u u
01B05  DID TRUNK             TN753       000008       u u u u u u u u
01B06  DS1 INTERFACE         TN767       000011       01 02 03 04 05 06 07 08
                                                09 10 11 12 u u u u
                                                u u u u u u u 24
    
```

Figure 2-7. System Configuration Form

19. Verify that value **Radio Controller** in the *Board Type* field is associated with the proper slots. If this is not the case, repeat Step 16.
20. For each RC circuit pack logically or physically inserted, execute the **add radio-controller PPCSS** command to generate the following screen.

⇒ NOTE:
PPCSS indicates the port network, carrier, and slot address where the circuit pack is located; for example, **1A01** comprises port network 1, carrier A, slot 01. See the “Radio Controller Circuit Pack Fields” table in this chapter for additional information.

add 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 2-8. Radio Controller Circuit Pack Form

Table 2-1. Radio Controller Circuit Pack Form Fields

Field Name	Explanation
<i>RC Location</i>	This field displays the cabinet, carrier, and slot of the TN789 circuit pack. No input is required.
<i>WFB A Parameters</i>	
<i>Location</i>	Enter the physical location of WFB A. This field must be administered if the internal antenna or at least one CAU on the WFB is administered as y .
<i>Internal Antenna</i>	Enter n , unless you have an internal antenna via a special order from Lucent Technologies.
<i>CAU Conn</i>	Enter y to designate that a particular CAU is connected to the WFB. The default is n . NOTE: Once the CAU is administered and attached, be sure to busy out and release the WFB.
<i>Location</i>	Enter the physical location of the connected CAU. This field must be administered if the associated <i>CAU Conn</i> field is set to y .
<i>WFB B Parameters</i>	NOTE: Repeat the previous process for WFB B, if applicable.

21. Add all of the wireless stations to the system by executing the **add station** *<object>* command to generate the following screens.

```
add station 30001                                     Page 1 of 3
                                     STATION
Extension: 30001                                     Lock Messages? n_
Type: 9601A                                         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 2-9. Station Form (Page 1 of 3)

Table 2-2. Station Form Fields (Page 1)

Field Name	Explanation
<i>Extension</i>	Part of the input command used to access this form; display-only field.
<i>Lock Messages?</i>	Enter y to restrict other users from reading or canceling the DWBS handset messages or retrieving messages via Voice Message Retrieval; otherwise, enter n (default).
<i>Type</i>	Enter the string 9601 or 9601+ to designate the wireless (pocket phone) station type. NOTE: Value 9601+ requires Version 6 of the software.
<i>Security Code</i>	Enter the 4-digit security code required by users to retrieve messages via the Demand Print or Voice Messages Retrieval feature.
<i>TN</i>	Enter the tenant number for those customers using the Tenant Partitioning feature. The default is 1 .
<i>Port</i>	This is a display-only field when the set type is designated as 9601 . No customer input is required.
<i>Coverage Path 1</i>	Enter a coverage path number (1 through 999 for G3si, 1 through 9999 for G3r) from a previously administered Call Coverage Path form.
<i>COR</i>	Enter the desired class of restriction (COR) number from 0 through 95 that reflects the desired restriction. Default is 1 .
<i>Name</i>	Enter the name of the person associated with this pocket phone. A maximum of 30 characters can be used. Names are case- and space-insensitive.
<i>Coverage Path 2</i>	Enter a coverage path number (1 through 999 for G3si, 1 through 9999 for G3r) from a previously administered Call Coverage Path form.
<i>COS</i>	Enter the desired class of service (COS) number from 0 through 15 to designate allowed features. Default is 1 .
<i>Display Module</i>	Enter y to designate that the 9601 Pocket Phone has a display module. The default is y because the phone has a built-in display.
<i>Message Lamp Ext.</i>	The default is the current station's extension. Enter the assigned extension number to receive Message Waiting Lamp updates for the particular extension. NOTE: If Bridging is used, this field should be set to a bridging extension.

Table 2-2. Station Form Fields (Page 1) (continued)

Field Name	Explanation
<i>Display Language</i>	Enter the language that should be displayed. The options are English, French, Italian, Spanish , and user defined . The default is English .
<i>IPEI</i>	Enter the 9-digit string obtained from the 9601 Pocket Phone. The International Portable Equipment Identity (IPEI) is a unique number used to identify a 9601 Pocket Phone for administration and through-the-air communication. Each phone has a unique IPEI assigned at the factory. This IPEI can be obtained via a soft key button sequence or from the label on the back of the phone. See the "Procedure: Pocket Phone Key Sequence to Obtain the IPEI" section in Chapter 3 of this document. The IPEI that is entered on the Station form must match the IPEI that was assigned to the pocket phone at the factory.
<i>Access Code</i>	Enter the 5-digit decimal security code assigned to the 9601 Pocket Phone. The access code is assigned by the administrator and must be entered on the Station form. The code must also be entered into the pocket phone via a soft key button sequence. This is a customer-defined number that does not have to be unique among all phones. The administrator could conceivably use a single access code for all phones.
<i>Home</i>	Enter y if this is the primary location for pocket phone use. Enter n if this is the secondary location for pocket phone use. The default is y .

```
add station next                                     Page 2 of 3
                                                    STATION
FEATURE OPTIONS
  H.320 Conversion: n
    LWC Reception: msa-spe      Auto Select Any Idle Appearance? n
    LWC Activation? y          Coverage Msg Retrieval? y
  Redirect Notification? y      Data Restriction? n
  Per Button Ring Control? n    Idle Appearance Preference? n
  Active Station Ringing: single Restrict Last Appearance? n
                                Display Client Redirection? n
                                Select Last Used Appearance? n
```

Figure 2-10. Station Form (Page 2 of 3)

Table 2-3. Station Form Fields (Page 2)

Field Name	Explanation
<i>Leave Word Calling (LWC) Reception</i>	Enter msa-spe (default) if LWC messages are stored in the system or on the Messaging Server Adjunct or Switch Processor; or, enter audix if the messages are stored on the Audio Information Exchange System; otherwise, enter none .
<i>Auto Select Any Idle Appearance?</i>	Enter n (default) to prevent users from having this feature enabled. This field must be y whenever the pocket phone has two brdg-appr buttons.
<i>LWC Activation?</i>	Enter y (default) to allow users to leave short LWC messages for this pocket phone. If the system has the Hospitality features, enter y for pocket phones in the guest rooms if the DWBS pocket phone designated to receive failed wake-up messages is programmed to receive LWC messages indicating incomplete wake-up calls. Enter y if AUDIX was entered for LWC Reception.
<i>Coverage Msg Retrieval?</i>	Applies whenever the DWBS pocket phone is marked for LWC Reception. Enter y (default) to allow a user in the DWBS pocket phone's coverage path to retrieve LWC messages for this pocket phone.
<i>CDR Privacy?</i>	Administrable option that allows digits in the called number field of an outgoing call to be blocked on a per-station basis. The number of blocked digits is administered system-wide in the <i>Privacy-Digits to Hide</i> field in the Feature-Related System-Parameters form. Enter y to enable the call privacy feature for each station. Default is n .
<i>Redirect Notification?</i>	Enter y (default) to give a half ring at this pocket phone whenever calls to the pocket phone are redirected (via Call Forwarding or Call Coverage). Enter y if AUDIX was entered for LWC Reception.
<i>Data Restriction?</i>	Enter y to prevent tones, such as Call Waiting tones, from interrupting this user's calls. Default is n . Data restriction provides permanent protection and cannot be changed by the DWBS user. NOTE: It is recommended that the default value not be changed.
<i>Idle Appearance Preference?</i>	Enter n (default) to indicate which call appearance is selected when the user lifts the pocket phone and there is an incoming call.
<i>Per Button Ring Control?</i>	Enter n (default) to prevent users from having Per Button Ring Control.

Table 2-3. Station Form Fields (Page 2) (continued)

Field Name	Explanation
<i>Bridged Call Alerting?</i>	Enter y to allow incoming calls on bridged appearances of another pocket phone's primary extension number, TEG calls, or PCOL calls. The default is n . NOTE: The field should be set to y if bridged calls are being used.
<i>Active Station Ringing?</i>	Set as appropriate. Values include single (default), continuous , and active .
<i>Restrict Last Appearance?</i>	Enter y to restrict the last idle call appearance for incoming priority calls and outgoing call originations. The default is n .
<i>Display Client Redirection?</i>	Enter y to display the client redirection. The default is n .
<i>Select Last Used Appearance?</i>	Enter n (default) to prevent the station from automatically selecting the last used appearance.

```

add station next                                     Page 3 of 3
                                     STATION

SITE DATA
  Room:
  Info1:
  Info2:
  Floor:
  Building:                                     Set Color:

ABBREVIATED DIALING
  List1:                                     List2:                                     List3:

BUTTON ASSIGNMENTS
  1: call-appr
  2: call-appr
    
```

Figure 2-11. Station Form (Page 3 of 3)

Table 2-4. Station Form Fields (Page 3)

Field Name	Explanation
<i>Site Data</i>	
- Room	Enter up to 10 characters to identify where the pocket phone's charging base is located or where the pocket phone user's room is located.
- Info1	Enter up to five characters that will be useful for identification purposes.
- Info2	Enter up to five characters that will be useful for identification purposes.
-Floor	Enter up to 10 characters to identify the location of the owner of the particular 9601 Pocket Phone.
-Building	Enter up to 10 characters to identify the location of the owner of the particular 9601 Pocket Phone.
-Set Color	Enter black for the DWBS pocket phone.
<i>Abbreviated Dialing</i>	
- List 1 - List 2 - List 3	Enter p for personal, s for system, g for group, or e for enhanced. A maximum of three Abbreviated Dialing lists can be accessed by the DWBS handset. If p or g is entered, a personal list number or a group number, respectively, is also required.
<i>Button Assignments</i>	
1. call-appr 2. call-appr 3. call-appr (9601+ only)	The listings in the left column are the only administrable types for buttons 1, 2, and 3 that are supported by the pocket phone. The default is call-appr for buttons 1, 2, and 3.
1. brdg-appr 2. brdg-appr 3. brdg-appr (9601+ only)	The principal extension must be the same for all buttons. The <i>Auto Select Any Idle Appearance</i> field must be set to y . NOTE: The <i>Bridged Call Alerting</i> field should be set to y if this option is used.
1. abrdg-appr 2. call-appr 3. call-appr (9601+ only)	Any administered analog extension. NOTE: The <i>Bridged Call Alerting</i> field should be set to y if this option is used.

22. Submit the form.



NOTE:

Information regarding firmware download can be found in the DWBS Maintenance document.

Hardware Installation

3

Introduction

This chapter provides the technician with the background and procedural information needed to install the DWBS hardware.

Safety Information

Before installing the hardware components, the technician should understand the safety instructions in the DEFINITY ECS Release 6 Installation document.



WARNING:

Indicates the presence of a hazard that may cause severe or fatal personal injury if the hazard is not avoided.



CAUTION:

Indicates the presence of a hazard that may cause minor personal injury or property damage if not avoided.

Basic Instructions

Always follow these basic safety precautions when installing or using this product to reduce risk of injury from fire or electric shock.

 **WARNING:**

***Risk of Electric Shock.** Failure to ground this product properly will result in a risk of electrical shock, which can cause serious personal injury. Some components of this product use a 3-prong plug in continental US locations. Such plugs are designed for your safety. Do not attempt to defeat this purpose. If your wall outlet will not accept the plug, the outlet must be replaced by an electrician.*

 **WARNING:**

The rechargeable battery contains nickel and cadmium. Do not burn or puncture the battery. Like other batteries of this type, if it is burned or punctured, it could release toxic material that could cause injury. Do not dispose of it in household garbage. For information about recycling or proper disposal, consult your local solid waste (garbage) collection or disposal organization.

 **WARNING:**

This product is NOT rated for installation in air handling spaces as defined by the National Electric Code. This product is for in-building applications only. In-range-out-of-building (IROB) conditions are not supported. Disconnect the telephone line cord before servicing the unit.

 **CAUTION:**

This equipment is for installation on the Lucent Technologies DEFINITY ECS only. FCC Part 15 rules require that this equipment be installed and serviced only by specially trained Lucent Technologies personnel. Installation of this equipment is subject to notification and coordination with UTAM, Inc. Relocation of this equipment to another building or site must be coordinated through Lucent Technologies. Refer to Chapter 1 of this document for details.

UTAM clearance from the SDSC and the SDSC package are required for DWBS activation.

- Read and understand all instructions in this section before using this product.
- Observe all warnings and instructions marked on the product.
- Unplug this product from wall outlets and telephone jacks before cleaning. Clean exposed parts with a soft, damp cloth. Do not use liquid or aerosol cleaners.

- Do not use the product near water or when you are wet. If the product comes in contact with any liquids, unplug the power cord and telephone line cords immediately. Do not plug the product back in until it has dried thoroughly.
- If you suspect a gas leak, report it immediately, but use a telephone away from the area in question. The telephone's electrical contacts could generate a tiny spark. While unlikely, it is possible that this spark could ignite a heavy concentration of gas. This product is not approved for use in areas identified by the Occupational Safety and Health Administration (OSHA) as explosive environments. Only *Explosive Atmosphere Telephones* may be used in such hazardous environments.
- Install this product securely on a stable surface. Damage may result if the product falls.
- Use only the correct power source. If you are not sure of the power supply to your location, consult your local power company.
- Use only the Model #DV-9500 power supply shipped with this product for the charging cradle.
- The CAU must be installed with the coaxial cable provided (comcode 847565132). DO NOT cut or modify the cable. Loop any excess cable in the ceiling.



NOTE:

Do not kink or crush the coaxial cable.

- Install this product in a protected location where no one can step on or trip over power cords and telephone line cords. Do not place objects on the cords that may cause damage or abrasion.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be damaged by persons walking on it. Do not overload wall outlets; this can result in fire or electric shock. Do not staple or otherwise attach the power cord to building surfaces.
- Slots and openings in the WFB and CAU are provided for ventilation. To protect the housing from overheating, these openings must not be blocked or covered. Also, do not place this product in an enclosed area unless proper ventilation is provided.
- Never push objects of any kind into this product through housing slots since the objects may touch hazardous voltage points or short out parts that could result in a risk of electric shock. Never spill liquid of any kind on the telephone.
- Never place this product near or over a radiator or heat register.
- Use only the type of battery pack shipped with this product.

- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - If the product has been dropped and the housing has been damaged.
- Painting either the CAU or the WFB may interfere with the transmission of the radio signal and will void the warranty.

Additional Safety Instructions for Installation

Additional safety instructions for installation include the following:

- Install the product to meet all environment and electrical requirements listed in this document.
- Do not install telephone wiring during a lightning storm.
- All wiring that connects to this equipment and becomes part of the building wiring must be a minimum of CLASS 2 or U.L. Listed Communications cable.

DWBS Components

The following table lists the DWBS components along with the appropriate apparatus code and comcode for each component.

Table 3-1. DWBS Components and Related Information

Description	Apparatus Code	Comcode
10 meg Flash Card L-15	card flash 10 meg	601-817-430
16 meg simms chip	16 meg DRAM chip	407-701-747
48v power supply	1151A1 (new)	107-785-693
48v power supply	1151A2 (with battery backup)	107-785-339
48v power supply	MSP-1 (MD)	107-915-514
Battery charger with power supply	50A battery charger	107-585-705
Battery pack	4A-003 battery pack	107-583-957
Battery pack (textured)	4b-003 battery pack	107-990-640
CAU outdoor	559b circuit module	108-166-554
CAU with 100-foot coaxial cable	559A1 circuit module	107-585-413
CAU without coaxial cable	559A2 circuit module	107-582-226
Coaxial cable (100-foot)	coaxial cable Rg59	847-565-132
Control unit (WFB) with internal antenna	119A1 control unit	108-038-100
Control unit (WFB) without internal antenna	119A control unit	107-582-405
Download cable (RC to pocket phone)	902A cable	107-583-965
Dust covers for RS-232 on pocket phone	dust covers (5)	847-732-419
Leather carrying case	carrying case	407-883-052
Pocket phone, battery, and charger	9601A1-003	107-252-710
Pocket phone and battery	9601A1-003	107-582-744
Pocket phone (textured)	9601B-003	107-990-160
RC	TN-789	103-557-427

 **WARNING:**

CAUs must be positioned before positioning WFBs. The movement of WFBs is not critical to radio coverage when CAUs are used.

Prior to installation, the technician will receive an Installation Map of the site that shows the location of all WFBs and CAUs. This plan must be followed as closely as possible to ensure proper radio coverage. Any deviations from the map must be reported to the SDSC. Such changes will alter coverage. The wiring and labeling of CAUs must be done in accordance with the design package from the SDSC.

Figure 3-1 provides the basic installation layout and the relationship between the DEFINITY ECS, WFBs, CAUs, and the pocket phones.

 **NOTE:**

Various components in the figure are identified according to the format **PPCSSw c** , where **PP** represents the port network, **C** represents the carrier, **SS** represents the slot, **w** represents the WFB (**A** or **B**), and **c** represents the CAU (**1**, **2**, **3**, or **4**). For example, **01A08A2** represents port network **01**, carrier **A**, slot **08**, WFB **A**, and CAU **2**.

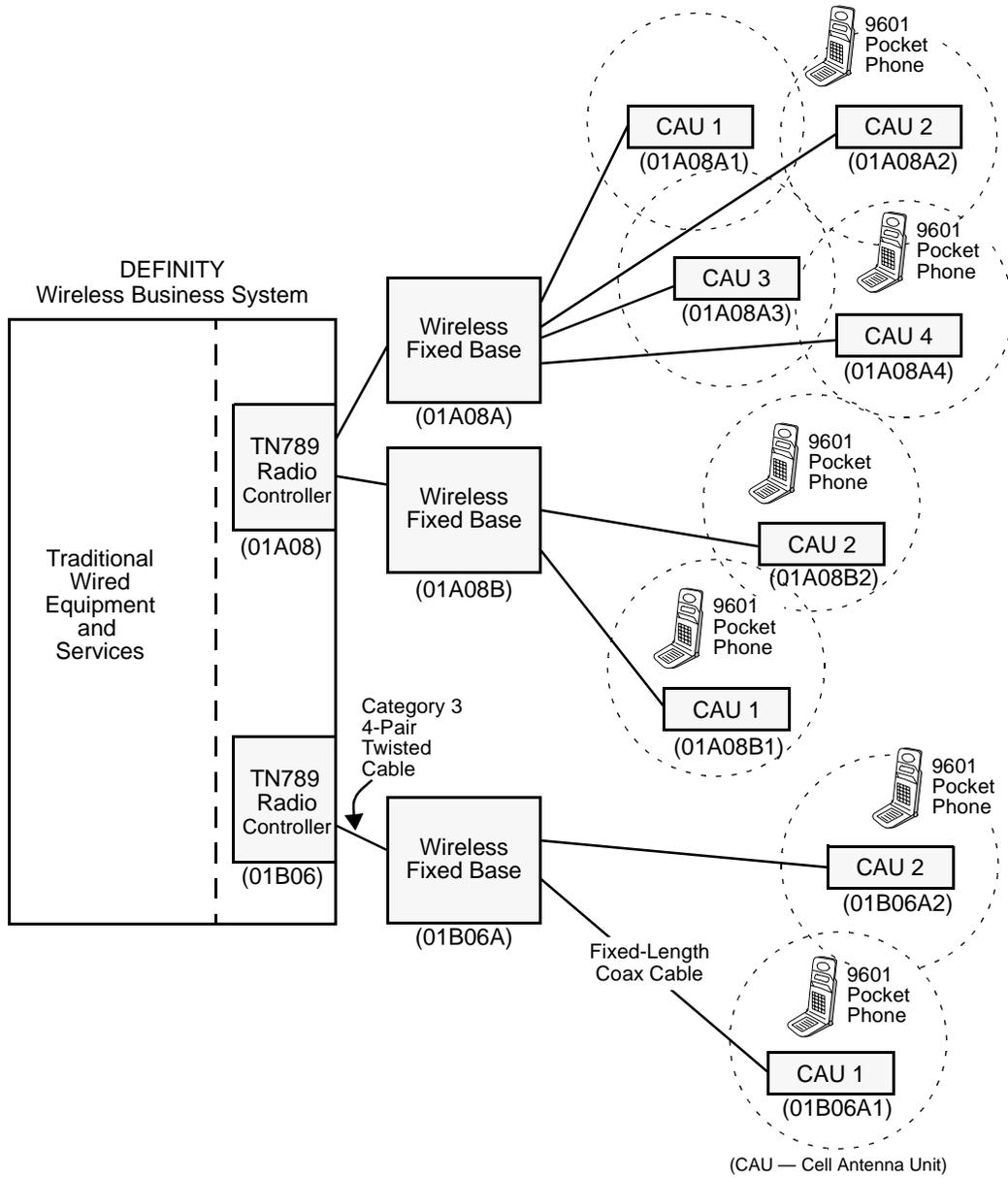


Figure 3-1. DWBS Installation Layout

Radio Controllers (RCs)

RCs are circuit packs that fit into DEFINITY ECS cabinet slots. Each RC connects and controls up to two WFBs. RCs provide the interface between the DEFINITY ECS and the network of WFBs. RCs are connected to the WFBs via a Category 3 or higher inside wiring cable using standard 4-pair wire.

See the following table for the TN789 RC pin configuration.

Table 3-2. TN789 RC Circuit Pack Pin Configuration

Color	PIN	Lead Name	Function
W-BL	26		
BL-W	1		
W-O	27	URTIPA	WFB-A
O-W	2	URRNGA	WFB-A
W-G	28	UTTIPA	WFB-A
G-W	3	UTRNGA	WFB-A
W-BR	29		
BR-W	4		
W-S	30	URTIPB	WFB-B
S-W	5	URRNGB	WFB-B
R-BL	31	UTTIPB	WFB-B
BL-R	6	UTRNGB	WFB-B
R-O	32		
O-R	7		
R-G	33		
G-R	8		
R-BR	34		
BR-R	9		
R-S	35		
S-R	10		
BK-BL	36		
BL-BK	11		
BK-O	37		
O-BK	12		
BK-G	38		
G-BK	13		
BK-BR	39	STXT.0 <i>Future Use</i>	SYNC 0 OUTPUT
BR-BK	14	STXR.0 <i>Future Use</i>	SYNC 0 OUTPUT
BK-S	40	SPXT.0 <i>Future Use</i>	SYNC 0 INPUT
S-BK	15	SPXR.0 <i>Future Use</i>	SYNC 0 INPUT
Y-BL	41		

Table 3-2. TN789 RC Circuit Pack Pin Configuration (continued)

BL-Y	16		
Y-O	42	SPXT.1 <i>Future Use</i>	SYNC 1 INPUT
O-Y	17	SPXR.1 <i>Future Use</i>	SYNC 1 INPUT
Y-G	43	SPXT.1 <i>Future Use</i>	SYNC 1 OUTPUT
G-Y	18	STXR.1 <i>Future Use</i>	SYNC 1 OUTPUT
Y-BR	44		
BR-Y	19		
Y-S	45		
S-Y	20		
V-BL	46		
BL-V	21		
V-O	47	PORT 1 RECEIVE DATA INPUT	902A Download Cable
O-V	22	GROUND	902A Download Cable
V-G	48	NO CONNECT	902A Download Cable
G-V	23	PORT 1 DATA SET READY INPUT	902A Download Cable
V-BR	49	PORT 1 DATA TERMINAL READY	902A Download Cable
BR-V	24	PORT 1 SEND DATA OUTPUT	902A Download Cable
V-S	50		
S-V	25		

Procedure: Installing Radio Controllers

This procedure provides the technician with the necessary steps to install the RC circuit pack(s).

1. Unwrap the circuit board from its packing and insert it into the designated slot.



NOTE:

The RC is a standard port circuit pack that can be located in any available universal port slot of a millions of instructions per second- (MIPS-) or Reduced Instruction Set Computers- (RISC-) based DEFINITY ECS. Currently, a maximum of one RC can be located in a DS1-remote Expansion Port Network (EPN). (If more than one RC is required, contact your account team.) All RCs, however, must be located in the same port network covering contiguous areas to

ensure a seamless handoff of active calls. For background information, please refer to the DEFINITY ECS Installation document.

2. Connect the 25-pair cable to the corresponding plug on the backplane. See the "Power and Interface Cabling" section in this chapter for details regarding cable and power configurations.

Wireless Fixed Base (WFB)

The WFB is a radio base station. The WFB provides the radio functions necessary to transform the following:

- Incoming calls from the DEFINITY ECS into radio signals for transmission through the air to the appropriate pocket phones
- Incoming radio signals from the pocket phones into signals for transmission to the DEFINITY ECS

Each WFB is connected to the following:

- RC via a Category 3 twisted-pair using a Lucent Technologies proprietary interface
- One to four CAUs via a fixed-length coaxial cable with a Lucent Technologies proprietary interface. The fixed-length coaxial cable of a designated length is provided and installed by Lucent Technologies only.

A WFB can support a maximum of four (remote) attached CAUs. As an alternative, a WFB can support an internal antenna via special order. The number of simultaneous calls that can be supported by a WFB with multiple CAUs is 12 minus the number of idle CAUs. In other words, for the WFB to carry 12 calls, each CAU must carry at least one of the calls. However, in high-traffic areas, a WFB is usually connected to just one CAU, which can carry 12 simultaneous calls.

WFBs must be located throughout the interior of a premise in a manner that ensures appropriate radio coverage. Placement of each WFB and CAU, as with all other components, is based on the information provided by the Installation Map. The following figure provides an illustration of the WFB.

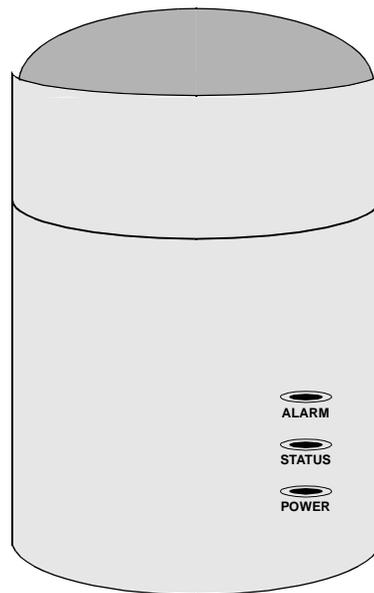


Figure 3-2. Wireless Fixed Base

Procedure: Installing the Wireless Fixed Base

The following procedure provides the steps necessary to install the WFB.

⇒ NOTE:

Be sure to install the CAUs first and then wire back to the appropriate WFBs.

Please read the entire procedure before installing the WFB. In some configurations, it may be advisable to change the order of the steps based on the particular building. Refer to Figure 3-7 for an illustration of representative wiring for the Category 3 4-pair twisted interface.

⚠ WARNING:

WFBs cannot be installed in a return air plenum. Twisted pair and coaxial cables can only be installed in a return air plenum if they are rated as CL2P or better (as described in Article 725 of the National Electrical Code). The coaxial cable provided (comcode 847565132) is rated for installation in air handling spaces.

There are two methods for mounting WFBs. Use the following table to find the specific steps based on the particular configuration.

If.....	Then.....
the WFB is to be mounted using tie wraps	go to Step 1
the WFB is to be installed using the mounting plate	go to Step 4

1. Unpack the WFB.
2. Obtain tie wraps.
3. Loop the wraps around the tabs on the underside of the WFB (see the following illustration). Wrap the tie wraps around the tabs and the object to which it will be affixed, and tighten; then go to Step 8.

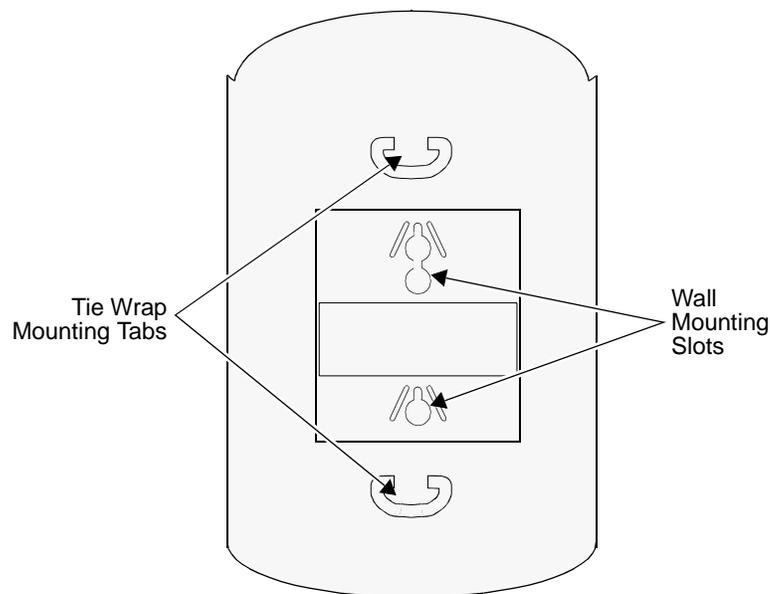


Figure 3-3. Mounting Points of the WFB

4. Unpack the WFB.
5. The WFB can be mounted on a wall or similar structure by using a standard telephone mounting plate. The mounting plate and screws must be obtained separately since they are not part of the WFB installation package.

- Using a screwdriver, attach the mounting plate at the location designated in the Installation Map (shown in the previous figure).



NOTE:

WFBs with an internal antenna or CAUs must not be mounted within one meter of one another to conform to the FCC Part 15 Rules. If a WFB does not have an internal antenna, it can be placed next to a WFB or a CAU.

- Slide the WFB onto the mounting plate.
- Remove the cover of the WFB. The cover is located above the logo on the upper portion of the WFB, and it is held in place by tabs on the sides of the unit. By lifting both corner tabs, you can slide off the cover. See the next figure.

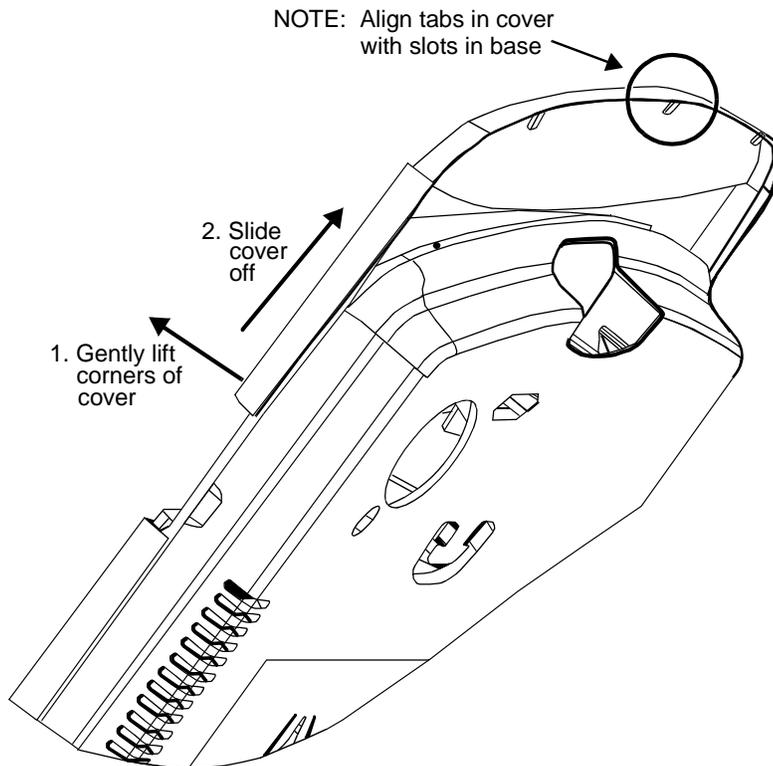


Figure 3-4. Removing the WFB Cover



NOTE:

If the WFB is mounted vertically on a wall or column, ensure that the Lucent Technologies logo is facing upright.

9. Connect the D8W cable to the RJ45 connector in the WFB as shown in the following figure. **Use a digital port tester to ensure proper wiring.**

⚠ WARNING:

Handle the cable with care to minimize the possibility of damage to the cable's interior components or the connecting contacts.

➡ NOTE:

The RJ45 is a modular telephone connector.

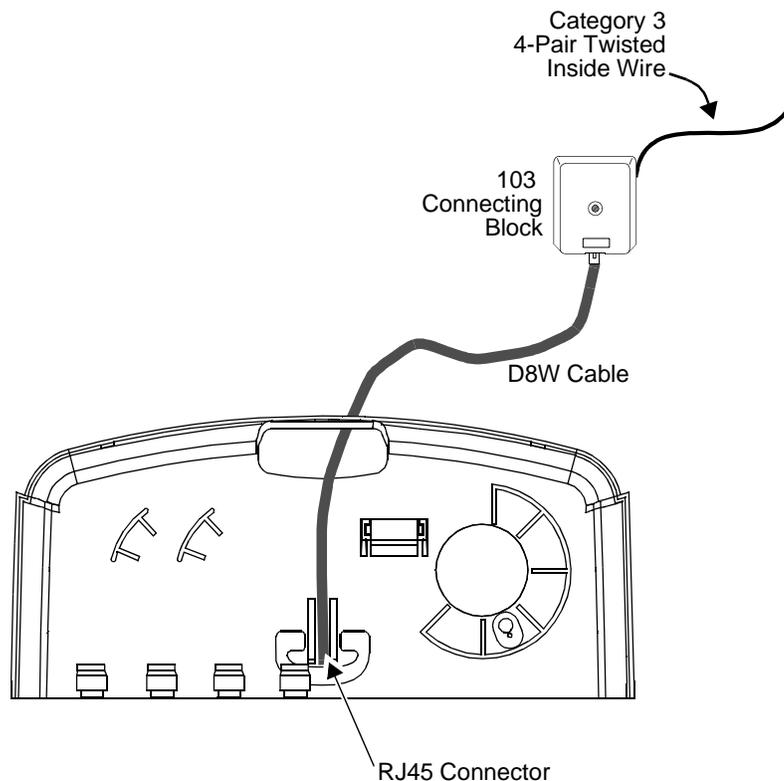


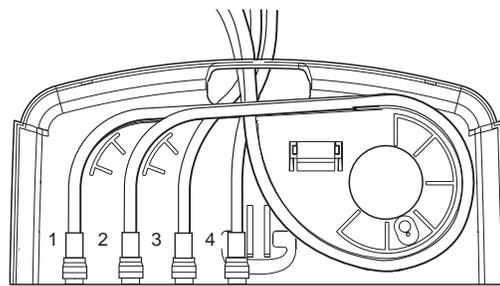
Figure 3-5. Communication and Power WFB Connection

10. If the WFB does not support an external CAU, return the cover to the WFB to complete the installation. If the WFB supports any external CAUs, proceed to the next step.
11. Attach the fixed-length coax cables to the specified connector. Route the cable inside the WFB as shown in the next figure. Slide the cover back on. Make the connector finger-tight only. (Using tools damages the WFB.)

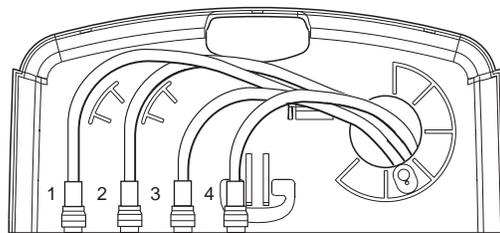
⚠ WARNING:

These cables must be threaded through a small area. It is important to handle the cables with as much care as possible to avoid damage.

Also, do not cut the coaxial cable once it is connected to an active WFB. This could short and subsequently damage WFB ports.



surface routed cables



cables routed through hole in mounting surface

Figure 3-6. Internal Fixed-Length Coaxial Connections From WFB to CAUs

Providing power to various DWBS components is straightforward for the pocket phone and CAU. The pocket phone is battery-powered. The CAU obtains its power through the coaxial cable coming from a WFB.

The RC supplies phantom power to the WFB (over the transmit/receive pairs) if no CAUs are used by the WFB and if the maximum Category 3 4-pair twisted cable length does not exceed 1500 feet for 24 American Wire Gauge (AWG), or 1000 feet for 26 AWG.

The WFB requires an auxiliary power supply if the phantom power requirements are exceeded.

 **NOTE:**

A bulk power supply can also be used.

The auxiliary power supply to the WFB should use unshielded twisted pair cable. The cable length should not exceed 328 feet for 24 AWG or 222 feet for 26 AWG. See the “Representative Wiring of the Category 3 4-Pair Twisted Interface” figure later in this chapter.

Power and cabling are consistent with current DEFINITY ECS wiring. See the DEFINITY ECS Installation and Test document for specific information describing typical adjunct powering configurations.

Inside Wiring Cable

The Category 3 or greater inside wiring cable connecting the RC with the WFB is wired identically to the DEFINITY ECS digital telephones. (Refer to the “RC Circuit Pack TN789 Pin Configuration” table earlier in this chapter.) This interface follows standard 2-pair distribution practices and is typically wired from the distribution closet with Category 3 4-pair twisted cable. Cable pairs 2 and 3 are used for receive and transmit, respectively. Pair 4 is used for auxiliary power. The following figure provides representative building wiring. See the DEFINITY ECS Installation and Test document for additional information.

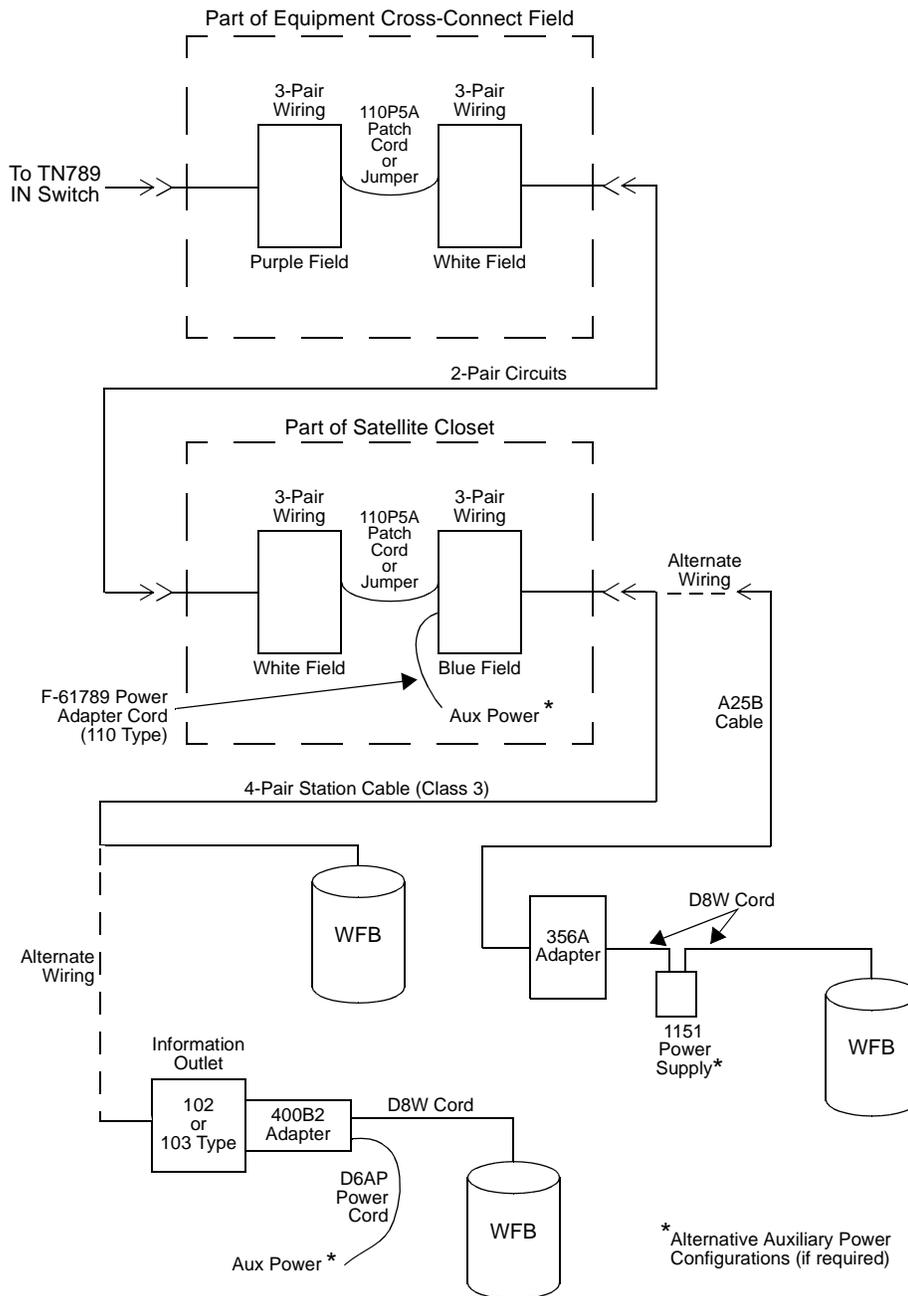


Figure 3-7. Representative Wiring for the Category 3 4-Pair Twisted Interface

Twisted pair can be verified via a digital port tester, as discussed in the next section.

Port Tester LA85

Port Tester LA85 (comcode 105138424) is the standard digital port tester for testing DWBS wiring. To use this port tester, ensure that the D8W cord at the WFB is inserted into the other jack of the port tester and that the RC is translated and online.

The following table lists the various conditions that the digital port tester can indicate along with the corresponding lamp indicators (for adjunct power and the LEDs).

**NOTE:**

The LEDs stay lit for several seconds, cycle off, and are then relit.

Table 3-3. Conditions Indicated by the Digital Port Tester LA85

Condition	Lamp Indicators					
	Adjunct Power	LED 1	LED 2	LED 3	LED 4	LED 5
Normal	green	green	green	green	green	off
Power reverse	red	off	off	off	off	off
Power open	off	off	off	off	off	off
Receiver tip/ring reverse	green	green	green	green	green	off
Transmit tip/ring reverse	green	green	green	green	green	off
Transpose transmit and receive	green	red	red	red	red	off
One-half pair off	green	green	red	green	off	off
Open tip of receive	green	green	green	green	off	off
Open ring of receive	green	green	green	green	green	off
Open tip of transmit	green	green	off	green	green	off
Open ring of transmit	green	off	green	green	green	off
Short on tip/ring of transmit	green	green	green	green	green	off
Short on tip/ring of receive	green	green	green	green	green	off

**NOTE:**

Reversing tip/ring of transmit/receive does not affect service on Version 17 of the RC.

Error Code 4000 (ABORT) occurs on a transmit or receive for all WFB tests whenever testing with a short across a transmit or receive pairs.

Testing Wiring Without a Digital Port Tester

If you do not have a digital port tester, you can partially test the wiring at the equipment room wiring block. To this purpose, complete one of the following procedures:

1. Set the meter at 200v direct current (DC), and measure receive to transmit. A measurement of -48v indicates a normal reading; a measurement of +48v indicates that the power is reversed. If the reading is normal, go to Step 3.
2. Set the meter at 20v DC, and measure receive to transmit. A reading of +5v indicates that the RC is busied out.
3. Busy out the RC, back it out, and then test for continuity. Measure receive to transmit. If receive is 0.5 ohms greater than transmit, the pairs are polled properly.

Measuring Auxiliary Power

You cannot measure power at the WFB from the equipment room. To measure this, go to the WFB and measure punchings 7 and 8 at the 103 connector block. Consider the white/brown pair going to the WFB.

Cell Antenna Unit (CAU)

⇒ NOTE:

Be sure to install the CAUs first and then wire back to the appropriate WFBs.

The CAU is an optional remote antenna that connects to a WFB to expand the coverage area. A maximum of four CAUs can be connected to a single WFB. Each CAU can be located as far as 100 cable feet from its associated WFB. Each CAU is connected to and powered by a WFB via a Lucent Technologies proprietary interface. Placement of the CAUs is based on the information provided by the Installation Map.

Procedure: Installing Indoor CAUs

The following procedure provides the steps necessary to install an indoor CAU.

There are two methods for mounting CAU(s). Use the following table to find the specific steps based on the particular configuration.

⇒ NOTE:

CAUs must not be mounted within one meter of one another to conform to the FCC Part 15 Rules.

⚠ WARNING:

CAUs cannot be installed in a return air plenum. The coaxial cable provided (comcode 847565132) is rated for installation in air handling spaces.

If.....	Then.....
the CAU is to be mounted using tie wraps	go to Step 1
the CAU is to be installed using the mounting plate	go to Step 4
the CAU is to be installed indoors using the mounting brackets	go to the "Mounting the Indoor CAU Brackets" section
the CAU is to be installed outdoors using the mounting brackets	go to the "Mounting the Outdoor CAU Brackets" section

1. Unpack the CAU and obtain tie wrap.
2. Connect (twist) the fixed-length coaxial cable originating from the appropriate WFB.
3. Loop the wrap around the tabs on the underside of the CAU (see the next illustration).

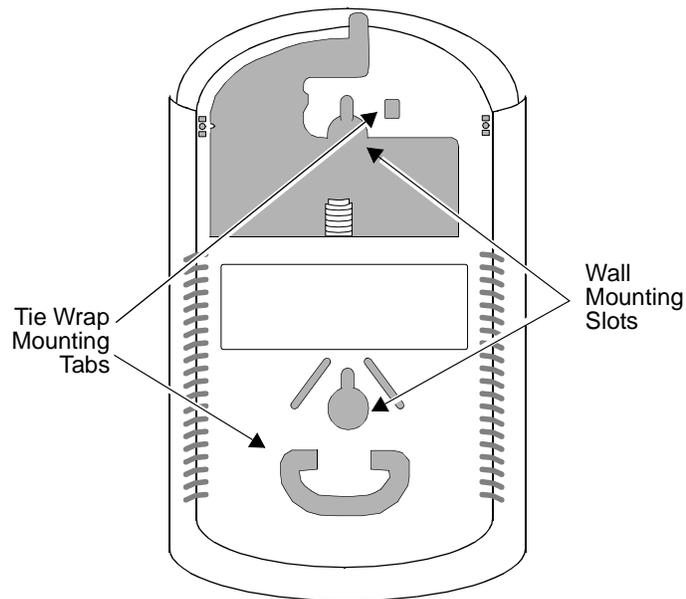


Figure 3-8. Mounting Tabs and Slots on the CAU

Wrap the tie wrap around the tabs and the object to which it will be affixed, and tighten.

4. Unpack the CAU and obtain a standard telephone mounting plate and screws.
5. Using a screwdriver, attach the mounting plate at the location designated in the Installation Map.
6. Connect (twist) the fixed-length coaxial cable originating from the appropriate WFB. Make the connector finger-tight only. (Using tools damages the CAU.)
7. Slide the CAU onto the mounting plate as illustrated in the previous figure.

Procedure: Installing Outdoor CAUs

The following figure shows an outdoor CAU.

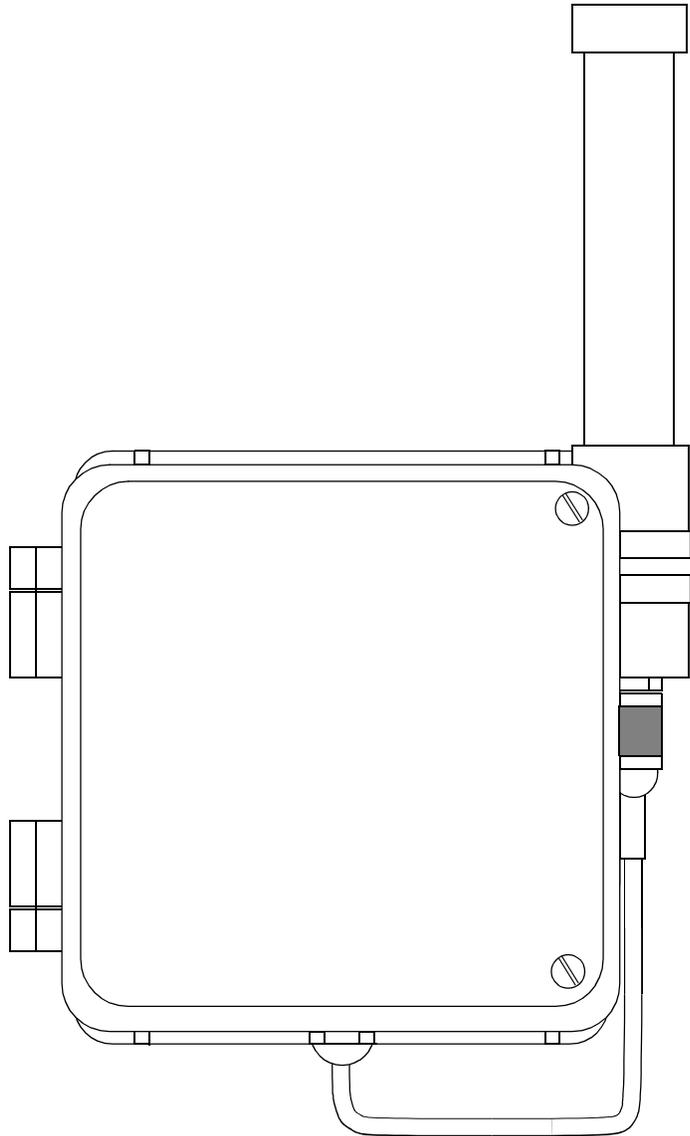


Figure 3-9. Outdoor CAU

To install an outdoor CAU, do the following:

 **WARNING:**

The installation of outdoor CAUs for the DWBS must conform to the local electrical code for grounding.

1. Mount the outdoor CAU in the location specified by the Installation Map. Specifically, do the following:

 **NOTE:**

Ensure that you mount the CAU *vertically*.

- a. Verify that there is a flat, structurally sound mounting surface at the specified location. If such a surface is not available, the customer must provide one.
- b. Using the mounting template shown in the following figure, drill appropriate holes for 1/4 in. screws. Pan head sheet metal screws with dimensions 1/4 in. by 1 1/4 in. are included with the unit. Masonry anchors or other mounting hardware must be provided locally.

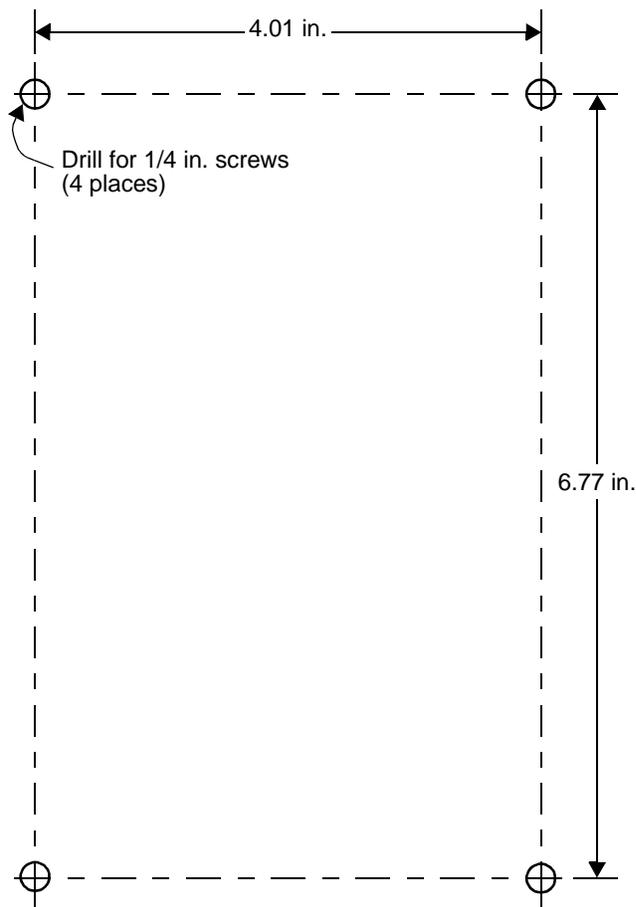


Figure 3-10. Mounting Template for Outdoor CAUs

- c. Orient the outdoor CAU so that when you are looking at the unit, the fixed-length coax connector is pointing downward and the antenna is pointing toward the upper right. Screw the outdoor CAU into place.
2. Locate an opening in the wall for coax cable passage. Drill a 1/4 in. hole through the wall, if required.
3. Locate and mount the grounding block on the outside of the building near the cable opening.
4. Connect one end of a No. 10 copper ground wire to the lug on the grounding block. Route the wire as straight as possible to an appropriate building ground (See the previous "Warning.") Connect the other end of the ground wire to the building ground using an approved method. (See the previous "Warning.")

5. Connect the coax cable assembly (comcode 847565132) to the outdoor CAU. Dress the cable down the side of the building to the grounding block. Attach the cable to the building as required. Be sure to avoid crushing or otherwise distorting the cable. Make the connector finger-tight only. Using tools damages the WFB.
6. Cut the coax cable at the grounding block, and ensure that you leave enough material to form a drip loop. This is the only cable cut permitted. **Do not cut the coaxial cable once it is connected to an active WFB. This could short and subsequently damage WFB ports.** (See the following "Note.")
7. Connect the remaining cable to the WFB, and route the cut end through the previously prepared cable passage.

 **NOTE:**

The DWBS is designed to use the supplied 100 ft coax cable to interconnect the WFB and the CAU. Using either shorter or longer cables degrades system performance and violates FCC regulations. Once the cable is cut in Step 6, do not shorten either portion of the cable by cutting the cable again. Also, do not mix and match cable pieces from other outdoor CAUs. If 100 ft of coax cable is insufficient to interconnect the outdoor CAU and WFB, the WFB should be moved closer. If this is not possible, the outdoor CAU must be relocated with guidance from the WiSE Engineering team.

8. Strip the ends of the coax cable, and install the coax connectors as shown and explained in the following figure. Use only the TNC connectors provided with the outdoor CAU. These connectors are specifically designed for use with the supplied cable. Appropriate coax stripping and connector crimp tools are identified in the following tables.

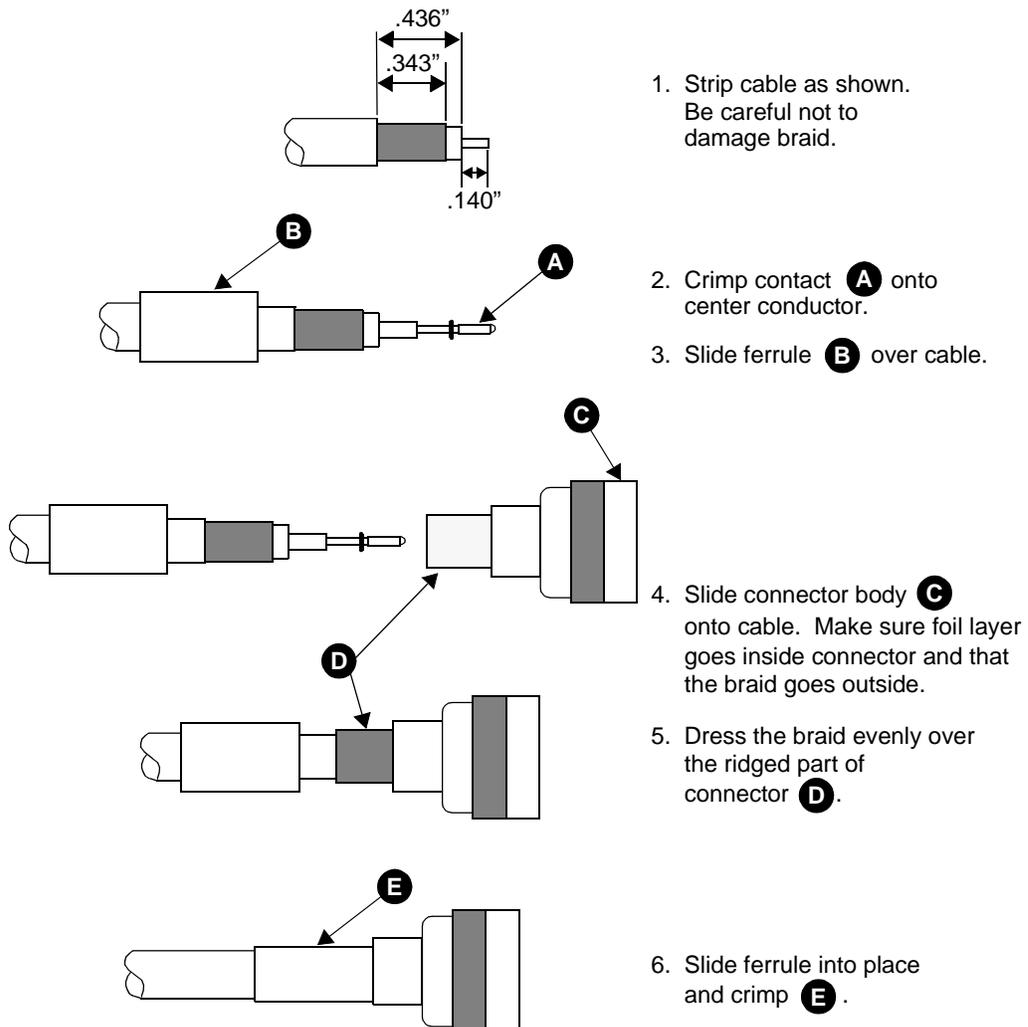


Figure 3-11. Cable Assembly for Outdoor CAUs

Table 3-4. Coaxial Wire Strippers

Manufacturer	Model
Xcelite	3CSK-BRI
Ideal	45-521

⇒ NOTE:

The models identified in the previous table are identical. The stripper is available from Techni-Tool® (1-610-941-2400) as Part #618ST020.

Table 3-5. Coaxial Connector Crimp Tools

Manufacturer	Model	Replacement Die
Ideal	Crimpmaster® #30-483(a)	#30-578(b)
Xcelite	Maxi-Crimper #MAC8259(a)	#D8259(b)
	ErgoCrimp Plus #ECP000 (Crimp Tool Frame Only)(c)	#D104(d)

⇒ NOTE:

The Crimpmaster and Maxi-Crimper tools are identical. Order either tool. The following items are available from Techni-Tool (1-610-941-2400) per the identified part numbers:

- (a) — 462ST506 (Frame Only)
- (b) — 462ST578 (Crimp Die)
- (c) — 272ST100 (Frame Only)
- (d) — 272AC104 (Crimp Die)

9. Form the drip loop in each cable end. Connect each cable end to the grounding block as shown in the following figure. The outdoor CAU may be attached to either side of the connector on the grounding block.

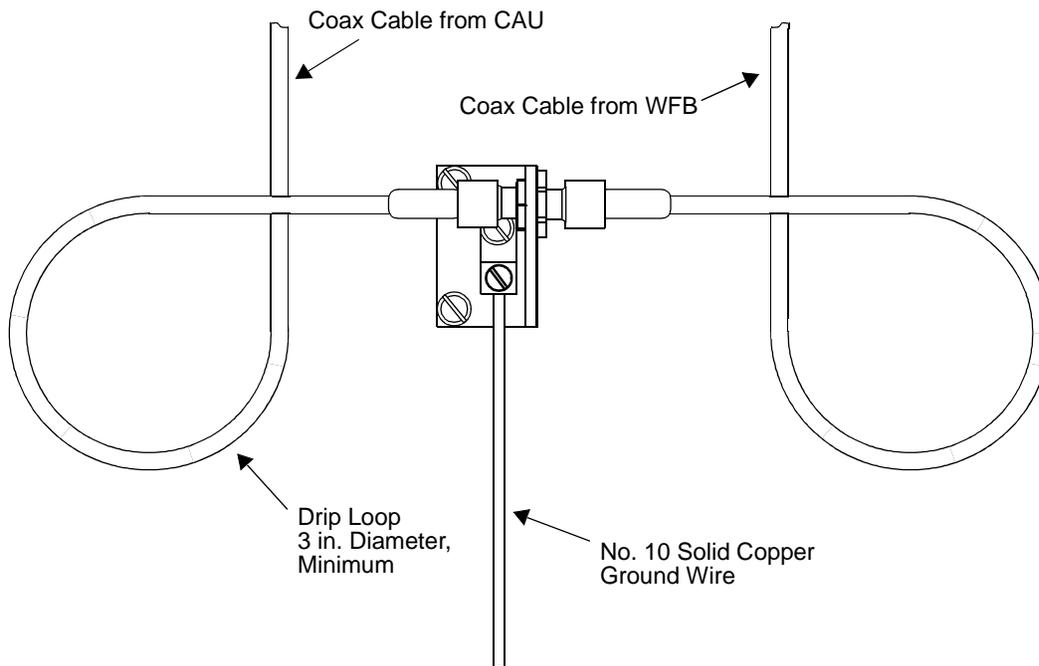


Figure 3-12. Grounding Block Connections for Outdoor CAUs

Mounting CAU Brackets

An adjustable mounting bracket can be used to mount DWBS Release 1 CAUs. Lucent Technologies mounting brackets are currently available as supplementary material for indoor CAUs only. (Outdoor CAUs are currently screwed to a wall.) You can mount CAUs flush to the surface of any type of wall. This includes concrete, metal, wood, stone, brick, and glass walls. CAU brackets have a neutral color and are esthetically compatible with office buildings.

The CAU may be mounted using the adjustable bracket to allow the CAU to be rotated 170° around the vertical axis and 180° around the horizontal axis (that is, ± 90° around the nominal position). A technician can lock the brackets with either a screwdriver or nut driver.

⇒ NOTE:

Specific mounting information is determined by the SDSC and provided as part of the system design package. The bracket may or may not be required for no, some, or all CAUs.

To give a precise indication of the CAU orientation, tick marks on the bracket indicate in degrees all possible vertical and horizontal bracket positions.

The following figures show several CAU bracket models.

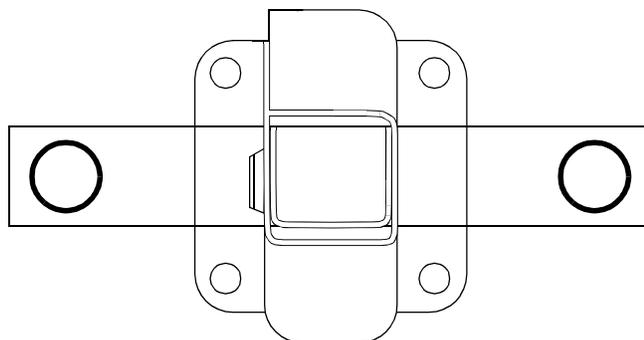


Figure 3-13. CAU Bracket (Model 1)

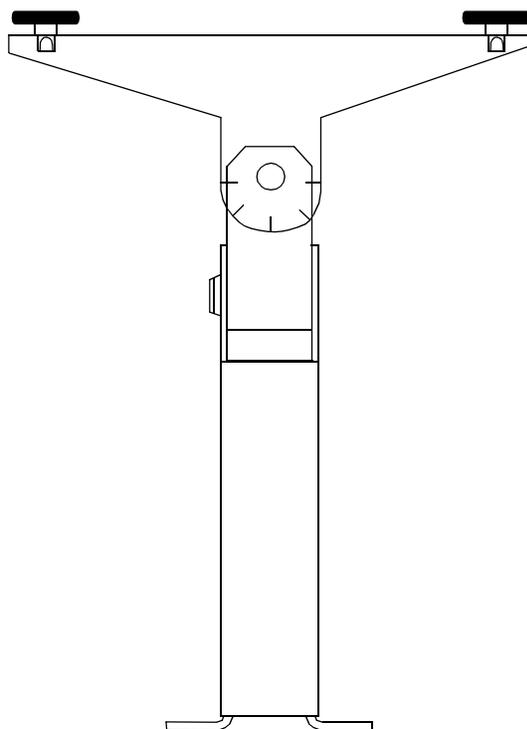


Figure 3-14. CAU Bracket (Model 2)

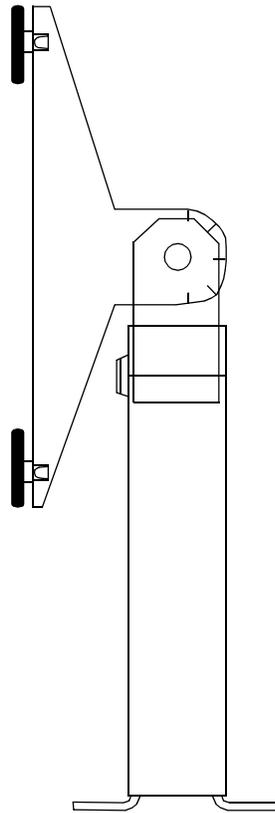


Figure 3-15. Rotated CAU Bracket (Model 2)

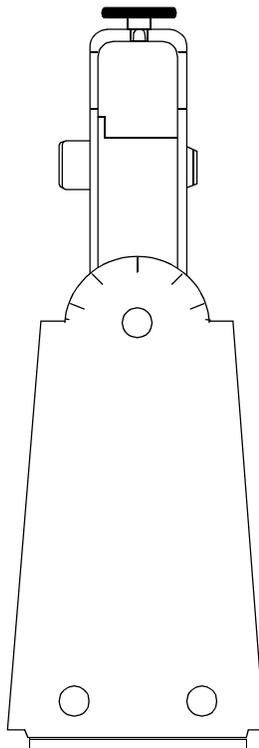


Figure 3-16. CAU Bracket (Model 3)

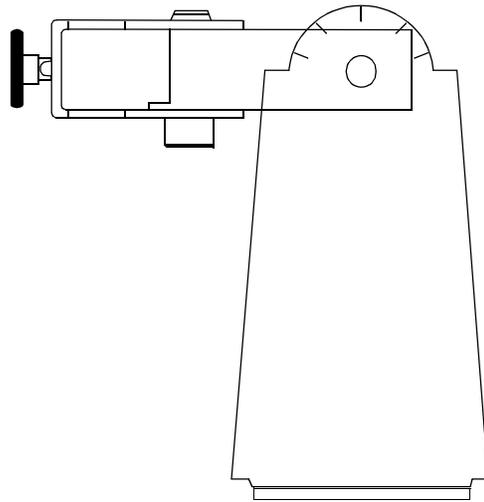


Figure 3-17. Rotated CAU Bracket (Model 3)

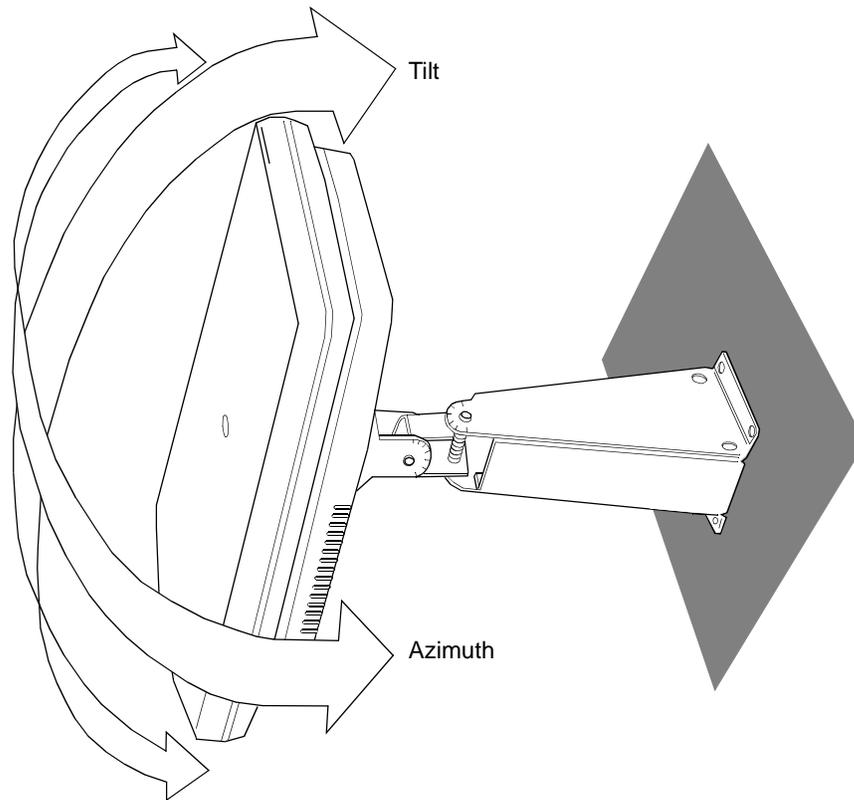


Figure 3-18. Adjustable CAU Bracket (Labeled)

Fixed-Length Coax Interface

This interface is physically implemented with a 100 ft long, custom coaxial cable assembly (comcode 847565132) that interconnects the WFB and CAU. This interface provides both RF signaling and DC power to and from the CAU.

Fixed-length coaxial cable is plenum-rated and can therefore be placed inside the plenum above the ceiling.



CAUTION:

DO NOT cut or modify this cable to length. Any excess cable should be spooled up in the ceiling or where convenient.

9601 Pocket Phone

The 9601 Pocket Phone (next illustration) is a pocket-size portable phone that provides multiple call appearances, an LCD that supports business communication needs, an array of soft and hard keys designed to enable access to the many features of the DEFINITY ECS, and a 12-button dial pad. To provide freedom of mobility, the pocket phone is not physically connected by a cord to the DEFINITY ECS or any other DWBS component. Instead, the pocket phone is wireless and communicates via a radio link to a WFB network, which in turn connects to the DEFINITY ECS.

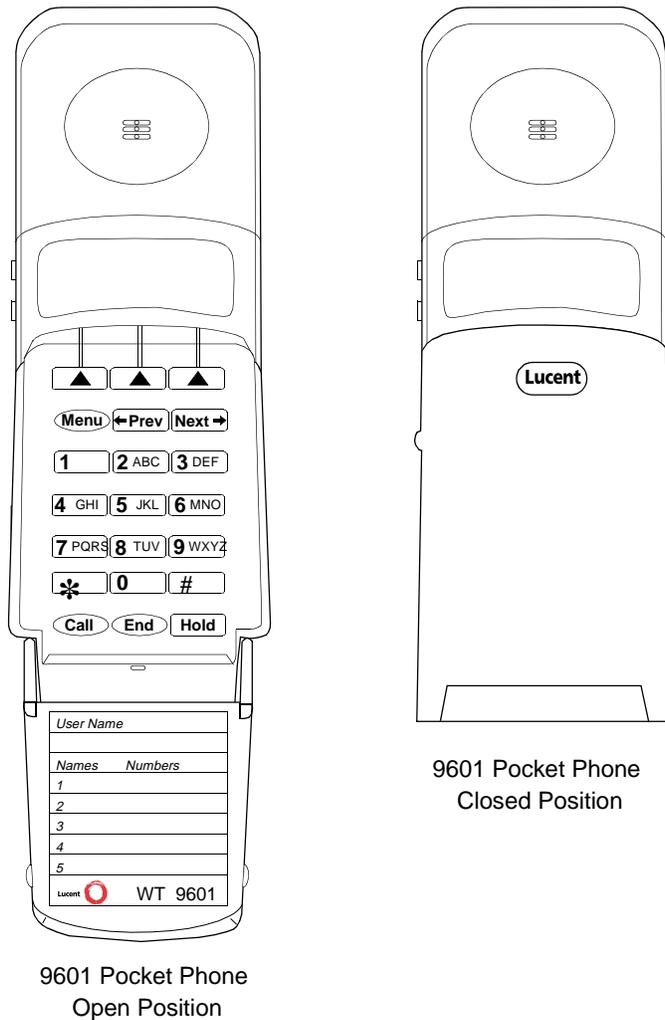


Figure 3-19. DWBS 9601 Pocket Phone

Procedure: Installing the 9601 Pocket Phone

The following procedure provides the steps needed to install a 9601 Pocket Phone.

1. Unwrap the phone, charger, and AC adapter. The component packages consist of the following:
 - Pocket Phone
 - Battery Charger
 - Battery Pack
 - AC Adapter
2. Remove the (lower) back cover (using a flat blade screwdriver) of the battery charger and plug in the AC adapter.
3. Replace the cover.
4. Place the battery charger in the desired location.
5. Insert the pocket phone with its battery pack into the battery charger cradle.
6. Plug the AC adapter from the battery charger into a wall outlet.
7. Ensure that the initial charging lasts for four hours before using the pocket phone.

Procedure: Pocket Phone Key Sequence to Obtain the IPEI

This procedure provides the steps to display the IPEI of the pocket phone.

1. With the pocket phone powered up, press **Menu** .
2. At the next display, press **Next** .
3. At the following display, press the **info** soft key; the IPEI is displayed.

Introduction

This section provides you with the background and procedural information needed to ensure that the installed DWBS is operational.

The tests in this section are in the nature of acceptance tests. The assumption is that the system will perform as expected after the installation. If problems occur, or if more extensive tests are required, please refer to the DWBS Maintenance document.

Verifying Radio Component Configurations

You must verify that the configurations of the DWBS radio components have the latest firmware. To do this, issue the commands in the following table:

Issue the command	To check
list configuration firmware	firmware version stored in the mass storage system (MSS)
list configuration radio all	hardware vintage and firmware versions of the RCs and WFBs
list configuration wt all	hardware vintage, firmware version, and last access rights of the pocket phones

If you do not have the latest firmware for one or more of the components identified in the previous table, do the following:

1. Contact the Initialization and Administration System (INADS) center for the appropriate firmware download.
2. Perform a firmware upgrade for the appropriate component(s) by following the directions in the next section (for the pocket phone) or in the DWBS Maintenance document (for the other DWBS components).

Procedure: Pocket Phone Firmware Download and Connection

The firmware for the 9601 Pocket Phone is updated via the download cable connected to the TN789 RC circuit pack that is administered as a download server. A 9600 baud RS232 connection is used. The download cable must be within 100 ft of the RC circuit pack. For longer distances, range extension devices are required.

Initial Operations

Complete the following initial operations.

1. Ensure that the firmware file is transferred from the INADS center to the DEFINITY MSS. For the DWBS firmware package download, contact the INADS center at (800) 248-1234 and enter prompt "6" followed by prompt "2."
2. Ensure that the download cable is connected to the RC that has been designated as the download server. Enter the **status wt-upgrade [PPCSSwc] [all]** command to display the state of the download servers and its associated files within the DWBS.
3. Enable the RC as a download server by entering the **enable wt-upgrade [PPCSSwc] [all] [tape]** command. This command transfers the pocket phone firmware file from the MSS to the designated RC.



NOTE:

The RC is out of service while the firmware file is being transferred from the MSS to the RC.

Establishing Connections

At the wall field, connect the following leads from the 25-pair RC cable to a 103 connector block.

Table 4-1. RC Cable Connections

Wall Field RC Cable		103 Connector Block Punching	
V-O	47	W-BL	1
O-V	22	BL-W	2
V-G	48	W-O	3
G-V	23	O-W	4
V-BR	49	W-G	5
BR-V	24	G-W	6

Thereafter, insert a D8W (four-pair mounting cord) from the 103 connector block to the pocket phone download cable. Finally, plug the pocket phone download cable into the pocket phone side jack. Refer to the following figures.

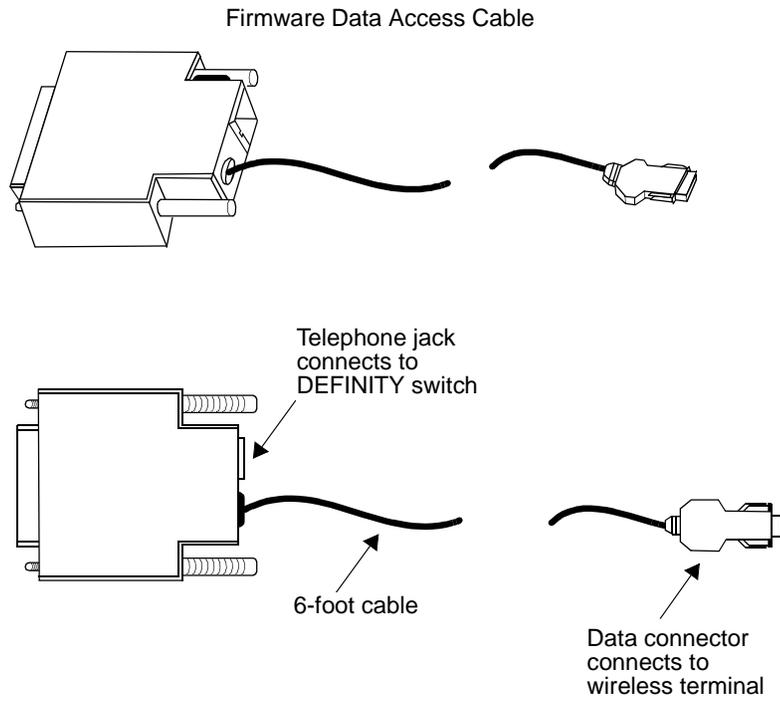


Figure 4-1. Firmware Data Access 902A Download Cable (Comcode 107583965)

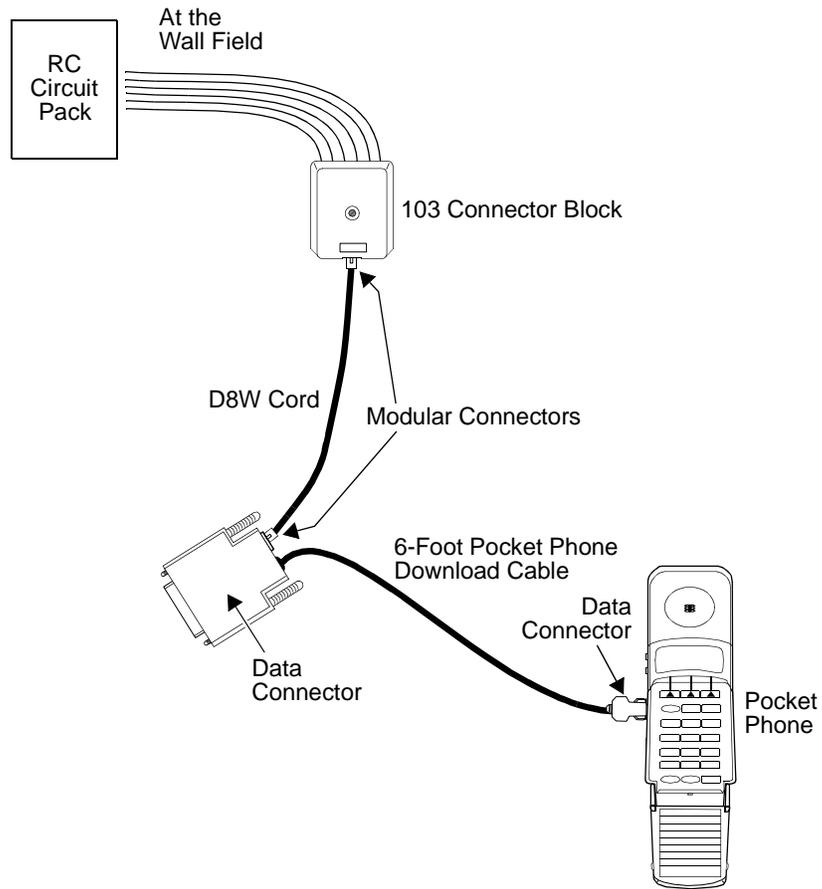


Figure 4-2. Connections for Pocket Phone Firmware Download



NOTE:

Refer to the "TN789 RC Circuit Pack Pin Configuration" table in the previous chapter for details on RC pin connections with the 902A Download Cable.

Downloading Pocket Phone Firmware Via Key Presses

To perform a pocket phone firmware download via key presses, activate the appropriate keys according to the following directions:

1. Press **Menu** .
2. Press **Prev** .
3. Press the **Info** soft key.
4. Press **Prev** .
5. Press the center soft key (not labeled) twice.
6. Press **Next** .
7. Press **Next** again.
8. Press the **FW** soft key.
9. Press the **FromRC** soft key.

Once the previous steps are completed, "Loading....." appears on the screen. As the load progresses, a series of stars (****) builds across the screen.

Wait for the "Command Successfully Completed" message. If this message fails to appear, use the alternate procedure provided in the next section.

Alternate Pocket Phone Firmware Download Procedure

The following is an alternate firmware download procedure for the pocket phone.

1. Slide the battery (just slightly) out of the pocket phone.
2. On the pocket phone, depress **Call** , **End** , and **Hold** together, and slide the battery back in.
3. When the words "FLASH ERASE?" appear on the screen, release the buttons, and depress the up-arrow that is under the word "YES."
4. The word "Loading....." appears on the screen. As the load progresses, a series of stars (****) build across the screen.

When you hear the steady tone, the pocket phone firmware download is completed.

5. Unplug the download cable. The pocket phone should register with the system.

NOTE:

The most common error codes for this procedure are 891 and 892. Error Code 891 indicates that the connected RC circuit pack is not enabled or assigned as a server. Error Code 892 indicates one of the following: RC is in

download mode; the RC location is not provided within the Feature-Related System-Parameters form; or, the download cable is not plugged in. Check the System Features Screen at the bottom of page 2 for the RC circuit pack. If the circuit pack is not listed, issue the **change system feature** command and add it to the list. Then issue the **enable wt-upgrade [PPCSS]** command. Go to the “Communications Setup” section earlier in this chapter and repeat the procedure from there.

If error code 82, 83, or 84 appears on the pocket phone, slide the battery out and then slide it back in. The firmware download will begin automatically.

Procedure: Performing Wireless Test Calls

The following procedure verifies that calls of good voice quality can be originated and received throughout the coverage area(s).

 **NOTE:**

See the DWBS Pocket Phone guide if you need more detail regarding the phone's operation.

1. Using the Installation Map as your guide, enter the coverage area(s), and place a call to another pocket phone.
 - a. To make the call, press **Call** , wait for dial tone, and dial the number of a wired telephone.
 - b. When your call is connected, begin your “test” conversation.
 - c. Start walking through the entire coverage area(s) and listen for significant degradation in voice quality (such as static or interference) that is strong enough to disrupt the call. If there are problems, note the following:
 - Location where the problem(s) begin
 - Precise description of the problem(s)
 - Approximate boundaries of the problem(s), if applicable
 - Signal strength reading where the disruption is greatest (see the following step for the key sequence)
2. On the pocket phone, move into the area of greatest interference and obtain a signal strength reading, as follows:
 - a. Press **Menu** .
 - b. Press **Next** .
 - c. Press the **Info**  soft key.
 - d. Press **Next** to display the signal strength.

⇒ NOTE:

The signal strength reading from the pocket phone is not dynamic. You must repeat the previous key sequence in every area to obtain a signal strength reading. Remember to take precise notes of the signal strength and any other problems that you may encounter.

3. Upon completing your walk-through, if you have encountered any problems, refer to the DWBS Maintenance document for further investigation.

Procedure: Verifying Operative Cell IDs

This procedure verifies that all the cells in the wireless configuration are “up” and providing coverage.

1. Using the Installation Map as a guide, step into the first cell to be checked, and position yourself close to the CAU (or to the WFB, if no CAUs are present) for the particular cell. Obtain the cell ID by executing the following key sequence on the pocket phone:
 - a. Press **Menu** .
 - b. Press **Next** .
 - c. Press the **Info** **▲** soft key.
 - d. Press **Next** to display the cell ID.
2. Confirm that the cell ID is displayed. If the cell ID is displayed, repeat Step 1 for all the cells in the configuration. If there is no cell ID displayed, use the following table:

If.....	Then.....
Unit is a CAU	Go to Step 3
Unit is a WFB	Go to Step 4

3. Confirm that the CAU's green power indicator is illuminated.

If.....	Then.....
Power indicator is illuminated	Power is normal.
Power indicator is not illuminated	Check the cable connection between the WFB and the CAU. If the connection is good but the problem still persists, check the power (green) indicator on this CAU's connected WFB. If the WFB shows no power, check the power supply to the WFB (see Chapter 3 of this document for power and cabling details). Restoring power to the WFB will more than likely solve the problem. If the problem persists, the CAU may need to be replaced. If the indicator is illuminated, repeat Step 1 of this procedure to obtain the cell ID.
Flashing green appears	CAU is either busied out or not meeting power specifications.

4. Confirm that the WFB's green power indicator is illuminated.

If.....	Then.....
Power indicator is illuminated	Power is OK.
Power indicator is not illuminated	Check the connection between the power supply and the WFB. (See Chapter 3 of this document for power and cabling details.) If the problem persists, the WFB may need to be replaced. Refer to the DWBS Maintenance document for additional information. Repeat Step 1 of this procedure to obtain the cell ID only after the problem has been resolved.

Once the preceding procedures are completed, the DWBS is considered up and running.

Introduction

This chapter provides supplemental Mobility Manager and DEFINITY ECS command information that may be helpful to the installer.

Command Structure

An administration or maintenance command is made up of multiple words that instruct the system to perform a specific task. The command is made up of *Action*, *Object*, and *Qualifier* words (depending on the command type).

The Action word is the first word entered on the command line and specifies the operation to be performed (for example, “add,” “change,” and “remove”). The Object word is the second phrase entered on the command line and specifies the particular object on which to perform the operation. Lastly, the Qualifier can be one or more key words or digits used to identify further or complete the object.

Command List

The following table provides a summary of the commands used for the installation, administration, and maintenance of the DWBS.

Table 5-1. DWBS Commands

Action	Object	Qualifier	Purpose
-- download firmware		<i>tape</i>	Transfer a file containing RC, WFB, or pocket phone firmware from the INADS center to the MSS of the customer's switch.
-- list configuration		<i>all</i>	View circuit packs in the system, along with their associated location, code, vintage, and assigned ports.
-- list configuration	board	<i>PPCSS</i>	View identified circuit pack.
-- list	bridged-extension	<i>principal extension</i>	List all stations where the principal appears as a bridged call appearance.
-- status	card-mem		Display the format of the flash card.
-- change -- display	carrier-frequencies		Administer or view customer-administrable carrier frequencies.
-- change -- display	circuit-packs	<i>cabinet number</i>	Administer or view the existing circuit pack data. Also, administer the RC circuit pack logically.
-- list configuration	firmware-versions		Display the firmware version, size, and checksum of DWBS components.
-- add -- change -- list configuration -- remove -- status -- upgrade firmware	radio-controller	<i>PPCSS</i> <i>all</i> <i>override</i> <i>schedule</i>	Administer, identify parameters associated with, or upgrade the firmware of one or more RCs (TN789).
-- test	radio-sync		Access or display the inter-port network radio synchronization plan.
-- add -- change -- display -- remove	station	<i>extension</i>	Administer or view a station on the system.

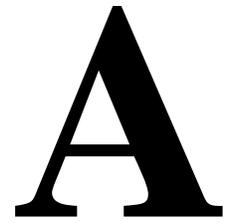
Table 5-1. DWBS Commands (continued)

Action	Object	Qualifier	Purpose
-- list -- status -- test	station	<i>extension</i> <i>port <wt></i> <i>type <9601></i>	List all stations that conform to the port or type search criteria.
-- change -- display	system-parameters	<i>customer-options</i>	Administer or view optional feature administration.
-- change -- display	system-parameters	<i>features</i>	Administer or view the radio card download servers.
-- change -- display	system-parameters	<i>wireless</i>	Administer or view system-wide wireless data.
-- test -- upgrade firmware	WFB	<i>PPCSS</i> <i>all</i> <i>override</i> <i>schedule</i>	Test or upgrade the firmware of one or more WFBs.
-- enable -- disable -- list configuration	WT-stations	<i>extension</i>	Enable or disable the pocket phone. Display the hardware and firmware of one or all pocket phones in the system along with the last time access rights were invoked.
-- enable* -- disable** -- status***	wt-upgrade	<i>PPCSS</i> <i>all</i>	*Transfer pocket phone firmware file from the MSS to the designated RCs. **Deactivate the communications port on the RCs previously enabled for pocket phone download. ***Display the status of the RCs designated to be download servers for a pocket phone firmware upgrade.

 NOTE:

The *schedule* qualifier is valid only when the system printer is connected and administered. See your system administrator.

DWBS Installation Checklist



Introduction

This appendix contains a checklist for performing a DWBS installation.

Checklist

The following table is a checklist of tasks for completing a DWBS installation. Where appropriate, references to the corresponding pages for a description of the tasks indicated are also provided. Unless otherwise indicated, the page references are for the DWBS Installation document.

Table A-1. Checklist of Tasks for Completing a DWBS Installation and Corresponding Description Page References

Task: Have you...	Page	Yes/No
Wired the CAUs according to the SDSC installation plan?	3-22	
Oriented the CAUs (azimuth and tilt) according to the SDSC installation plan using brackets when required?	3-35	
Wired the WFBs according to the SDSC installation plan?	3-15	
Installed and wired the power supplies for each WFB that has an attached CAU?	3-15	
Verified that the DC power leads for WFB are "doubled up?" (See "Wiring Instructions for Installation of WFBs and CAUs.")	(For Home Depot Only)	
Placed the TN789 circuit packs into the appropriate slots?	3-10	
Terminated WFBs 1A and 1B to ports 1 and 2 of the first TN789 circuit pack?	3-9	
Terminated WFBs 2A and 2B to ports 1 and 2 of the second TN789 circuit pack?	3-9	
Terminated all remaining WFBs properly?	3-9	
Installed the pocket phone download cable?	4-3	
Upgraded the switch software to V5 or greater?	2-1	
Enabled wireless capabilities via the Optional Features form by entering the change system-parameters customer-options command? (Remember to log off and log on again.)	2-2	
Enabled wireless capabilities via the Wireless-Related System-Parameters form by entering the change system-parameters wireless command?	2-3	
Administered the Carrier-Frequencies form?	2-7	

Table A-1. Checklist of Tasks for Completing a DWBS Installation and Corresponding Description Page References *(continued)*

Task: Have you...	Page	Yes/No
Administered RC download permissions via page 2 of the Features-Related System-Parameters form by entering the change system-parameters features command?	5-17 (Interface Guide)	
Administered the circuit packs via the add radio controller ppcss command?	2-9	
Called the INADS Center for a firmware download?	4-2; also, 8-1 (Maintenance)	
Verified that INADS will do the following: <ul style="list-style-type: none"> ■ Upgrade the RCs via the upgrade firmware radio-controller all command? ■ Upgrade the WFBs via the upgrade firmware WFB all command? ■ Enable the RC circuit pack for a pocket phone upgrade via the enable wt-upgrade ppcss command? 	8-7, 8-8 (Maintenance) 8-7, 8-8 (Maintenance) 8-9 (Maintenance)	
Confirmed the correct pocket phone firmware version via the status wt-upgrade command?	8-7, 8-9 (Maintenance)	
Confirmed the correct RC and WFB firmware version via the list configuration radio all command?	4-1; also, 6-6 (Interface Guide)	
Upgraded the pocket phone firmware?	4-2	
Added the appropriate access code into the pocket phone via the MENU, Next, Info, "Enter AC" key sequence?		
Administered IPEIs from the back of the pocket phone via the Station form?	2-14	
Verified that each pocket phone has icons and can make and receive calls?		
Verified pocket phone upgrades via the list configuration wt command?	4-1	
Walked the coverage area to confirm satisfactory service, and called the SDSC if there are problems?		

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.

cluster

All the cells associated with an RC.

D

Deep Sleep Mode

Mode assumed by the pocket phone whenever the phone 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.

DEFINITY Management Terminal

Data terminal used for the administration and maintenance of the DEFINITY system.

E

ECS

See **Enterprise Communications Server**

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.

Enterprise Communications Server

Private Branch Exchange (PBX) developed by Lucent Technologies.

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 Communications Commission**

FDMA. See **Frequency Division Multiple Access**

Federal Communications Commission (FCC)

Government agency within the US that is responsible 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, Silent Mode).

local tones

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

Sales and Design Support Center

Organization that designs DWBS installations via the Predictor tool.

SDSC. See **Sales and Design Support Center**

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 FCC to coordinate the relocation of microwave incumbents out of the unlicensed spectrum (1910 - 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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