Overview

This guide describes how to use the voice features of the Lucent/AT&T ISDN (Integrated Services Digital Network) digital telephone with MIT's 5ESS telephone system. These features will work only when your Lucent/AT&T telephone is correctly connected to the 5ESS.

In addition to standard voice communications, digital telephones can carry data communications between a microcomputer or workstation that is connected to the telephone and a remote computer.

Telephone Customer Service

To provide fast and efficient service, each MIT department is assigned a Customer Service Representative (CSR). Your CSR can be reached at 617.253.4357.

Telephone HELP Line

If you have trouble with telephone or data communications service, call the Telephone HELP desk at 617.253.4357 (x3-HELP).

Voice Mail

MIT's voice mail system works in conjunction with the 5ESS telephone system. Voice mail is a computer-based message system that goes beyond the functions of the usual answering machine. Voice mail lets you send, forward, and reply to messages; send messages to a distribution list; archive messages; and give special access to a secretary. You can get assistance with your voice mail from your CSR at 617.253.4357.

Your Digital Telephone Desk Set

Desk Set Controls and Features

This section describes the digital phone's components. Terms that are discussed in this and later sections are introduced in italics. Also included are information and procedures for desk set controls and features that apply to all types of calling.

To avoid interruptions in phone service:

- Never unplug your desk set.
- Never plug another desk set into your phone jack.
- Never plug any accessory into your desk set.
- Never plug the receiver into any other jack.

Digital desk sets have two types of buttons: Call Appearance and Feature. Press near the center of a button to activate it. If you wish to change
button labels, follow the instructions on the bottom of the desk set.

Call Appearance (CA) Buttons

Call Appearance (CA) buttons are used to place and receive phone calls, including intercom calls. Each CA button has two status lights associated with it. The red light indicates the CA is in use, or will be used when the receiver is lifted. The green light indicates that a call is in progress or a feature has been activated. CAs are labeled with a directory or an intercom number.

- Directory Number (DN)
  A directory number is a telephone number. Calls placed within MIT from an MIT phone require only the five-digit MIT number (beginning with the prefix 2-, 3-, 5-, 8-, or -7). Calls to MIT from off-campus require the full ten-digit MIT phone number (beginning with the prefix 225-, 252-, 253-, 258-, 324-, or 577-).

- Primary Directory Number (PDN)
  Each digital desk set is assigned a primary directory number (PDN). The PDN is usually the MIT phone number for the person or office "owning" the desk set.

- Secondary Directory Number (SDN)
  A secondary directory number (SDN) is any number other than the primary directory number that appears on a telephone. SDNs may be additional numbers assigned to a phone or numbers shared with other phones. SDNs cannot have voice mail.

- Call Appearance Assignments
  Digital technology makes it possible to assign the same directory number to more than one Call Appearance button. Your PDN is always assigned to a minimum of two CAs on your desk set. This means that you can have at least two calls going at once, even though your telephone is set up for only one directory number.

  The last CA of a number is reserved for outgoing or intercom calls. If your PDN has only two CAs, calls can usually come in only on the first CA. If you have answered or placed a call on the first CA, a second call can't come in. When placing calls you can leave the first CA open for incoming calls by pressing the second CA of your PDN before making the call.

  If you receive many calls you may want to opt for one of two permanent solutions. You can modify the second CA to receive incoming calls, or you can add a third CA. Call your Customer Service Representative for details and costs.

Feature Buttons

Feature buttons activate special functions of the digital telephone. Features are either fixed or flexible.

- Fixed Feature Buttons
  Most Fixed Feature buttons control two functions: one for processing calls and an alternate function for controlling the desk set. Fixed Features for call processing work with any type of call, on PDNs or SDNs. You select alternate functions by pressing Shift/Select first. Refer to the appropriate section in this guide for details on fixed features. Some Fixed Feature buttons have a green status light associated with them.

- Flexible Feature Buttons
  Flexible Feature buttons activate functions other than fixed features; for example, call pick-up and speed dialing. You request flexible features when ordering new service or additions to existing service. Flexible Feature buttons are installed only on those phones for which they are ordered, and work only with a desk set's PDN.

Other Desk Set Features

In addition to Call Appearance and Feature buttons, the digital desk set includes the following components.

- Dialing Keypad
  Use the alphanumeric keypad for entering telephone numbers and code numbers. The keypad is also used with the voice mail system. Two keys have special functions in both the 5ESS and voice mail systems:
  "Star" or asterisk key
  "Pound" or number key

- Display Panel
  The display panel is a small screen at the top of the desk set (with a knob to adjust its contrast). It displays the date and time when the phone is not in use, or displays information about calls when in use. For details, see Section 9, "The Display Panel."

- Message Light
  If you subscribe to voice mail, the Message light indicates that new messages are in your voice mailbox.

- Data/Send/Off Button
  The Data/Send/Off button carries data communications between a microcomputer or workstation connected to the digital set and a remote computer. Data calls do not interfere with placing or receiving voice calls – they can occur simultaneously.

- Speakerphone
  The Speakerphone lets you place and answer calls without lifting the receiver. The microphone and speaker are located in the desk set, under the receiver. When using the Speakerphone, speak toward the front of the desk set.

  1. To activate the Speakerphone, press
To disconnect, press Speaker then press

- **Adjusting Volume of Ringer and Receiver**
The Volume button controls the loudness of your phone's ring, and the voice level of the receiver and Speakerphone. You can change the loudness of the phone's ring whenever you are not on a call. You can change the voice level of the receiver or speaker only when you are on a call.

  1. Press the \( \downarrow \) Volume \( \uparrow \) arrows until you hear the desired volume. Left arrow lowers the volume; right arrow raises the volume.

- **Digital Phone Options**
The 5ESS and the digital telephone provide optional features and services that you can order as new service or changes to existing service. Two call-handling options, ringing line preference and reserved call appearances, are described below. Other options – intercom calling, call pickup groups, and speed dialing – are explained in their own sections elsewhere in this guide. For more information on these options, and other options not covered in this guide, contact your Customer Service Representative.

  - **Ringing Line Preference**
    With ringing line preference you do not have to press a CA to answer or place a call – the appropriate CA will be selected automatically when you lift the receiver or press Speaker. If you are on a call and another comes in, put the first call on hold and press Drop to connect to the second call. Ringing line preference is not recommended for digital desk sets carrying more than one phone number.

  - **Reserved Call Appearance**
    All CAs for directory numbers let you place and receive calls (two-way calling). With reserved Call Appearance, you can, however, order one CA reserved for one-way calling. Choose from the following types of reserved CAs.
    - Originate: You can use the CA to place outgoing calls only; calls cannot be received on it.
    - Terminate: You can use the CA to receive incoming calls only; calls cannot originate from it.
    - Originate/Priority Terminate: You can use the CA to place outgoing calls, or to receive intercom (priority) calls.

    For example, your PDN is assigned three CAs on your desk set and you have reserved one of those as Originate/Priority Terminate. If two CAs are active with calls, the third CA can be used only to place a call or receive an intercom call. In such circumstances, a regular incoming call will get a busy signal.

**Telephone Calls**

**Placing a Call**
You place outgoing calls from your primary directory number (PDN) or a secondary directory number (SDN). If you are not on a call, the red light of the call appearance (CA) you will be using is on. If you wish to use a different CA, press another CA button.

  1. Lift the receiver or press Speaker

**Answering a Call**
The phone rings and the green light flashes on the CA carrying the call.

  1. Lift the receiver or press Speaker
  2. Press the CA button with the flashing green light.

**Putting a Call on Hold**
Both status lights of the CA you are using are on.
1. Press **Hold**

   Result: The red light of the CA goes out and the green light blinks rapidly. The call is on hold. Press another CA to place a call, or press the CA with the green flashing light to answer a call.

**Return to a Held Call**

The green light of the held call's CA blinks rapidly.

1. Press the CA button for the held call.

   Result: The red light comes on and the green light stops blinking. You are reconnected to the call.

**Note:** If the call was put on hold at a digital set, you can reconnect on another digital set with the same DN (PDN or SDN). If the call was put on hold at an analog set, you can reconnect only on that phone.

**Transferring a Call**

You can transfer an active call (not on hold) to another phone on campus.

1. While on the active call, press **Transfer Call**

   Result: You hear the dial tone. The red light for that CA goes off, the green light blinks rapidly. The call is held for transfer. You are given an available CA. If the call is on a DN with no other CAs available, select an available CA of another number.

2. Dial the MIT telephone number to which you want to transfer the call.

3. When the call is answered, announce that you are transferring a call and press **Transfer Call** again.

   Result: The call is transferred.

**Placing a Conference Call**

You can set up a three-way conference call from your digital phone with two other parties on or off campus.

1. While on the active call, press **Conference**

   Result: The call is held for conference. The red light for that CA goes off, the green light flutters. The next available CA for that DN is selected and its red and green lights come on; you hear the dial tone. If the call is on a DN with no other CAs available, select an available CA of another DN.

2. Dial the number of the third party to add to the call.

3. When the third party answers, announce the conference call and press **Conference** again.

   Result: You are connected to the other two parties.

**Activate Muting**

Muting prevents the party on the other end of a call from hearing a conversation at your end. Muting works with both the Speakerphone and the handset, and is more effective than putting your hand over the mouthpiece.

1. While on a call, press **Conference**

   Result: The Mute green light comes on and the person on the other end of the call cannot hear you, although you can still hear them.

2. To cancel muting, press **Conference** again.

   Result: The Mute green light goes off and the person on the other end of the call hears you.

**Redial the Last Number Entered**

This feature redials the last phone number entered.

1. Lift the receiver or press **Speaker**

   Result: You hear the dial tone.

2. Press **Redial**

   Result: The last number you entered is redialed.
Intercom Calls

Intercom Service

The 5ESS provides for three types of intercom calls:

- Automatic – intercom between two pre-determined parties.
- One-digit Dial – intercom group of up to ten parties.
- Two-digit Dial – intercom group of up to twenty parties.

If your desk set is equipped for intercom calling, one of its CAs is labeled as an intercom button. Intercom calling is an option that you request when ordering new service or changing existing service. Destinations and calling codes are set when intercom service is installed or changed. Call your Customer Service Representative for details.

Placing Intercom Calls

Follow the procedures below for the type of intercom installed on your phone.

- **Automatic Intercom**
  Automatic Intercom service connects you to a predetermined party.

  1. Lift the receiver or press ![Speaker](Image)
  2. Press ![Intercom](Image)
  Result: The Intercom green light comes on and the 5ESS dials the intercom call.

- **One-digit Dial Intercom**
  One-digit Dial Intercom service includes up to ten parties. The intercom destinations are assigned code numbers 0 (zero) through 9.

  1. Lift the receiver or press ![Speaker](Image)
  2. Press ![Dial](Image)
  Result: The Intercom green light comes on.
  3. Enter the one-digit code of the desired party.
  Result: Your intercom call is placed.

- **Two-digit Dial Intercom**
  Two-digit Dial Intercom service includes up to ninety-nine parties. The intercom destinations are assigned code numbers 01 through 99.

  1. Lift the receiver or press ![Speaker](Image)
  2. Press ![Intercom](Image)
  Result: The Intercom green light comes on and you hear a stutter dial tone.
  3. Press ![Intercom](Image) and enter the two-digit intercom code of the desired party.
  Result: Your intercom call is placed.

Receiving Intercom Calls

A single, steady beep is the signal for an incoming intercom call. For Automatic and One-digit Dial Intercoms, the green light flashes on both the PDN CA and the intercom button; for Two-digit Dial Intercoms, the green light flashes on the Intercom-In button.

1. Lift the receiver or press ![Speaker](Image)
2. For Automatic and One-digit Dial Intercoms, press the CA button with the flashing green light.

For Two-digit Dial Intercoms press ![Intercom](Image)
Result: The respective red light comes on and you are connected to the intercom call.
Call Forwarding

Forwarding to an On-campus Phone

This section describes call forwarding and explains how to activate and cancel it. You can change call forwarding as your call coverage needs dictate. You can forward incoming calls to another MIT phone number, including the voice mail system if you are a subscriber. For details on call forwarding for voice mail, see the User's Guide to the MIT Voice Mail System (TC-1).

Call Forwarding Conditions (On Campus)
The following table describes the call forwarding conditions and gives the codes to activate and cancel each one. You can have any combination of call forwarding conditions active at one time; however, forwarding of all calls supersedes any other active forwarding.

<table>
<thead>
<tr>
<th>Forwarding Condition</th>
<th>Activate</th>
<th>Cancel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unanswered calls (your phone rings before it is forwarded)</td>
<td>PRS 7 TUV 8</td>
<td>PRS 7 XYZ 9</td>
</tr>
<tr>
<td>Incoming calls encountering a busy signal</td>
<td>PRS 7 GHI 4</td>
<td>PRS 7 JKL 5</td>
</tr>
<tr>
<td>All calls (your phone doesn't ring)</td>
<td>PRS 7 ABC 2</td>
<td>PRS 7 DEF 3</td>
</tr>
</tbody>
</table>

If you forward unanswered calls, you can change the number of times the phone rings before forwarding takes place; see instructions below.

Activating Call Forwarding

To activate one call forwarding condition, follow this procedure. Repeat the procedure to activate additional conditions. Call forwarding remains in effect until you cancel it.

1. Lift the receiver and listen for the dial tone.
2. Enter the appropriate two-digit activation code (see call forwarding table above).
3. Enter the five-digit MIT phone number to which calls will be forwarded. (If forwarding to voice mail, enter 8-6245.)
   - **Result:** You hear a confirmation tone of two quick beeps, followed by the dial tone. If you are forwarding to another phone, the 5ESS places a confirmation call to that number; the call does not have to be answered. If you are forwarding to voice mail, no confirmation call is placed.

   **Note:** If you get a busy signal after entering the activation code, call forwarding for that condition is already in effect. Enter the cancellation code for that condition and start over.

Canceling Call Forwarding

To cancel call forwarding for one condition, follow this procedure. Repeat the procedure to cancel additional conditions.

1. Lift the receiver and listen for the dial tone.
2. Enter the appropriate two-digit cancellation code (see call forwarding table above).
   - **Result:** You hear a confirmation tone of two quick beeps, followed by the dial tone.

Changing Number of Rings Before Forwarding

Once you activate the forwarding of unanswered calls (code 78), the system forwards a call after five rings of your telephone, or twenty seconds. You can change the number of times your phone rings (actually, the elapsed number of seconds) before a call is forwarded.

In the procedure below, enter the number of seconds, from the following list, to get the desired number of rings before forwarding (1 ring = 4 seconds):

- 08 seconds: 2 rings
- 12 seconds: 3 rings
- 16 seconds: 4 rings
- 20 seconds: 5 rings

1. Lift the receiver and listen for the dial tone.
2. Press + plus the desired number of seconds from above.
   - **Result:** You hear a short confirmation tone of two quick beeps, followed by the dial tone

   **Example:** To have unanswered calls forwarded after four rings, press
Forwarding to an Off-campus Phone

If your PDN has off-campus calling privileges (Classes A or B), you can forward calls to an off-campus telephone. If you are unsure of your class of service, check with your Administrative Officer.

Call Forwarding Conditions (Off Campus)
The following table describes the call forwarding conditions and gives the codes to activate and cancel each one. You can have any combination of call forwarding conditions active at one time; however, forwarding of all calls supersedes any other active forwarding.

<table>
<thead>
<tr>
<th>Forwarding Condition</th>
<th>Activate</th>
<th>Cancel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unanswered calls (your phone rings before it is forwarded)</td>
<td>PRS 7 TUV 8 PRS X</td>
<td>PRS 7 YZ</td>
</tr>
<tr>
<td>Incoming calls encountering a busy signal</td>
<td>PRS 7 GHI 4 PRS JKL</td>
<td></td>
</tr>
<tr>
<td>All calls (your phone doesn't ring)</td>
<td>PRS 7 ABC 2  PRS DEF 3</td>
<td></td>
</tr>
</tbody>
</table>

Activating Off-campus Call Forwarding
To activate one call forwarding condition, follow this procedure. Repeat the procedure to activate additional conditions. Call forwarding remains in effect until you cancel it.

1. Lift the receiver and listen for the dial tone.
2. Enter the appropriate two-digit activation code (see call forwarding table above).
   Result: You hear the dial tone again
3. Press PRS 7 MNO 6 plus the off-campus phone number to which calls will be forwarded, including area code.
   Note: You do not press 9, as you would for normal off-campus calls.

Result: You hear a confirmation tone of two quick beeps, followed by the dial tone. The 5ESS places a confirmation call to the forward-to number; this call does not have to be answered. (If you don’t have off-campus calling privileges, you hear a fast busy signal.)

Note: If you get a busy signal after entering the activation code, call forwarding for that condition is already in effect. Enter the cancellation code for that condition and start over.

Canceling Off-campus Call Forwarding
To cancel call forwarding for one condition, follow this procedure. Repeat the procedure to cancel additional conditions.

1. Lift the receiver and listen for the dial tone.
2. Enter the appropriate two-digit cancellation code (see call forwarding table above).
   Result: You hear a confirmation tone of two quick beeps, followed by the dial tone.

Call Pickup Group

Call Pickup
Call Pickup lets you answer calls to other phones in a group from your phone. It is intended for areas where people are close enough to hear each other’s phones ring, and where they can provide occasional call coverage for each other. For details on setting up a call pickup group, contact your Telephone Support Services Customer Service Representative.

Answering a Pickup Group Call
Call Pickup is activated on a per call basis, and is canceled when you hang up.

1. When you hear a group member’s phone ring, lift the receiver or press [Speaker]
2. Press [Call Pick-Up]
   Result: You are connected to the call.
Speed Dialing

Creating a Speed Dialing List

Speed Dialing is a shortcut way to dial frequently-called telephone numbers by assigning Speed Call codes to your frequently dialed telephone numbers. Two digit speed dial allows creating list of up to 100 numbers. If you already have a two-digit intercom and want to use two-digit speed dialing, send email to telephone-help@mit.edu or call 617.253.4357.

1. Lift the receiver.

2. Enter the Speed Dial Program code: 7 1

3. Listen for dial tone again. (If you do not get a dial tone, send an email to telephone-help@mit.edu or call 3-6370, requesting no charge activation of speed dialing.)

4. Assign a two-digit code from 00 (zero-zero) to 19. (If the 2-digit code is already in use, you will not get a message; the new phone number will overwrite the existing information.)

5. Enter the telephone number you are programming:
   - For an on-campus number, enter the five-digit extension, beginning with 2-, 3-, 5-, 8-, or 7-.
   - For an off-campus number, enter 9 and the complete number as you would normally, including the area code.

Result: You hear a confirmation tone of short beeps, followed by the dial tone. The number is saved for Speed Dialing with the 2-digit code you entered.

Placing a Call with Speed Call Codes

To place a call with Speed Dialing, follow this procedure.

1. Lift the receiver.

2. Press #

3. Enter the appropriate Speed Call code for the desired telephone number.
   Result: The full telephone number associated with the Speed Call code is dialed; the number you are calling will show on phone display.

Ring, Clock, and Test Buttons

Selecting a Ring Pattern

Your digital phone has eight different ring patterns. This helps avoid confusion over incoming calls if several phones are near each other.

1. Press #

2. Press Conference Ring
   Result: You hear the current ring pattern.

3. Press 
   Result: You hear the next ring pattern.
   Repeat step 3 to hear each successive ring pattern.

4. When you hear the ring pattern you want, press 
   Result: The desk set beeps twice. Your phone will now ring with the selected pattern.

Setting the Clock

The date and time are shown on the phone's display panel when you are not on a call. You can change any part or all of this display.

1. Press 

2. Press Transfer Clock
   Result: The month is shown on the display.
3. Press # until the correct month is shown.

4. Press # to save the month.
   *Result:* The date is shown on the display.
   Repeat steps 3 and 4 to change and save the date, hour, and minutes, respectively. (Do not change the year unless it needs to be increased to the current year.)

5. Press # to start the clock.
   *Result:* The desk set beeps twice and the clock starts running.

**Activating the Phone Test**

The test checks the Message and other lights, and the various tones on your desk set. If any steps in the test fail or your service is affected, call the Telephone Support Services HELP line at x3-4357 (x3-HELP).

1. Press *Shift* Select.
2. Press *Drop Test.*
   *Result:* The green Message light comes on and a tone begins repeating.
3. Lift the receiver and press each button on the telephone.
   *Result:* Each light next to a button should come on. You should hear a tone when you press buttons without lights. If these signals do not work, your phone has failed the test.

**Canceling the Phone Test**

You can cancel the phone test at any time during its execution.

1. Press *Shift* Select.
2. Press *Drop Test.*
   *Result:* The test is canceled.

**The Display Panel**

**Display Information**

A display panel is at the top of the digital desk set. When a call is not in progress, the panel shows the date and time of day. When a call is being placed or received, information about the call is displayed, as shown on the diagram below (details on each part of the display follow):

A. Letter designating which CA is carrying the call.
B. On outgoing calls, the number you enter; on incoming calls, information on the origin of the call.
C. A Call Identifier that defines the type of call.
D. Elapsed time of the call.

**Display Panel Contrast Adjustment**

To the right of the display panel is a wheel for adjusting the contrast of the display. Turn the wheel upward to darken the contrast; turn the wheel downward to lighten it. Experiment with the contrast adjustment to get the best display for your lighting conditions.

**Call Appearance Designations**

For all calls, a green light indicates which Call Appearance (CA) button carries the call. On the display panel, the CA carrying a call is also identified by a letter:
On the Model 7506 desk set, the nine CAs are designated by the letters a through j.
On the Model 7507 desk set, the thirty CAs are designated by the lowercase letters a through z and the uppercase letters A through D.

Directory Number

When you place a call, the display shows the digits as you enter them. When you receive a call, information on the origin of the call is displayed. For calls received from an on-campus phone, that phone’s number is shown unless the caller has disabled such identification, in which case PRIVATE NUMBER is displayed. Calls received from off-campus phones are shown as INCOMING CALLS. Additionally, number privacy works when calling off-campus numbers on phones that have caller ID.

Call Timing

Once an incoming or outgoing call is answered, the elapsed time of the call in hours, minutes, and seconds is shown in the lower-right portion of the panel.

Call Identifier Codes

When you place or receive a call, Call Identifier codes are shown in the upper-right portion of the display panel. The list below details, alphabetically, the most frequently encountered codes and their meanings.

- CFA: Call Forwarding - All Calls
- CFB: Call Forwarding - Busy
- CFN: Call Forwarding - No Answer
- HLD: Call on Hold
- ICM: Intercom Call
- InI: Incoming Call - Internal (within MIT)
- InX: Incoming Call - External (outside MIT)
- OnL: On Another Line (a call forwarded to your phone because of a No-Answer on the number being called)
- OuI: Outgoing Call - Internal (within MIT)
- OuX: Outgoing Call - External (outside MIT)
- Pok: Call Picked Up
- Pri: Priority Call
- TiL: Tie-Line Call

Call Forwarding Identification

When you place a call that gets forwarded, a Call Forwarding identifier is displayed (see above).

When you receive a call that is being forwarded to you, the display includes the origin of the call, the number of the phone from which the call is forwarded, and a Call Forwarding identifier.

When you answer a call to an SDN on your desk set, an asterisk (*) after the Call Identifier code means that the PDN phone for that number is busy.

Appendix: Classes of Telephone Service

Below are descriptions of MIT’s classes of phone service, including restrictions on calling. If you are unsure which class of service is on your phone, check with your department’s Administrative Officer, or call your Telephone Support Services Customer Representative. If you try to place a call outside the restrictions of your service class, you will hear a recording or a fast busy signal.

Class of Service

- A: Completely unrestricted. Can call world-wide without using account numbers. Account numbers can be used to bill a toll call to a particular MIT account. To call off-campus, press 9 + complete phone number, including area or country codes.
- B1: Can call worldwide with an MIT account number. For domestic toll calls, including all Massachusetts area codes, press 191 + MIT account + 1 + area code and phone number. For international calls, press 192 + MIT account + 011 + country code + city code + phone number.
- B2: Can call only within the 617/857 and 781/339 area codes. To call within these area codes, press 9 + phone number. (Class A or B1 are needed to call the 508/774, 978/351, and 413 area codes.)
- C: Restricted to calling only within MIT. Calls outside of MIT require the use of a telephone credit or calling card.
- D: Reserved for selected applications, such as emergency and elevator telephones. When the receiver is lifted, the call is automatically placed to a predetermined destination. Class D phones can receive calls only within MIT. Not available for digital phones.
- E: Generally reserved for computer dial-up applications. Restricted to placing and receiving calls only within MIT. No access to toll operators or tie lines.
- F: Generally reserved for lobby phones. Restricted to placing and receiving calls only within MIT. Access to toll operators and tie lines is allowed.

Related Links

Telephony at MIT