# Avaya IP Key Expansion Module (KEM) User Guide

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# About the Key Expansion Module

This document describes the Avaya IP Deskphone Key Expansion Module (Avaya KEM) and how to use it with the Avaya 2002 IP Deskphone and Avaya 2004 IP Deskphone.

## Description

The Avaya IP Deskphone KEM is a hardware component that connects to the Avaya 2002 IP Deskphone and Avaya 2004 IP Deskphone and provides additional line appearances and feature keys. See Figure 1 on page 4.

The Avaya IP Deskphone KEM provides 24 additional programmable keys (with labels) for your Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone. The Avaya IP Deskphone KEM keys are displayed in two columns of twelve keys on either side of a central Liquid Crystal Display (LCD).

Up to four Avaya IP Deskphone KEMs can be attached to an Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone. With four Avaya IP Deskphone KEMs attached, the IP Phone can have up to 96 programmable keys.

When an Avaya IP Deskphone KEM is installed on an Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone, the controls on the IP Phone affect both the IP Phone and the Avaya IP Deskphone KEM.

**Figure 1** Avaya IP Deskphone KEM

## Features

The Avaya IP Deskphone KEM has the following features:

- 12 keys on each side of an LCD provides up to 24 additional self-labeled programmable keys.
- A desk-mount bracket and structural baseplate connect the Avaya IP Deskphone KEM to an Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone, or to another avaya IP Deskphone KEM.
- A wall-mount bracket installs the Avaya IP Deskphone KEM alongside a wall-mounted Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone.

## Adjusting the display

The Avaya IP Deskphone KEM (see Figure 1 on page 4) has one LCD between two rows of 12 programmable keys for a total of 24 keys. Each key has a 10-character display label that is set automatically.

To alter the display contrast on the Avaya IP Deskphone KEM, use the **Contrast Adjustment** option under the **Telephone Options** menu on the IP Phone. Any contrast changes you make on the IP Phone affect the Avaya IP Deskphone KEM. The Avaya IP Deskphone KEM and IP Phone do not have separate contrast adjustments.

For more information on IP Phone settings and controls, see the *Avaya 2002 IP Deskphone User Guide* (NN40050-107) or the *Avaya 2004 IP Deskphone User Guide* (NN40050-108).

## Setup and assembly

The Avaya IP Deskphone KEM mounts on the right side of an Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone as shown in Figure 2. It is secured by snapping into a receptacle on the back of the IP Phone using the desk-mount bracket and structural baseplate supplied with the Avaya IP Deskphone KEM.

The Avaya IP Deskphone KEM connects to the Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone using the Accessory Expansion Module (AEM) port on the IP Phone.

**Figure 2** Avaya IP Deskphone KEM connected to Avaya 2002 IP Deskphone

## Installing the KEM

Use the following instructions to install an Avaya IP Deskphone KEM:

1 Remove the IP Phone from the stand by pressing the IP Phone tilt handle, and pulling the IP Phone away from the stand.

**Note:** For the Avaya 2004 IP Deskphone, you can also adjust the stand angle to maximum, instead of removing the stand.

2 Place the connecting arm of the Avaya IP Deskphone KEM behind the IP Phone and align the Avaya IP Deskphone KEM connection plug to the AEM port on the back of the IP Phone.

**Note:** An Avaya 2002 IP Deskphone with the product code NTDU76AB34, NTDU76BB34, NTDU76AB70, or NTDU76BB70 has shorter connector pins than an Avaya 2002 IP Deskphone with another product code. If your Avaya 2002 IP Deskphone has a shorter connector pin, you must detach the ribbon cable connector in the IP Phone KEM from the retaining clip and press the ribbon cable connector into the header connector before you attach the Avaya IP Deskphone KEM.

3. Press the Avaya IP Deskphone KEM and IP Phone firmly together until the Avaya IP Deskphone KEM locks into place.
4. If connecting a second Avaya IP Deskphone KEM, repeat steps 1-3.
5. The second Avaya IP Deskphone KEM is attached to the right side of the first Avaya IP Deskphone KEM.
6. Attach the IP Phone stand and the Avaya IP Deskphone KEM stand, if removed.

   Adjust each Avaya IP Deskphone KEM stand to the same angle as the IP Phone.
7. The Avaya IP Deskphone KEM powers up.
8. The Avaya IP Deskphone KEM uses the electrical connection of the Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone for power. It does not have its own power source.

## Using the wall-mount option

The IP Phone and IP Phone KEM combination can be wall-mounted using the optional bracket kit provided. The second Avaya IP Deskphone KEM is attached to the right side of the first Avaya Avaya IP Deskphone KEM.

## Adjusting the tilt base

The tilt base for the Avaya 2002 IP Deskphone cannot be adjusted; however, the tilt base on the Avaya IP Deskphone KEM can be adjusted to match the fixed angle of the Avaya 2002 IP Deskphone.

The Avaya 2004 IP Deskphone has an adjustable tilt base. Adjust the tilt of both the Avaya 2004 IP Deskphone and the Avaya IP Deskphone KEM as desired.

## Initializing the KEM

Once the IP Phone KEM has been installed and powered up on your Avaya 2002 IP Deskphone 2002 or 2004, the IP Phone KEM initializes. When this occurs, the Avaya IP Deskphone KEM display lights up and flashes until it establishes communication with the IP Phone. When initialization completes successfully, the additional programmable keys on the Avaya IP Deskphone KEM are ready to use.

When you power up both the IP Phone and the IP Phone KEM together, the IP Phone will boot up first. A tone will sound to indicate that the IP Phone has initialized successfully. The labels will display on the IP Phone KEM to indicate that it has initialized successfully.

**Note:** If the IP Phone KEM display does not stop flashing or does not display key labels, contact your system administrator.

**Note:** If you install two IP Phone KEMs on your IP Phone, the one directly attached to the IP Phone (to the immediate right of the IP Phone) must be functional for the second Avaya IP Deskphone KEM to operate. This is because the second Avaya IP Deskphone KEM uses the first Avaya IP Deskphone KEM to receive its power and communicate with the IP Phone.

## Hot plug-in

Hot plug-in refers to the connection of one or more Avaya IP Deskphone KEMs to an active IP Phone. When you connect an IP Phone KEM to an IP Phone that is already active, the IP Phone does not need to be restarted. If there are other IP Phone KEMs already connected to the IP Phone, all the IP Phone KEMs will reboot when you connect a new module.

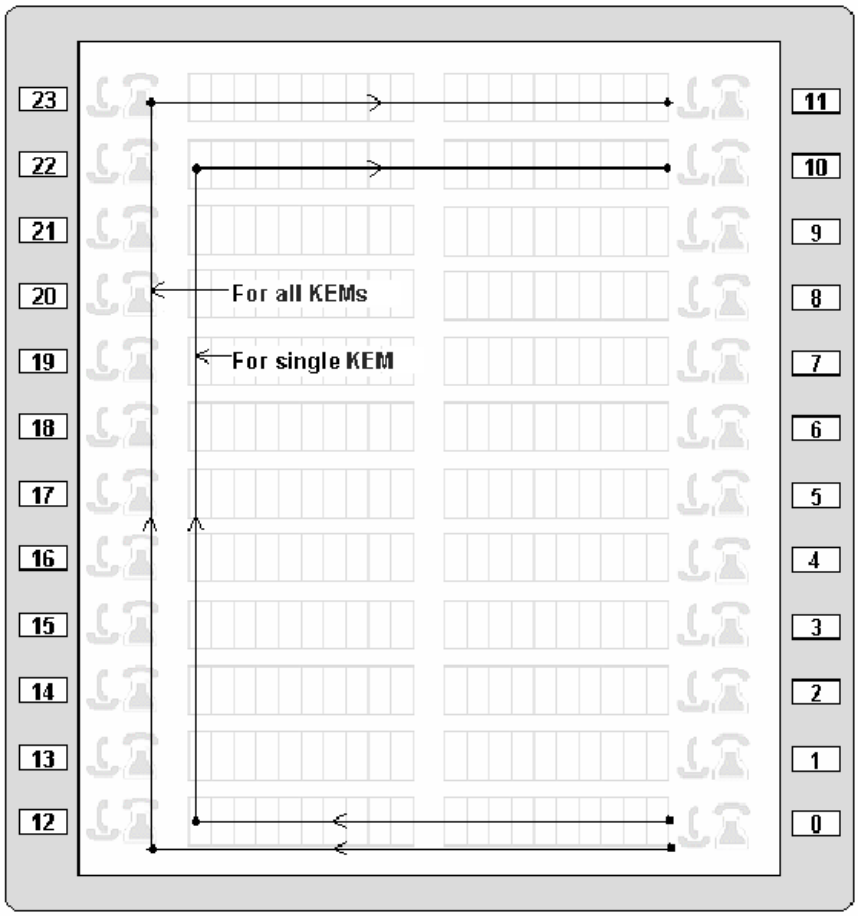
## Coldstart

You can press a sequence of keys (on the KEM) to trigger a cold start of a single Avaya IP Deskphone KEM, or all Avaya IP Deskphone KEMs attached to the same IP Phone. The sequence must be performed while the icons are flashing.

- To coldstart a single Avaya IP Deskphone KEM, press the following sequence of keys: 0, 12, 22, 10.
- To coldstart all attached Avaya IP Deskphone KEMs, press the following sequence of keys: 0, 12, 23, 11.

Figure 3 illustrates both coldstart sequences.

**Figure 3** Coldstart sequences




## Controls and settings

When an Avaya IP Deskphone KEM is installed on an Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone, the controls and settings of the IP Phone control both the IP Phone and the Avaya IP Deskphone KEM. Use the **Telephone Options** menu on the attached IP Phone to set the contrast and feature key labels of the Avaya IP Deskphone KEM.

For more information about controls and settings (including the **Telephone Options** menu) for your IP Phone, see the *Avaya 2002 IP Deskphone User Guide* (NN40050-107) or the *Avaya 2004 IP Deskphone User Guide* (NN40050-108).

## The enhanced KEM

Your system administrator must assign your KEM as an enhanced KEM in system programming in order for you to have external line, target line and Hunt group appearances on your KEM buttons. You can receive external calls only when KEM is operating in enhanced mode.

If you want more line buttons programmed on your KEM or more information on using Hunt groups, see your system administrator.

## Programming memory buttons

The default for KEM memory buttons is blank. You can program memory buttons on the KEM to your personal preference with internal and external autodial numbers or features to give you touch dialing or feature activation. If you are operating KEM in enhanced mode, you can program buttons for target line and Hunt groups as well. When you use enhanced mode, you can also program duplicate buttons. For example, you can program more than one button for a particular target line or external auto dialer. You can program names to correspond to external autodial numbers. After you enter the names you can verify which names are programmed against the external autodial buttons.

Your KEM will be most effective if you use it along with these features:

- Camp-On ( [Feature] 8 2 )
- Transfer ( [Feature] 7 0 )
- Priority Call ( [Feature] 6 9 )

Make sure that features are programmed on your Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone or KEM by following the steps below for programming memory buttons.

**Internal autodial**

1. Press [Feature] * 2 .
2. Press a memory button.
3. Dial the extension number.
4. Press OK to store the number.
   Or
   Press Quit to exit the programming sequence.

**External autodial**

1. Press [Feature] * 1 .
2. Press a memory button.
3. Dial the external number.
4. Press OK to store the number.
   Or
   Press Quit to exit the programming sequence.

**Names for external autodial on KEM**

1. Press [→] [*] [1].
2. Press a memory button.
3. Type the external number.
4. Press OK to store the number.
5. Use the keypad to type the name that corresponds to the number you programmed.
6. Press OK to store the name with the corresponding number.

**Features**

1. Press [→] [*] [3].
2. Press a memory button.
3. Press [→] and enter the feature code.
4. Press OK to store the feature code.
   Or
   Press Quit to exit the programming sequence.

**Verify the name programmed for an autodial button**

1. Press [→] [*] [0].
2. Press the programmed memory button for the programmed name you want to see.

   The name that you programmed against that external autodial button appears.

**How to erase memory buttons**

1. Press [→] [*] [1].
2. Press a memory button.
3. Press OK to erase the button.

Administrators can also program names for an external autodial programmable button for your phone through the Telset administration interface. Administrators must have administrator privileges to access the Telset administration interface. For more information about how to log on to and use the Telset administration interface, administrators can see *Avaya Telset Administration Guide* (NN40170-604). For administrator-level procedures about how to program IP Phone memory buttons through the Business Element Manager and through the Telset administration interface, see *Avaya Business Communications Manager 6.0 Configuration — Devices* (NN40170-500).

## Moving line buttons

If you have an enhanced KEM, you can move external lines, target lines and hunt group appearances from the buttons on the Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone telephone to buttons on your KEM.

1. Press [Transfer] [*] [8] [1].
2. On your Avaya 2002 IP Deskphone or Avaya 2004 IP Deskphone telephone, press the line button for the line you want to move.
3. On your KEM, press the memory button where you want the line to go.
4. Press [Hold]. The line button now appears on your KEM.

## Monitoring telephones in your system

It is important that you pay attention to the different types of indicators beside the internal autodial buttons on your KEM. These indicators tell you the status of a telephone extension.

The following indicators will appear beside the internal autodial buttons on your KEM when:

The telephone extension is on an internal or external call, or is being used to check voice mail.

The Do Not disturb (DND) feature is activated at the telephone extension.

The Call Forward feature is activated at the telephone extension.

## Answering and transferring a call

Most of the calls that you deal with will involve the following procedures:

- Answer a call.
- Determine whom the call is for.
- Check the status of the intended recipient's telephone extension on your KEM.
- If the indicator is OFF, transfer the call to the telephone extension.

OR
If the indicator appears, your co-worker is busy on another call. In this case you can use the following features:

- Camp-on: allows you to transfer the call to the telephone extension even if all its lines are busy. Press [Transfer] 8 2 or press the memory button if you have programmed one for this feature.
- Ring Again: signals you to call back when the telephone extension is available. 1) Call the telephone extension. 2) Press [Transfer] 2 or press the memory button if you have programmed one for this feature.
- Priority Call: lets you interrupt your co-worker's current call. 1) Call the telephone extension. 2) Press [Transfer] 6 9 or press the memory button if you have programmed one for this feature.

OR

If the ▲ (DND) indicator appears, take a message, or transfer the call directly to the telephone extension voice mailbox (if applicable).

OR

If the (Call Forward) indicator appears, transfer the call to the telephone extension. The call is automatically forwarded to another internal or external number.