



Expansion Module for IP Phone 1100 Series User Guide

IP Phone 1110 Business Communications Manager

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Regulatory and safety information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.



Note: Do not make changes or modifications that are not expressly approved by Nortel. Any such changes can void your authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Warnings:

- This is a Class B product. In a domestic environment this product can cause radio interference in which case the user must take adequate measures.
- Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- Privacy of communications may not be ensured when using this telephone.

To prevent radio interference to the licensed service, this device must be operated indoors only and should be kept away from windows to provide maximum shielding.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス B 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

Table 1 lists EMC compliance for various jurisdictions.

Table 1 EMC compliance

Jurisdiction	Standard	Description
United States	FCC CFR 47 Part 15	Class B Emissions: FCC Rules for Radio Frequency Devices
Canada	ICES-003	Class B Emissions: Interference-Causing Equipment Standard: Digital Apparatus
Australia/New Zealand	AS/NZS 3548 CISPR 22	Class B Emissions: Information technology equipment - Radio disturbance
European Community	EN 55022	Class B Emissions: Information technology equipment - Radio disturbance
	EN 55024	Information technology equipment - Immunity characteristics Limits and methods of measurement
	EN 61000-3-2	Limits for harmonic current emissions (equipment input current \leq 16 A per phase)
	EN 61000-3-3	Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current \leq 16 A
Japan	VCCI	Regulations for voluntary control measures.

Other

Australia: AS/ACIF S004: Voice Frequency Performance Requirements for Customer Equipment
This equipment complies with the CE Marking requirements. 

EU Countries: This device complies with the essential requirements and other relevant provisions of EMC and LVD directives. A copy of the Declaration may be obtained from <http://www.nortel.com/products/announcements/eumrdc/index.html> or Nortel Networks GmbH address: Ingolstaedter Strasse 14-18, 80807 Munich Germany. Table 2 lists EMC compliance for various jurisdictions

Table 2 EMC compliance

Jurisdiction	Standard	Description
United States	FCC CFR 47 Part 15	Class A Emissions: FCC Rules for Radio Frequency Devices (see Notes 1 and 2)
Canada	ICES-003	Class A Emissions: Interference-Causing Equipment Standard: Digital Apparatus
Australia/New Zealand	AS/NZS 3548 CISPR 22	Class A Emissions: Information technology equipment - Radio disturbance

Table 2 EMC compliance

Jurisdiction	Standard	Description
European Community	EN 55022	Class A Emissions: Information technology equipment - Radio disturbance
	EN 55024	Information technology equipment - Immunity characteristics Limits and methods of measurement
	EN 61000-3-2	Limits for harmonic current emissions (equipment input current \leq 16 A per phase)
	EN 61000-3-3	Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current \leq 16 A



Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user should not make changes or modifications not expressly approved by Nortel Networks. Any such changes could void the user's authority to operate the equipment

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.



Note: The user should not make changes or modifications not expressly approved by Nortel Networks. Any such changes could void the user's authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada

Warnings:

- This is a Class A product. In a domestic environment this product can cause radio interference in which case the user must take adequate measures.

- Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- Privacy of communications may not be ensured when using this telephone.
- To prevent radio interference to the licensed service, this device must be operated indoors only and should be kept away from windows to provide maximum shielding.

Table 3 Safety standards

Jurisdiction	Standard	Description
United States	UL 60950-1	ITE equipment - Safety - Part 1: General requirements
Canada	CSA 60950-1-03	ITE equipment - Safety - Part 1: General requirements
European Community	EN 60950-1 +A11	ITE equipment - Safety - Part 1: General requirements
Australia/New Zealand	AS/NZS 60950.1:2003	Safety of Information Technology Equipment

Other

US/Canada: Hearing Aid Compatibility (HAC) as per FCC Part 68

This equipment complies with the CE Marking requirements. 

EU Countries: This device complies with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the Declaration may be obtained from Nortel Networks GmbH address: Ingolstaedter Strasse 14-18, 80807 Munich Germany

DenAn regulatory notice for Japan

Warning

Please be careful of the following while installing the equipment:

- Please only use the Connecting cables, power cord, AC adaptors shipped with the equipment or specified by Nortel to be used with the equipment. If you use any other equipment, it may cause “failures, malfunctioning or fire”.
- Power cords shipped with this equipment must not be used with any other equipment. In case the above guidelines are not followed, it may lead to death or severe injury



本製品を安全にご使用頂くため、以下のことにご注意ください。

- 接続ケーブル、電源コード、ACアダプタなどの部品は、必ず製品に同梱されております。添付品または指定品をご使用ください。添付品・指定品以外の部品をご使用になると故障や動作不良、火災の原因となることがあります。
- 同梱されております付属の電源コードを他の機器には使用しないでください。
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How to get help

This section explains how to get help for Nortel products and services.

Getting Help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

<http://www.nortel.com/support>

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

Getting Help over the phone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

<http://www.nortel.com/callus>

Getting Help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

<http://www.nortel.com/erc>

Getting Help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

Chapter 1

Getting started

This section contains information on the following topics:

- [“About this guide” on page 15](#)
- [“Symbols and conventions used in this guide” on page 16](#)
- [“Symbols and conventions used in this guide” on page 16](#)
- [“Related publications” on page 16](#)
- [“IP Phone 1140E User Guide \(NN40050-105\)” on page 16](#)

About this guide

This guide tells a hardware installer or an IP Phone 1100 series phone user how to install and use an expansion module for their IP Phone 1100 series telephone.

Audience

This guide is intended for people who install and use the expansion module for IP Phone 1100 series. This guide assumes that you are familiar with using the compatible IP Phone 1100 series phones. For more information, refer to the *IP Phone 1120E User Guide* (NN40050-104) or *IP Phone 1140E User Guide* (NN40050-105).

Acronyms

The following is a list of acronyms used in this guide.

Table 1

Acronym	Description
AEM	Accessory expansion module
LCD	Liquid crystal display
PoE	Power over Ethernet

Symbols and conventions used in this guide

These symbols are used to highlight critical information:



Caution: Alerts you to conditions where you can damage the equipment.



Danger: Alerts you to conditions where you can get an electrical shock.



Warning: Alerts you to conditions where you can cause the system to fail or work improperly.



Note: A Note alerts you to important information.



Tip: Alerts you to additional information that can help you perform a task.



Security note: Indicates a point of system security where a default should be changed, or where the administrator needs to make a decision about the level of security required for the system.

Related publications

Related publications are listed below. To locate specific information, you can refer to the master index for the documentation suite for your system.

IP Phone 1120E User Guide (NN40050-104)

IP Phone 1140E User Guide (NN40050-105)

Chapter 2

Introduction

This document describes the Expansion Module for IP Phone 1100 Series (expansion module) and how to use it with the compatible IP Phone 1100 series telephones.

The following topics are covered in this chapter:

- [“Expansion module overview” on page 17](#)
- [“Setup and assembly” on page 19](#)
- [“Controls and settings” on page 19](#)
- [“Shift/Outbox key” on page 19](#)
- [“Services key” on page 19](#)
- [“Display Diagnostics menu” on page 20](#)

Expansion module overview

The expansion module is supported on the following IP Phones:

- IP Phone 1120E
- IP Phone 1140E

The expansion module is a hardware accessory that connects to an IP Phone to provide additional line and feature keys. The module is a graphical expansion module with 18 self-labeling keys.

The supported IP Phone 1100 series phones can support a maximum of three expansion modules at one time. This allows the IP Phone 1120E and IP Phone 1140E to have a maximum of 54 additional line or feature keys with three expansion modules.

[Figure 1 on page 18](#) shows the IP Phone 1140E with one expansion module attached.

Wall mounting

You can mount the expansion module with an IP Phone using the wall mount template and mounting bracket provided with your expansion module.

Figure 1 IP Phone 1140E with expansion module

Display

The expansion module is equipped with a graphical, pixel-based, gray-scale liquid crystal display (LCD). The LCD is located beside the 18 line/feature keys (see [Figure 1 on page 18](#)). Each of the 18 line/feature keys on the expansion module has a 10-character display label. This label is set automatically, however, you can use the controls on your IP Phone to edit the label.

To adjust the display and contrast on the expansion module, use the Contrast Adjustment option in the Telephone Options menu on the IP Phone. Any contrast changes you make on the IP phone also affect the expansion module display. The expansion module and IP Phone do not have separate contrast adjustments.

Whether the IP Phone is powered using local power or Power over Ethernet (PoE), the expansion module has the same backlight settings as the IP Phone. The backlight timer only turns off if the backlight timer is set.

For more information on how to adjust the display settings on the expansion module using the menus in your IP Phone, refer to the user guide for your IP Phone.

Setup and assembly

The expansion module mounts on the right side of the IP Phone. Snap the expansion module into the accessory expansion module (AEM) on the back of the IP Phone. For installation procedures see [Chapter 3, “Installing the expansion module,” on page 21](#). You can also wall mount the expansion module with IP Phone.

Controls and settings

When you install an expansion module on an IP Phone, you control the settings of both the IP Phone and the expansion module through the IP Phone. Use the Telephone Options menu on the attached IP Phone to set the contrast and line/feature key labels of the expansion module.

For more information on how to use your IP Phone to set the labels of your expansion module, see your IP Phone user guide.

Shift/Outbox key

The IP Phone 1140E can have up to 36 additional line/feature keys using the Shift/Outbox key functionality on your IP Phone. This feature, if it is supported by your Business Communication Manager (BCM), works if you have one expansion module already connected to your IP Phone. This gives your IP Phone a maximum of 54 additional line/feature keys.

If you install more than one expansion module on your IP Phone, the Shift/Outbox key functionality does not affect the expansion module because the maximum number of line/feature keys is already available.

The Shift/Outbox key on the IP Phone 1120E is a fixed key that is not currently supported.

Services key

Use the Services key on your IP Phone to access user settings and certain features on the IP Phone. When one or more expansion modules are attached to your IP Phone, the actions of the Display Diagnostics menu for your IP Phone line/feature key display area are duplicated for the expansion module.

Press the Services key of your IP Phone to access the following menu items:

- Display Diagnostics
- Set Info

Display Diagnostics menu

Use the Up/Down navigation keys on your IP Phone to scroll the diagnostics menu and to access the following diagnostic operations for your IP Phone and expansion module.

- Full Contrast
- LED Test
- Character Test

Instructions are displayed in the LCDs of the IP Phone and the expansion module. The line/feature key display areas are blank.

Full Contrast

The IP Phone and the expansion module display areas are set to maximum (dark) contrast, including the line/feature key areas. All LEDs are off.

LED Test

The IP Phone and the expansion module LEDs are set to on. The display areas clear, including the line/feature key display areas.

Character Test

The IP Phone and the expansion module LEDs are set to off. The available character set is displayed across all writable areas of the display, including the line/feature key display areas. The telephone on-hook icon is displayed for all line/feature keys.

[Table 4 on page 20](#) shows the diagnostic operation on the IP Phone and the expansion module.

Table 4 Display diagnostic operation on the IP Phone and the expansion module

Diagnostic step	IP Phone line/feature key LCD	Expansion module LCD
Initial screen	Blank	Blank
Full Contrast	Set to highest contrast	Set to highest contrast
LED Test	Blank	Blank
Character Test	Characters appear across the display areas and the telephone on-hook icon is displayed.	Characters appear across the display areas and the telephone on-hook icon is displayed.

Chapter 3

Installing the expansion module

Complete the procedures in this chapter to install the expansion module for IP Phone 1100 Series phones. You must have an IP Phone 1120E and IP Phone 1140E in order to use an Expansion Module 1100 Series.

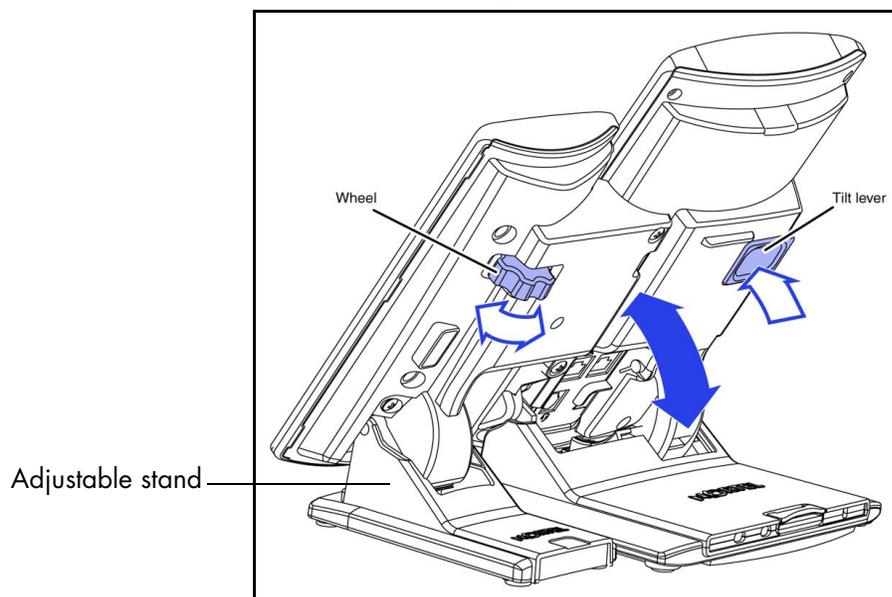
Installing an expansion module

**Caution: Damage to equipment**

To avoid damaging the equipment, remove the power (PeE cable or local power) from the IP Phone before you connect the expansion module.

You need a Phillips head screwdriver to complete this procedure.

- 1 Press the tilt lever to adjust the stand angle on the IP Phone. You can adjust the stand angle to maximum, instead of removing the stand.



- 2 At the back of the IP Phone, remove the rubber plug from the AEM port.
- 3 Place the connecting arm of the expansion module behind the IP Phone.
- 4 Align the expansion module connection plug with the AEM port on the back of the IP Phone.
- 5 Insert the screws into the holes at the top and bottom of the connecting arm of the expansion module.
- 6 Tighten the screws until they are snug.

Installing a second or third expansion module

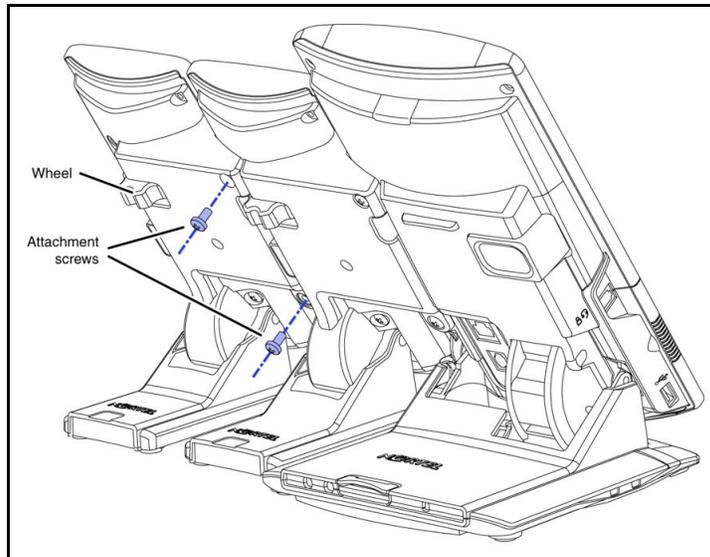


Caution: Damage to equipment

To avoid damaging the equipment, remove the power (PeE cable or local power) from the IP Phone before you connect the expansion module.

You need a Phillips head screwdriver to complete this procedure.

- 1 Attach the second expansion module to the right side of the first expansion module.



- 2 Adjust the tilt of the IP Phone to a comfortable viewing angle.
- 3 Adjust each of the expansion module foot stands so they are flush with the desk surface.
- 4 Turn the wheel on the back right-hand side of the expansion module to the right (if viewed from the front) to tighten the expansion module.



Warning: Do not over tighten the wheel on the expansion module.

- 5 Connect power to the IP Phone.
The expansion module powers up.



Note: The expansion module uses the electrical connection of the IP Phone for power. The expansion module does not have its own power source.

- 6 If required, repeat steps 1 to 5 to attach a third expansion module to the right side of the second expansion module.

Mounting the expansion module and phone on a wall

You can wall-mount an IP Phone with an expansion module. You need the mounting template and the mounting bracket that came with the expansion module. You must attach the expansion module to your IP Phone before you mount them on the wall.

Complete this procedure if you plan to mount the base station on a wall or ceiling. Skip this procedure if you plan to place the base station on a flat surface.

- 1 Place the mounting template against the wall where you want to install the IP Phone and expansion module.

The template provides guidelines for mounting one IP Phone with up to two or more expansion modules.

- 2 Use the mounting template to position the IP Phone and expansion module.
- 3 Mark the screw positions.
- 4 Use the screws to attach the mounting brackets to a wall.
- 5 Align the notches on the back of the IP Phone and expansion module with the mounting bracket on the wall.
- 6 Push the IP Phone and expansion module against the brackets until they are securely connected.

Adjusting the tilt base

The expansion module stand provides a continuous tilt adjustment so the tilt angle matches the IP Phone stand angle while accommodating variations in the desk surface. Use the clamp mechanism to unlock and lock the foot stand angle.



Caution: Risk of damaging equipment

Do not over-tighten the foot stand wheel on the expansion module. This can damage the wheel and the stand.

- 1 Turn the wheel on the back right-hand side of the expansion module to loosen the foot stand hinge.
- 2 Adjust the angle of the IP Phone using the tilt lever.
- 3 When the IP Phone is set to a preferred angle, turn the wheel on the back of the expansion module to tighten the foot stand hinge and lock the stand at the same angle as the attached IP Phone.

Chapter 4

Expansion module startup initialization

Once you have installed and powered up the expansion module on the IP Phone, the expansion module initializes.

[Table 5 on page 25](#) describes the initialization process for the expansion module.

Table 5 Initializing the expansion module

Activity	Description
The expansion module performs a self-test	<p>The self-test confirms the operation of the local memory, CPU, and other circuitry of the expansion module. During the self-test, the expansion module display lights up.</p> <p>Note: If the expansion module display does not light up, or lights up and then goes blank, check that the expansion module is correctly installed and configured.</p>
The expansion module establishes communication with the IP Phone	<p>The expansion module display flashes until it establishes communication with the IP Phone.</p> <p>Note: If the expansion module display does not start flashing, check that the expansion module is correctly installed and configured.</p> <p>Note: If the expansion module display does not stop flashing, the expansion module has not established communication with the IP Phone. Check that the expansion module is correctly installed and configured.</p>
The expansion module downloads key mappings and labels	<p>The key labels download to the expansion module. During the download, the display is blank.</p>

Chapter 5

Using the handset

This section describes how to use the expansion module to

- make calls
- put a call on hold
- program indicator keys
- use features

There are many ways to place or answer a call, depending on how you program the indicator keys and the type of call you want to make.

Making a call using a line key

- 1 Pick up the handset.
- 2 Press a key on the expansion module that is programmed as a **Line** key.
You hear a dial tone.
- 3 Use the key pad to dial the external number or the internal extension.

Making a call using the speakerphone key

- 1 Press the **Speakerphone** key.
You hear a dial tone.
- 2 Press a key on the expansion module that is programmed as a **Line** key to dial the external number or the internal extension.

Putting a call on hold

- 1 While a call is active, press the  key on your IP Phone.
- 2 To release the call and make it active again, press the flashing indicator key.

Programming indicator keys

You can program a programmable line or feature indicator key with a new number or feature.

Programming external autodial

- 1 Press the **Feature** key.
- 2 Enter ***1** using the telephone dial pad.
- 3 Press an indicator key.
- 4 Dial the external number.
- 5 Select OK to store the number.

Programming internal autodial

- 1 Press the **Feature** key.
- 2 Enter ***2** using the telephone dial pad.
- 3 Press an indicator key.
- 4 Dial the extension.
- 5 Select OK to store the number.

Programming a feature

- 1 Press the **Feature** key.
- 2 Enter ***3** using the dial pad.
- 3 Press an indicator key.
- 4 Select **Feature**.
- 5 Enter the feature code.
- 6 Select OK to store the feature code.

Erasing a programmed indicator keys

- 1 Press the **Feature** key.
- 2 Enter ***1** using the dial pad.
- 3 Press an indicator key.
- 4 Select OK to erase the indicator key.