



Expansion Module for IP Phone 1100 Series

User Guide



Revision history

May 2007

Standard 01.03. This document is up-issued to support Nortel Communication Server 1000 Release 5.0 software.

December 2006

Standard 01.02. This document is up-issued to include updates based on feedback. Expansion Module for the IP Phone 1100 series terminology has been updated.

December 2006

Standard 01.01. This document is up-issued to include updates based on feedback. Regulatory and safety information chapter was updated after a review. This is a new user guide for the Expansion Module for the IP Phone 1100 series.

Contents

About the Expansion Module for IP Phone 1100 Series . . .	7
Description	7
Features	8
Adjusting the display	9
Expansion Module for IP Phone 1100 Series font support	9
Setup and assembly	10
Installing the Expansion Module	11
Expansion Module startup initialization	14
Using the wall-mount option	14
Adjusting the tilt base	15
Controls and settings	16
Shift key functionality	16
Services key operation	16
Display diagnostics	17
Regulatory and safety information	19
Other	20
DenAn regulatory notice for Japan	21
Terms you should know	23
Index	25

About the Expansion Module for IP Phone 1100 Series

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

Description

The Expansion Module is supported on the following IP Phones:

- IP Phone 1120E
- IP Phone 1140E
- IP Phone 1150E

The Expansion Module is a hardware accessory that connects to the IP Phone and provides additional line appearances and feature keys.

Up to three modules are supported. The IP Phone 1120E, IP Phone 1140E, and IP Phone 1150E can have up to 54 additional line/feature keys with three Expansion Modules.

Figure 1 on page 8 shows the IP Phone 1140E with an Expansion Module attached.

Figure 1: IP Phone 1140E with Expansion Module



Features

The Expansion Module has the following features:

- 18 keys provide up to 36 additional self-labeled line/programmable feature keys when using the Shift feature. Using the **Shift** key functionality, an IP Phone 1140E, for example, can have up to 66 additional logical line/feature keys.
- Upgradeable firmware using a TFTP or a UFTP Server.
- A desk-mount bracket and structural baseplate support the connection of an Expansion Module for IP Phone 1100 Series to an IP Phone, or to another Expansion Module.
- IP Phone and Expansion Module combination can be wall-mounted using the wall mount template provided.

Adjusting the display

The Expansion Module is equipped with a graphical, pixel-based, grayscale LCD display area beside the 18 line/feature keys (see Figure 1 on page 8). Each of the 18 physical keys on the Expansion Module has a 10-character display label. This label is set automatically, however, the user can edit the label using the controls on the IP Phone.

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 affect the Expansion Module. The Expansion Module and IP Phone do not have separate contrast adjustments.

The type of power supply to the phone controls what is functional on the Expansion Module for IP Phone 1100 Series. The Expansion Module's backlight can only light when the local 48V power supply is present. On the other hand, either local 48V power supply or Power over Ethernet (PoE) to the phone will power all of the Expansion Module's other functionality.

For more information, see the section "Adjusting the screen display contrast" in your IP Phone User Guide.

Expansion Module for IP Phone 1100 Series font support

The Expansion Module for IP Phone 1100 Series (Expansion Module) text is rendered by the IP Phone; therefore, the selected language and font mappings on the Expansion Module mirror the selected language and font mappings on the IP Phone. For further information, see *IP Phones Fundamentals* (NN43001-368).

Setup and assembly

The Expansion Module mounts on the right side of the IP Phone. The Expansion Module snaps into the Accessory Expansion Module (AEM) on the back of the IP Phone using the desk-mount bracket and structural baseplate supplied with the Expansion Module.

Installing the Expansion Module

Use the following instructions to install the Expansion Module.



CAUTION

Damage to Equipment

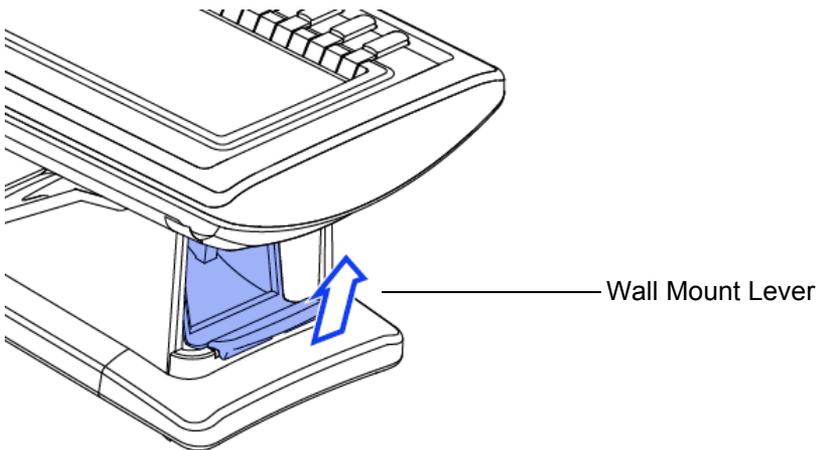
To avoid damaging the equipment, remove the power (PoE cable, or local power) from the IP Phone before connecting the Expansion Module.



CAUTION

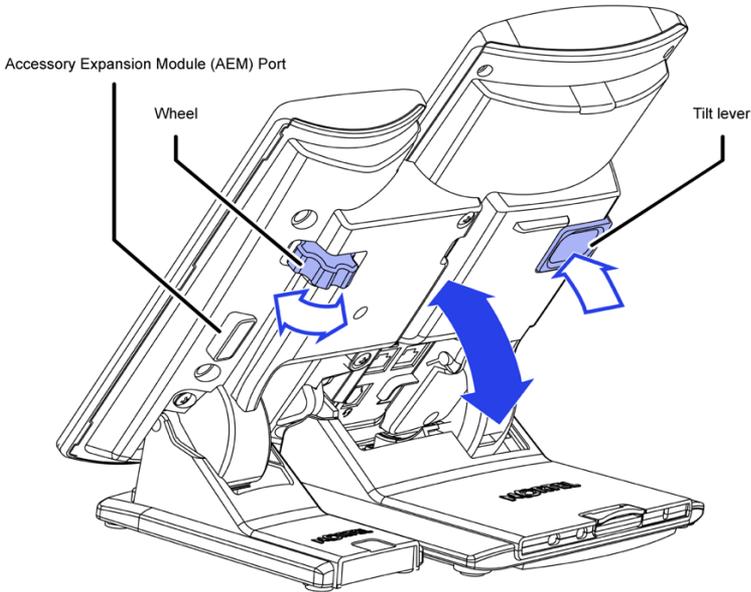
Damage to Equipment

The Expansion Module is shipped with the base locked in position. To avoid damaging the Expansion Module, press the tilt lever, located on the base at the front of the Expansion Module.

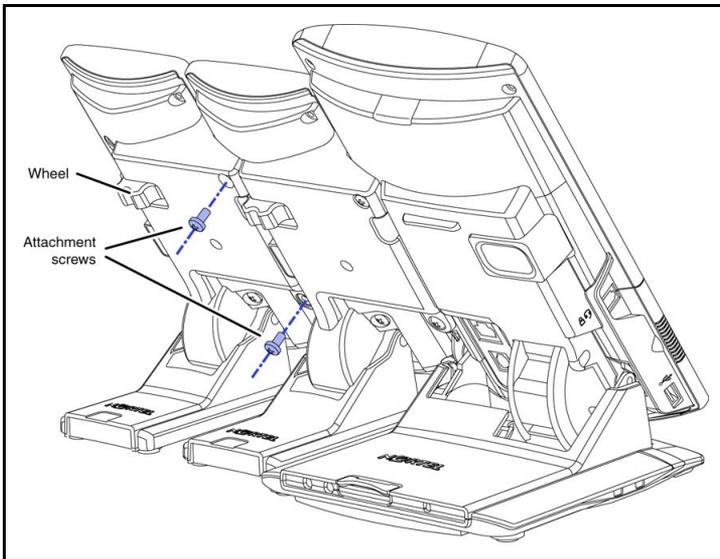


1. Press the tilt lever to adjust the stand angle on the IP Phone. You can adjust the stand angle to maximum, instead of removing the stand. See Figure 2.

Figure 2: Adjusting the stand angle on the IP Phone



2. At the back of the IP Phone, remove the rubber plug from the AEM port. Place the connecting arm of the Expansion Module behind the IP Phone and align the Expansion Module connection plug to the AEM port on the back of the IP Phone.
3. Insert the screws in to the top and bottom holes of the connecting arm of the Expansion Module and tighten until snug. See Figure 3.

Figure 3: Connecting the Expansion Module

- If connecting a second, or a third Expansion Module, repeat steps 2 to 4.

Note: The second Expansion Module is attached to the right side of the first Expansion Module. The third Expansion Module is attached to the right side of the second Expansion Module.

- Adjust the height of the IP Phone tilt adjustment to a comfortable viewing angle. Then adjust each of the Expansion Module foot stands so they are flush to the desk surface. Turn the wheel on the back right 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.

- 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. It does not have its own power source.

Expansion Module startup initialization

Once the Expansion Module has been installed and powered up on the IP Phone, the Expansion Module initializes.

Table 1 lists the initialization process for the Expansion Module.

Table 1: Initializing Expansion Module

Phase	Description
Expansion Module performs self-test	<p>The self-test confirms the operation of the Expansion Module local memory, CPU, and other circuitry. While undergoing this 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, or fails to begin flashing, check that the Expansion Module is correctly installed and configured.</p>
Expansion Module establishes communication with the IP Phone	<p>The Expansion Module display flashes until it establishes communication with the IP Phone.</p> <p>If the Expansion Module display does not stop flashing, communication has not been established with the IP Phone. Check that the Expansion Module is correctly installed and configured.</p>
Expansion Module downloads key maps	<p>The key labels download to the Expansion Module. During the download, the display is blank.</p>

Using the wall-mount option

IP Phone and Expansion Module combination can be wall-mounted using the wall mount template provided.

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. A clamp mechanism is used to unlock and lock the foot stand angle.

**CAUTION**

Do not over tighten the wheel on the Expansion Module.

The Expansion Module is tightened by spinning the wheel clockwise and loosened by spinning the wheel counter-clockwise.

Turn the wheel on the back right side (if viewed from the front) of the Expansion Module to loosen the stand hinge. Adjust the angle of the IP Phone using the tilt lever. When the IP Phone is set to a preferred angle, turn the wheel on the back of the Expansion Module to tighten the stand hinge and lock the stand at the same angle as the attached IP Phone.

Controls and settings

When an Expansion Module is installed on an IP Phone, the controls and settings of the IP Phone control both the IP Phone and the Expansion Module. Use the **Telephone Options** menu on the attached IP Phone to set the contrast and feature key labels of the Expansion Module.

For more information about controls and settings (including the **Telephone Options** menu) for your IP Phone, see the IP Phone user guide.

Shift key functionality

The IP Phone 1140E and IP Phone 1150E can also have up to 36 additional line/feature keys using the **Shift** key functionality with one Expansion Module (if the Communication Server supports the Shift feature).

If more than one Expansion Module connected, the **Shift** key functionality does not affect the Expansion Module since 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 reserved for future feature development.

Services key operation

The Services key is used to access user settings and certain features on the IP Phone. When one or more Expansion Module are attached to the IP Phone, the actions of the display diagnostics for the IP Phones DN/feature key display area are duplicated for the Expansion Module.

If an incoming call occurs when in the diagnostic mode, the call is answered by pressing the DN/feature key, handsfree, or headset key, or by picking up the handset. The display area remains in diagnostic mode until either the user exits the diagnostic more, or the idle timeout clears the mode. Once cleared, the normal display for the current state of the IP Phone is displayed.

Press the Services key to access the following menu items:

- Display diagnostics
- Set Info

Display diagnostics

Use the Up/Down navigation keys to scroll the Display diagnostics menu to access the following screens/diagnostic operations:

- initial screen
- Full Contrast
- LED Test
- Character Test

Initial screen

Instructions are displayed on the display area of the IP Phone and the Expansion Module. The DN/feature key display areas is blank.

Full Contrast

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

LED Test

The IP Phone and the Expansion Module LEDs are set to on. The display area is cleared including the DN/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 DN/feature key display areas. The telephone on-hook icon is displayed for all DN/feature keys.

Table 2 shows the display diagnostic operation on the IP Phones and the Expansion Module.

Table 2: Display diagnostic operation on the IP Phone and the Expansion Module

Diagnostic step	IP Phone DN/feature key display area	Expansion Module for IP Phone 1100 Series area display
initial screen	blank	blank
Full Contrast	set to highest contrast	set to highest contrast
LED Test	blank	blank
Character Test	Characters display across the display areas, the telephone on-hook icon is displayed.	Characters display across the display areas, the telephone on-hook icon is displayed.

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: 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 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 3 lists EMC compliance for various jurisdictions.

Table 3: 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

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/eumrhc/index.html> or 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

警告

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。上記注意事項を守らないと、死亡や大怪我など人身事故の原因となることがあります。

Terms you should know

Accessory Expansion Module

A built-in port on an Nortel IP Phone that enables accessory components (such as an Expansion Module for IP Phones 1100 Series) to connect and communicate with the IP Phone.

Directory Number (DN)

A one- to seven-digit number assigned to a system telephone.

Expansion Module for the IP Phone 1100 Series

An accessory for IP Phone 1120E, 1140E and 1150E, which has 18 physical keys for additional line/programmable feature keys (36 where deployed on Nortel Communication Servers supporting the shift function).

Feature display

An area that shows status information about the feature in use. It also displays the name and status of the active session.

Soft keys (self-labeled)

A set of keys programmed by your system administrator. The four keys located directly below the display area have four programmable layers. Access the layers through the **More...** key. The soft keys are also used to configure parameters in the **Telephone Options** menu.

Index

A

Accessory Expansion Module (AEM) 23

Auto Dial 23

D

Directory Number (DN) 23

Display 9

Display label 9

DN 23

F

Feature display 23

Features 8

I

Initialize the IP Phone KEM 16

Install the IP Phone KEM 10

IP Phone 2002 7

IP Phone 2004 7

IP Phone KEM 7, 23

IP Phone KEM controls and settings 16

IP Phone KEM description 7

IP Phone KEM display 9

IP Phone KEM features 8

L

LCD 9

Liquid Crystal Display (LCD) 9

R

Regulatory and safety information 19

S

Shift key 16

Soft keys 23

T

Tilt base 15

W

Wall-mount option 14

Nortel Communication Server 1000

Expansion Module for IP Phone 1100 Series

User Guide

Copyright © 2006 Nortel Networks. All Rights Reserved.

The information in this document is subject to change without notice. The statements, configurations, technical data, and recommendations in this document are believed to be accurate and reliable, but are presented without express or implied warranty. Users must take full responsibility for their applications of any products specified in this document. The information in this document is proprietary to Nortel Networks.

Nortel, Nortel (Logo), the Globemark, SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.

The *Bluetooth* word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Nortel Networks is under license. Other trademarks and trade names are those of their respective owners.

Publication Number: NN43130-101

Document Release: Standard 01.02

Date: May 2007

Produced in Canada

To provide feedback or report a problem in this document, go to www.nortel.com/documentfeedback

