Polycom® VVX® Expansion Modules with Polycom VVX Business Media Phones

Feature Profile 78960

The Polycom® VVX® Expansion Modules are consoles you can connect to Polycom VVX Business Media phones to add additional lines. VVX Expansion Modules enable you to handle large call volumes on a daily basis and expand the functions of your phone. You can accept, screen, dispatch, and monitor calls with VVX Expansion Modules and reduce the number of lost customer calls, shorten transaction times, and increase the accuracy of call routing.

Polycom VVX Expansion Modules are available for the following Polycom VVX business media phones running UC software 4.1.6, 4.1.7, and 5.1.x or later:

* VVX 300, 310, 400, and 410 business media phones
* VVX 500 and 600 business media phones

Note: VVX Expansion Modules not supported in UC Software 5.0.x

The VVX Expansion Modules are not supported on VVX phones running UC Software 5.0.x. The expansion modules are supported only on VVX phones running UC Software 4.1.6, 4.1.7, and 5.1.x.

The following features are available on the VVX Color Expansion Modules and VVX Expansion Modules with a paper display:

* **VVX Color Expansion Modules**   VVX Color Expansion Modules feature an easy-to-navigate 480x272 LCD display. Each color expansion module provides you with 28 line keys and 3 display pages, supporting a total of 84 lines that you can set up as registrations, favorites, busy lamp field contacts, or Microsoft® Lync™ presence contacts. You can connect up to three color expansion modules to your phone to support an additional 252 line keys per phone.
* **VVX Expansion Modules**   VVX Expansion Modules provide you with 40 line keys that you can set up as registrations, favorites, or busy lamp field contacts. You can connect up to three expansion modules to your phone to support an additional 120 line keys per phone.

This feature profile explains how to set up and use Polycom VVX Expansion Modules with your VVX phones and includes the following sections:

* Get Started
* Set Up VVX Expansion Modules
* Use VVX Expansion Modules
* Get Help

The following table summarizes supported phone models, software, and supporting documentation:

VVX Expansion Modules at a Glance

Released:	December 2013	**Interoperability Issues:**	You cannot connect VVX Color Expansion Modules and VVX Expansion Modules to VVX phones at the same time
Applies to models:	VVX 300, 310, 400, 410, 500, and 600	**Supporting Documentation:**	*Polycom UC Software 5.1.0 Administrator's Guide* and *Quick Start Guide for Polycom VVX Expansion Modules*
Software version:	UC Software 4.1.6, 4.1.7, and 5.1.x or later	**Limitations:**	None
Main business size:	Medium to large businesses	**Maintenance:**	One-time set up
Primary audience:	VVX phone users	**Dependencies:**	A registered VVX phone
Licenses Required:	Feature license required when registering phones with Lync Server	**Resources Required:**	None
Supported server versions:	SIP server and Microsoft Lync	**Security:**	None

Get Started

System administrators can enable and configure the following features for the VVX Expansion Modules:

- Flexible Line Key assignment
- Line appearances
- Favorites
- Busy Lamp Field
- Enhanced Feature Keys
- Presence
- Smart Paging

See the *Polycom UC Software 5.1.0 Administrator's Guide* for more information on enabling and configuring features for the expansion modules.

Set Up VVX Expansion Modules

The Polycom VVX Expansion Modules are powered and signaled by VVX business media phones and require minimal setup. After you connect an expansion module to a VVX phone, the module is automatically configured to work with the phone. Note that you cannot connect paper display and color display expansion modules together on the same phone.

> **Web Info: Setting up Expansion Modules**
>
> For more information on setting up VVX Expansion Modules, see the *Quick Start Guide for Polycom VVX Expansion Modules*.

To connect the expansion module to your phone:

» Connect an auxiliary cable from the AUX port on the phone to the AUX IN port on the expansion module.

    The LED lights on the module's line keys flash red and green as the module starts up. The VVX Color Expansion Modules power up in approximately 20 seconds, and the VVX Expansion Modules with a paper display power up in approximately 3 seconds.

After the first module is on, you can connect up to two additional modules to your VVX phone.

To connect multiple VVX expansion modules:

1 Connect an auxiliary cable from the AUX Out port on the first module connected to the phone to the AUX In port on the second module.

2 Connect an auxiliary cable from the AUX Out port on the second module to the AUX In port on the third module.

    The LED lights on the line keys light up for each connected module as the expansion modules start up.

After you connect your expansion modules to your VVX phone, you can begin assigning line key functions and using your expansion modules.

Use VVX Expansion Modules

This section includes the following topics on how to use the VVX Expansion Modules with your VVX phone:

● Understand VVX Expansion Module Features

● Assign Functions to Lines

● Identify Line Key Assignments

● Generate the VVX Expansion Module Directory Card

● Navigate VVX Color Expansion Module Paging

● Place Calls

● Answer Calls

- Resume Calls
- Assign Favorites
- Assign Microsoft Lync Presence Contacts
- Change the Backlight

Understand VVX Expansion Module Features

The following figure illustrates the features, components, and keys available on the color expansion modules.
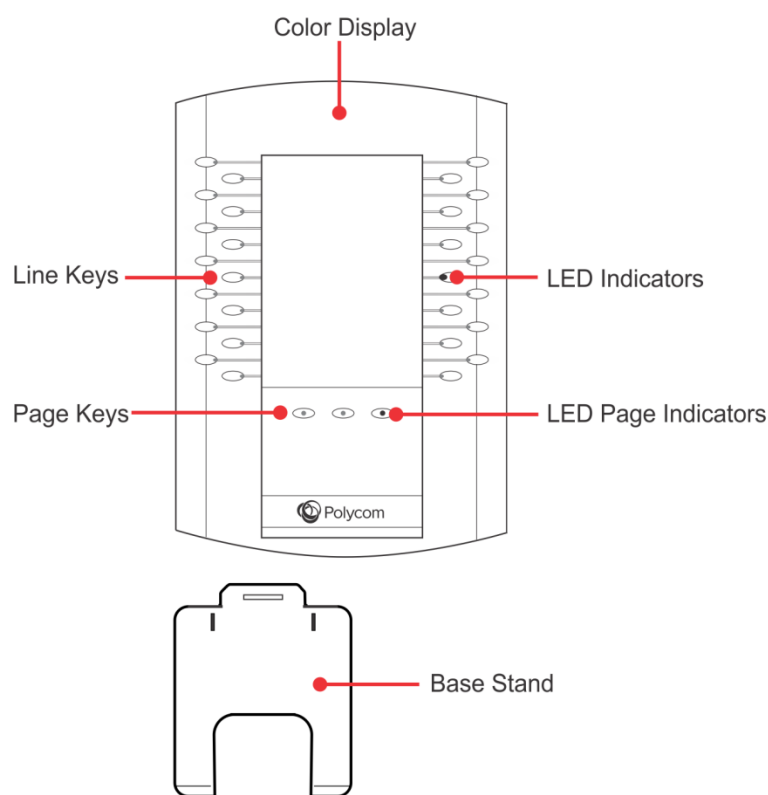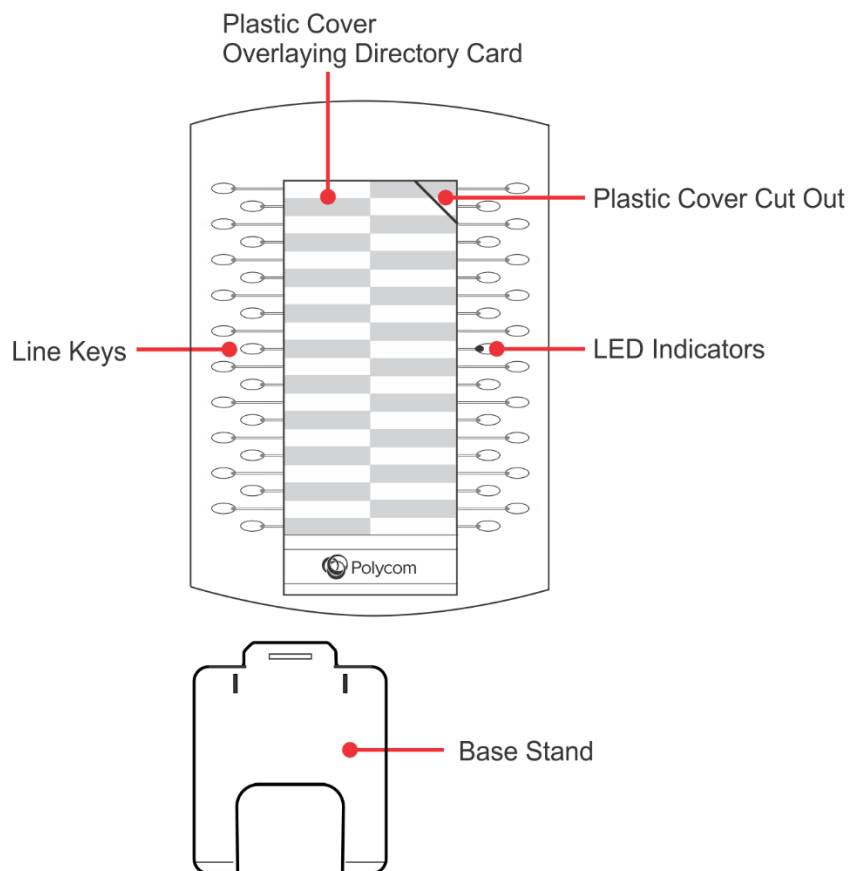
VVX Color Expansion Module features

The following are descriptions of the features, components, and keys available on the VVX Color Expansion Module.

- **Color display**   Displays line numbers, busy lamp field contacts, Microsoft Lync presence contacts and favorites.
- **Line keys**   Selects available line key contacts, functions, and assignments.
- **LED indicators**   Indicates a line or busy lamp field contact's status. The following lists the LED Indicator behaviors shown on the expansion modules:
  - ➢ **Solid green**   Indicates an active call in progress.

> ➤ **Fast-flashing Green**   Indicates an incoming call.
> ➤ **Flashing Green**   Indicates the remote party placed the call on hold.
> ➤ **Solid Red**   Indicates the phone of a monitored busy lamp field contact is placing a call or is in a call.
> ➤ **Flashing Red**   Indicates a call on hold.
> ➤ **Flashing Green and Red**   Indicates the phone of a monitored busy lamp field contact is on an active call or is receiving an incoming call.

- **Page Keys**   Navigates between pages on the expansion module.
- **LED Page Indicators**   Indicates a page's status.
  > ➤ **Fast-flashing Green**   Indicates an incoming call on a page not currently displayed. Press the page key with the fast-flashing green LED indicator to view the contact with an incoming call.
  > ➤ **Slow-flashing Green**   Indicates a monitored busy lamp field contact on a page not currently displayed is receiving an incoming call.
  > ➤ **Solid Red**   Indicates the current page displayed.
- **Base Stand**   Hooks into the back of the expansion modules to stand up the display.

The next figure illustrates the features, components, and keys available on the expansion modules with a paper display.

VVX Expansion Module features

The following are descriptions of the features, components, and keys available on the VVX Expansion Module.

- **Plastic Cover Overlying Directory Card**   Protects the directory card. The directory card is a paper sheet that displays line numbers, busy lamp field contacts, favorites, and line key functions.
- **Plastic Cover Cut Out**   Helps insert or remove the plastic cover.
- **Line Keys**   Selects available line key contacts, functions, and assignments.
- **LED Indicators**   Indicates a line or busy lamp field contact's status. The following lists the LED Indicator behaviors shown on the expansion modules:
  - ➢ **Solid Green**   Indicates an active call in progress.
  - ➢ **Fast-flashing Green**   Indicates an incoming call.
  - ➢ **Flashing Green**   Indicates the remote party placed the call on hold.
  - ➢ **Solid Red**   Indicates the phone of a monitored busy lamp field contact is placing a call or is in a call.
  - ➢ **Flashing Red**   Indicates a held call.

- **Base Stand**   Hooks into the back of the expansion module to stand up the display.

Assign Functions to Lines

Expansion modules support one function per line key, and you can assign functions, including line registrations and favorites, to line keys on your expansion modules from your VVX phone. You can also assign Microsoft Lync contacts to line keys on the color expansion modules from your VVX phone. System administrators can assign Busy Lamp Field (BLF) contacts to line keys on your expansion module using the central provisioning server.

Note that assigned line registrations are placed on the first available line keys followed by busy lamp field contacts or Microsoft Lync presence contacts when supported, and favorites. If your system administrator has enabled the Flexible Line Key feature, you can assign line key functions to any line key on your expansion modules. To learn more about the Flexible Line Key feature, contact your system administrator or see Assign Flexible Line Key Functions in the *Polycom UC Software 5.1.0 Administrator's Guide*.

> **Note: Line Keys are Numbered Sequentially**
>
> Line keys on VVX phones and expansion modules are numbered sequentially, and the line keys on your expansion module depends on how many lines your phone supports. For example, a VVX 600 phone supports 16 lines, numbered 1–16. The first line on an expansion module connected to a VVX 600 phone is line 17.

The next figure shows the different function assignments on a VVX Color Expansion Module.

VVX Color Expansion Module function assignments

VVX phones with three connected VVX Expansion Modules support a maximum number of line registrations, busy lamp field contacts, Microsoft Lync presence contacts, favorites, and unique line number registrations. When you reach the maximum number of registration line keys supported on your phone, the next registration you add is assigned to the first line key on your expansion module. You can assign registrations with the same line number to more than one line key on your expansion module. See the table Maximum Number of Supported Functions for the number of functions supported on VVX phones with three VVX Expansion Modules.

Maximum Number of Supported Functions

Function Type	Maximum Number Supported
Registration line keys[1]	48
Busy Lamp Field contacts	50
Microsoft Lync Presence contacts	200
Favorites	500

Function Type	Maximum Number Supported
Unique Line Number Registrations	34

[1] This is the total number of registration line keys you can assign. You can assign Line 1 to 30 line keys and Line 2 to the remaining 18 line keys.

Assign Busy Lamp Field Contacts, Microsoft Lync Contacts, and Favorites

The default view on your phone screen, which is called Lines View, displays line registrations, busy lamp field contacts, Microsoft Lync presence contacts, and favorites. Each function occupies a display space in Lines View. VVX phones support a maximum number of display spaces, which are listed in the table Maximum Number of VVX Phone Display Spaces. When you have reached the maximum number of display spaces your phone supports, the next function you add is assigned to the first available line on your expansion module. See the following table for the number of display spaces supported by your phone.

Maximum Number of VVX Phone Display Spaces

VVX Phone Model	Maximum Display Spaces Supported
VVX 300/310	6
VVX 400/410	12
VVX 500	12
VVX 600	16

Note: Additional Favorites and Lync Contacts Display in Your Contact Directory

After you fill all the display spaces on your phone and assign functions to all the lines on your expansion module, you can find additional favorites or Microsoft Lync presence contacts in the Contact Directory on your VVX phone.

Identify Line Key Assignments

You can identify which registrations, busy lamp field contacts, Microsoft Lync contacts, and favorites are assigned to each line key on your expansion module in the Status menu on your VVX phone.

To identify line key assignments:

1 Press 🏠 to display **Home** view.

2 Select **Settings** > **Status** > **Line Key Information**

3 Press any line key.

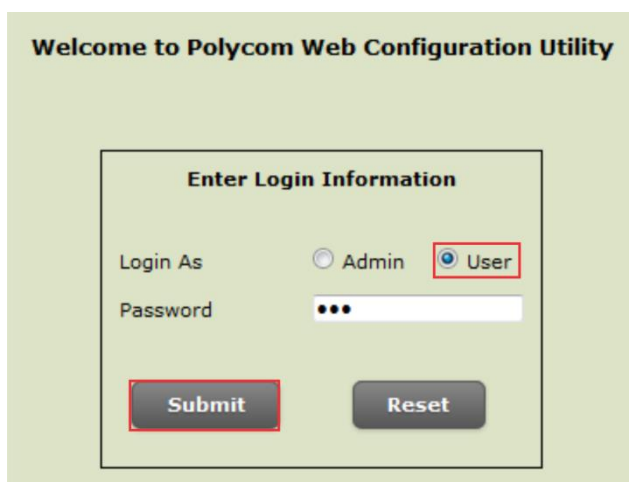The assignment and line number for the line key you pressed displays on your phone's screen.

4 Press the line key twice to return to the previous menu, or select **Back**.

Generate the VVX Expansion Module Directory Card

Using the Polycom Web Configuration Utility, you can generate and download a PDF file with your VVX Expansion Module line key information. You can print and insert the PDF file as a directory card on your expansion module.

To generate and download the directory card using the Web Configuration Utility:

1 In your Internet browser, enter your phone's IP address into your browser's address bar.

2 Log in as a User with the default password **123** and click **Submit**, as shown next.

3 Click **Utilities > EM Directory**.

4 Select the VVX Expansion Module you want to generate a PDF for. For example, EM1 is chosen in the following figure.
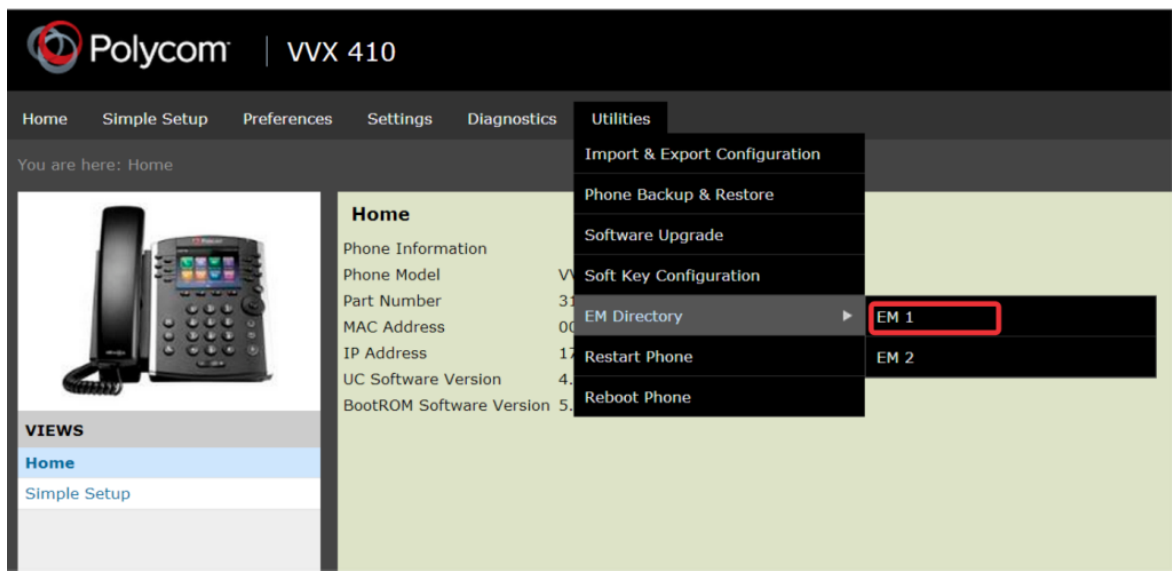
5 In the confirmation dialog, select **Yes** to download the directory card.

6 Select **Save > Open**.

The directory card displays.

After you download directory card, you can print and insert the directory card in your VVX Expansion Module.

To insert the directory card:

1 Place the tip of a paper clip under the slot at the top right corner of the VVX Expansion Module plastic cover to remove the plastic cover.

2 Place the directory card on your VVX Expansion Module.

3 Align the six tabs on either side of the plastic cover with the corresponding indents on the expansion module and bend the plastic cover into place to reinsert the cover over the directory card for protection.

Navigate VVX Color Expansion Module Paging

The VVX Color Expansion Modules display up to 3 pages of line information on the LCD screen for each module connected to a VVX phone. Each page of the expansion module contains 28 registrations, Busy Lamp Field contacts, Microsoft Lync contacts, or favorites assigned to line keys. You can view each page of the color expansion module by pressing one of the three page keys beneath the screen.

To navigate between VVX Color Expansion Module pages:

» Press a **Page** key beneath the screen on the VVX Color Expansion Module.

Use the Smart Paging Feature

The Smart Paging feature arranges line key assignments and distributes pages on the VVX Color Expansion Modules based on the number of expansion modules connected to a VVX phone. Smart Paging is automatically enabled for color expansion modules connected to VVX phones with UC Software 5.1.0 or later. Note that Smart Paging does not affect how pages are ordered on expansion modules with paper displays.

> **Note: Smart Paging Does Not Affect Flexible Line Key Assignments**
>
> If you assigned functions to line keys using the Flexible Line Key feature, the line key assignments display on the designated line key on the expansion module and are not affected by Smart Paging.

When Smart Paging is enabled, the pages on the color expansion module are distributed across all connected expansion modules. This feature is described and shown in the following scenarios:

● If you only have one expansion module connected to your VVX phone, the pages are ordered sequentially on the module, as shown in the next figure. Press the first, second, or third **Page** key to view the corresponding pages.

Smart Paging on one connected VVX Color Expansion Module

● If you have two expansion modules connected to your VVX phone, the pages are ordered non-sequentially. As shown in the next figure, the pages display on the two expansion modules in the following order:

  ➢ Pages 1, 3, and 4 display on the first expansion module.

> ➢ Pages 2, 5, and 6 display on the second expansion module.

Smart Paging on two connected VVX Color Expansion Modules
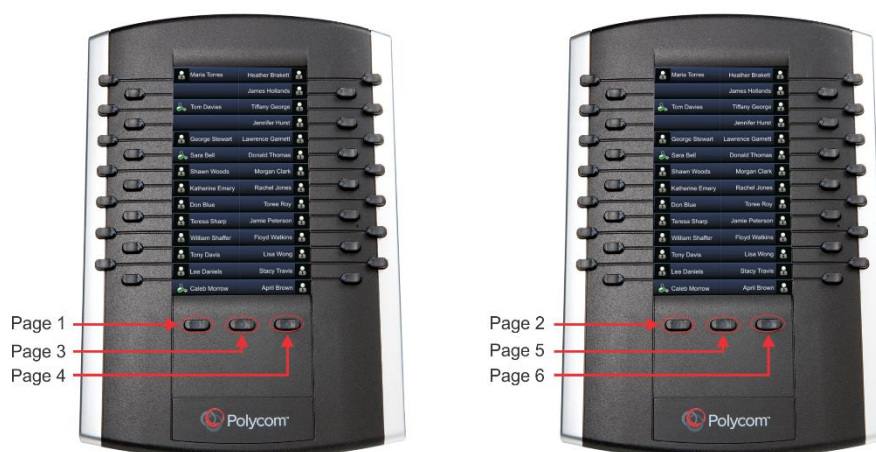
- If you have three expansion modules connected to your VVX phone, the pages are ordered non-sequentially. As shown in the next figure, the pages display on the three expansion modules in the following order:

  > ➢ Pages 1, 4, and 5 display on the first expansion module.

  > ➢ Pages 2, 6, and 7 display on the second expansion module.

  > ➢ Pages 3, 8, and 9 display on the third expansion module.

Smart Paging on three connected VVX Color Expansion Modules
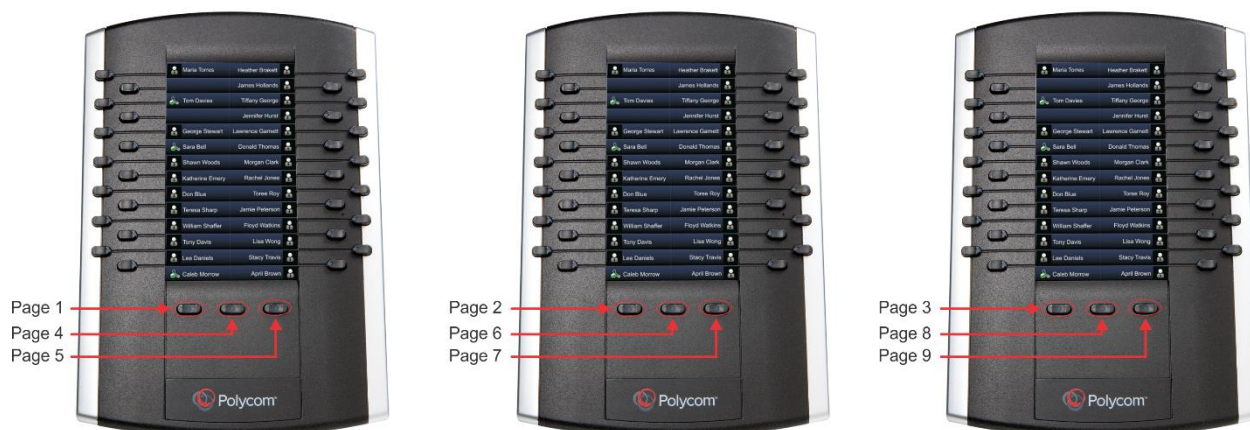
Use Alternate Paging

When Smart Paging is disabled, the ordering of the pages on the expansion modules is not affected by the number of expansion modules connected to your VVX phone. With Alternate Paging, the expansion modules' pages are ordered sequentially from 1 to 9. The next figure shows Alternate Paging on three expansion modules.

Alternate Paging on VVX Color Expansion Modules
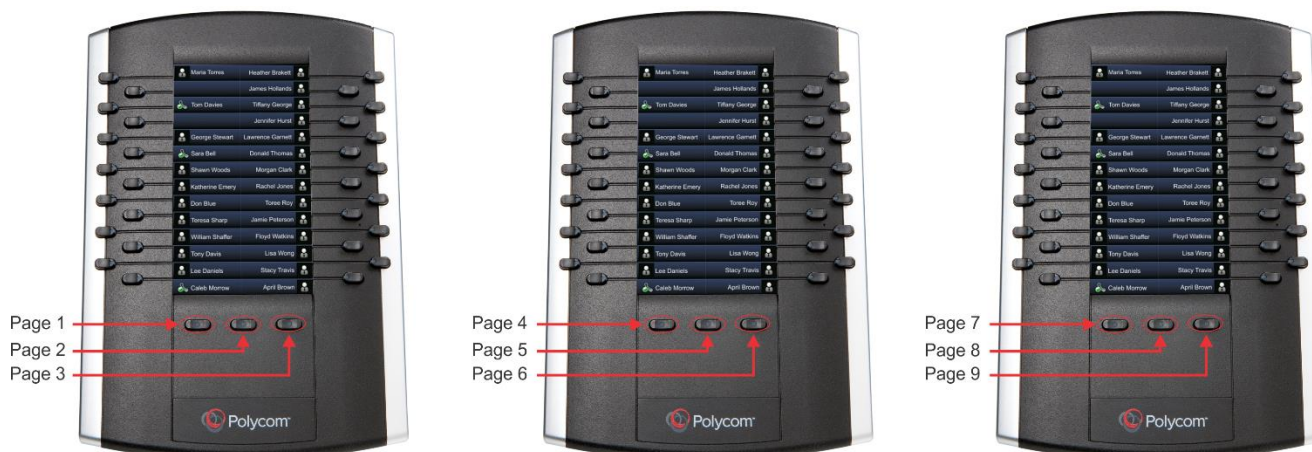
Place Calls

You can place a call using the line keys on your VVX Expansion Modules. Line keys on expansion modules activate available lines and place calls to contacts assigned to those lines.

To place a call:

» Do one of the following:

➢ Press a line key corresponding to an available line and dial the number.

➢ Press the line key of the assigned favorite you want to call.

The call is placed and displays on your phone's screen.

Answer Calls

You can answer calls using the line keys on your VVX phone or from your VVX Expansion Module.

To answer calls:

» Do one of the following:

➢ Select **Answer** on your phone.

➢ Press the expansion module line key with a flashing green LED indicator.

Resume Calls

You can resume calls placed on hold by other contacts from your VVX Expansion Module. A flashing red LED light on a line key on the expansion module indicates a call is on hold on the contact's line.

To resume a held call:

» Press the line key corresponding to line with the held call you want to resume.

Assign Favorites

You can assign favorites to line keys on VVX Expansion Modules and automatically call contacts using the line keys on the expansion modules. You can make contacts in the Contact Directory as favorites on your VVX phone. To mark a contact a favorite, you need to assign the contact a favorite index number in the Contact Directory. Favorites display consecutively in Lines View on the phone's screen according to the assigned index number. Contacts with the lowest number displaying first in the list of favorites in Lines View. However, expansion modules automatically assign favorites to the next available line key regardless of their index number. You can reorder your favorites once they are created by changing the value of their index number. To learn more about how expansion modules assign favorites, see the note Line Keys are Numbered Sequentially.

To assign a favorite on your VVX 500 and 600 phone:

» Do one of the following:

➢ From your Contact Directory, tap a contact and tap **Add to Favorites**.

➢ From your Recent Calls list, tap ![i] next to a call record and tap **Add to Favorites**.

A green star ![star] displays next to the contact's name in the Contact Directory. The favorite displays in Lines View on your phone or is placed on a line key on your expansion module.

Power Tip: Manually Assign a Favorite Index Number When You Make a Favorite

After you tap **Add to Favorites**, a dialog displays asking if you want to accept the next available index number automatically, or manually enter your own. Tap **Yes** to automatically accept an index number, or tap **Edit Index** to enter a unique index number. You can enter a number up to 9999.

To assign a favorite on your 300, 310, 400 and 410 phone:

1 From your **Contact Directory**, select a contact and select **Info** > **Edit**.

2 In the **Favorite Index** field, enter a unique index number up to 9999 and select **Save**.

A star, ![star] or ![star] , displays next to the contact's name in the **Contact Directory**. The favorite displays in Lines View on your phone or is placed on a line key on your expansion module.

Timesaver: Assign Favorites Directly to Line Keys on Expansion Modules

You can press and hold an available line key on your expansion module to assign a favorite to that line key. When you do this, the Add Contact screen displays on your phone. Enter the contact's information, including a unique favorite index, and select **Save**. On a VVX 500 and 600, your phone automatically assigns a favorite index. Note that the favorite is assigned to the next available line on your expansion module and not necessarily the line corresponding to the line key you pressed to assign the favorite.

Assign Microsoft Lync Presence Contacts

When your phone is registered with Microsoft Lync Server, you can assign Microsoft Lync contacts to line keys on your VVX Color Expansion Module. You can quickly call Lync contacts by pressing the corresponding line key on the expansion module. You can also monitor your Lync contacts' presence status from your expansion module. For more information on Using Microsoft Lync with Polycom VVX Phones, see the following documentation:

- For users: *Using Polycom Phones in a Microsoft Lync Environment*
- For administrators: *Deploying Polycom UC Software for Use with Microsoft Lync Server 2010*

Note: Microsoft Lync Presence Contacts Not Supported on VVX Expansion Modules

You cannot assign Microsoft Lync Presence contacts to line keys on VVX Expansion Modules with a paper directory card. This feature is only supported on VVX Color Expansion Modules.

VVX Color Expansion Modules automatically assign Microsoft Lync presence contacts to the first available line key. To learn more about how expansion modules assign Microsoft Lync presence contacts, see the note Line Keys are Numbered Sequentially.

To assign a Microsoft Lync contact on your VVX phone:

1   Press ⌂ to display **Home** view.

2   Select **Settings** > **Features** > **Presence** > **Contacts** > **Add**.

3   From the **Add Contact** screen, enter the contact's name and select **Submit**.

The Microsoft Lync contact displays and you can monitor the contact's presence status.

The table Presence Icons on VVX Phones and Expansion Modules shows the presence icons that display on the VVX phones and expansion modules with UC software 4.1.6 and 4.1.7. The table Enhanced Presence Icons on VVX Phones and Expansion Modules shows the presence icons that display on phones with UC software 5.1.x.

Presence Icons on VVX Phones and Expansion Modules

Icons	Description
🟢	Available
🔴	Busy, In a Call
🟡	Away, Be Right Back, Inactive
⛔	Do Not Disturb
🔵	Offline
⚪	Unknown

Enhanced Presence on VVX Phones and Expansion Modules

Icons	Description
	Available
	Busy, In a Call, In a Meeting, In a Conference Call
	Away, Be Right Back, Inactive, Off Work
	Do Not Disturb, Presenting, In Presentation
	Offline
	Unknown
	Blocked

Change the Backlight Intensity

When you change the backlight intensity settings on your VVX phone, the VVX Color Expansion Modules' displays connected to your phone automatically changes to match the new settings.

You can change the backlight intensity, the brightness of your screen display, to a comfortable viewing level. The backlight intensity has three settings:

● **Backlight On**   The brightness of the screen when there is phone activity.

● **Backlight Idle**   The brightness of the screen when there is no phone activity.

● **Maximum Intensity**   The brightness scale that applies to both Backlight On and Backlight Idle intensity levels.

You can change the Backlight On intensity and the Backlight Idle intensity separately. You can choose a high, medium, or low intensity, or turn off the backlight entirely.

When you change the Maximum Intensity, you modify the entire backlight intensity scale. For example, if you decrease the Maximum Intensity, backlight intensity for both Backlight On and Backlight Idle intensities decrease.

To change the backlight intensity:

1   Press ⌂ to display **Home** view.

2   Select **Settings > Basic > Backlight Intensity**.

3 Select one of the following options:

- ➢ **Backlight On Intensity**

   - ♦ Select the **High**, **Medium**, or **Low** intensity. The default setting is High.

      After you select a check box next to High, Medium, or Low, the backlight intensity of your screen display immediately changes.

- ➢ **Backlight Idle Intensity**

   - ♦ Select **High**, **Medium**, or **Low** intensity. The default setting is Low.

      After you select a check box next to High, Medium, or Low, the backlight intensity of your screen display changes the next time your phone is idle.

- ➢ **Maximum Intensity**

   - ♦ Select **Up** or **Down** to increase or decrease the maximum intensity the screen displays.

      If you have a VVX 500 or 600 phone, you can also drag your finger along the slider to increase or decrease the intensity the screen displays.

The backlight intensity is set and displays on your VVX phone and VVX Color Expansion Module instantly.

Get Help

This section provides a list of Polycom documents referred to in this guide as well as partner resources you can use. If you are looking for help or technical support for your phones, the following types of documents are available on the Polycom Voice Support site:

- Quick Start Guides, which describe how to assemble phones.
- Quick User Guides, which describe basic phone features.
- User Guides, which describe both basic and advanced phone features.
- Administrators' Guides, which provide instructions for installing, provisioning, and administering Polycom phones.

Polycom and Partner Resources

For more information about installing, configuring, and administering Polycom products, refer to Documents and Downloads at Polycom Support.

The Polycom Community

The Polycom Community gives you access to the latest developer and support information. Participate in discussion forums to share ideas and solve problems with your colleagues. To register with the Polycom Community, simply create a Polycom online account. When logged in, you can access Polycom support personnel and participate in developer and support forums to find the latest information on hardware, software, and partner solutions topics.