



Nortel Meridian

LinkPlus Interface Guide

SpectraLink 6000 System

SpectraLink 8000 System

July 2008 Edition
1725-36139-001
Version E



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About this Guide

Polycom is the market leader in multi-cellular wireless telephone systems for the workplace. We manufacture a range of products to suit any size installation. All Polycom products use our LinkPlus digital integration technology to integrate with various digital switch platforms. Using LinkPlus technology, Wireless Telephones (handsets) emulate digital telephone sets to deliver advanced capabilities such as multiple line appearances and LCD display features. This document explains the programming or administration required to use the host digital switch with the following Polycom products:

SpectraLink 6000 System – SpectraLink 6300 MCU

The SpectraLink 6300 MCU supports up to 3,200 handsets and up to 1,000 Base Stations. Up to 25 shelves can be interconnected for maximum system capacity.

SpectraLink 6000 System – SpectraLink 6100 MCU

Designed for smaller installations supporting up to 64 handsets and up to 16 Base Stations. Up to four MCU controllers can be interconnected for maximum system capacity.

SpectraLink 8000 Telephony Gateway

The SpectraLink 8000 Telephony Gateway is a wireless telephony product that provides high quality packetized voice communications using the Internet Protocol (IP).



Different models of SpectraLink Wireless Telephones vary in functional capabilities. This document covers the basic operational features of all handsets. However, certain handset or PBX features may not be supported by your emulation.

Related Documents

SpectraLink 6300 MCU : Operator's Console (1725-36125-001)

SpectraLink 6100 MCU: Installation and Operation (1725-36097-001)

SpectraLink 6020 Wireless Telephone and Accessories User Guide
(1725-36092-001)

Available at

http://www.polycom.com/usa/en/support/voice/proprietary_wireless/proprietary_wireless.html

SpectraLink 8000 Telephony Gateway: Administration Guide for SRP
(1725-36028-001)

SpectraLink 8020/8030 Wireless Telephone and Accessories User Guide
(1725-36023-001)

SpectraLink e340/h340/i640 Wireless Telephone: Configuration and Administration (SRP) (72-1065-09)

Available at

<http://www.polycom.com/usa/en/support/voice/wi-fi/wi-fi.html>

Telephone Switch Interface Matrix (1725-36128-001)

Available at

http://www.polycom.com/usa/en/support/voice/wi-fi/pbx_integration.html

Customer Support

Polycom wants you to have a successful installation. If you have questions please contact the Customer Support Hotline at (800) 775-5330. The hotline is open Monday through Friday, 6 a.m. to 6 p.m. Mountain time.

For Technical Support: technicalsupport@polycom.com

For Knowledge Base:

<http://www.polycom.com/usa/en/support/voice/voice.html>

Icons and Conventions

This manual uses the following icons and conventions.



Caution! Follow these instructions carefully to avoid danger.



Note these instructions carefully.

Label

This typeface indicates a key, label, or button on SpectraLink hardware.

Plan the Interface

The system administrator programs the telephone system for use with the Wireless Telephone System using the normal administration terminal or procedures. Programming can be done after the handsets are registered.

Recommended programming includes assigning extension numbers to the handsets and programming features on the telephone system so they are easily accessible from the handsets.

For analog interfaces, macro codes are in the document relating to configuring the system. See *SpectraLink 6300 MCU: Operator's Console*, *SpectraLink 6100 MCU: Installation and Operation*, or *SpectraLink 8000 Telephony Gateway: Administration Guide for SRP*.

The following information will help the system administrator set up the SpectraLink Wireless Telephones to operate in a way that feels familiar and comfortable to users.

Plan Programming

Digital Interface programming for the Wireless Telephone System will be faster if it is planned in advance by verifying the parameters and features on the current telephone system and wired phones. The system administrator must assign extension numbers to the handsets and plan the functions (trunk access, toll restrictions, system features, ringing options etc.) to be programmed for the handsets.

One of these scenarios concerning how the handsets are programmed should apply to this site:

- **All handsets are programmed alike:** All handsets will be programmed exactly the same. Depending on the capabilities of the switch, the system administrator can often program one handset and use it as a model for all other handsets.
- **Groups of handsets are programmed alike:** Handsets are grouped into classes that are programmed alike. Depending on the capabilities of the switch, the system administrator can program

“model” handsets then use the model as a template to program the other handsets.

- **All handsets are different:** All handsets are programmed differently, so each handset will be programmed individually.

Before installation, the features assigned to the wired phones should be verified to plan the system and extension programming required for the handsets.

Line assignment

The handset supports up to nine line resources. Which lines should ring at this handset?

Prime DN

Which line is automatically selected when the handset is turned on?

Forwarding DN

To which line is this handset (or group of phones) forwarded on busy/no answer?

Ring pickup group

To which pickup group does this handset or group of phones belong?

Toll restrictions

Which lines are allowed to make outside calls, long distance calls?

DN keys

Should the handset ring whenever the user's wired set rings? (multiple call ringing DN key.) Should certain lines not ring on the handset? (multiple call, non-ringing DN key.)

Programmable feature keys

The handset supports eight programmable keys (Key 8 - Key 15) for switch features. Which features, if any, should be programmed on the handsets? These assignments should emulate assignments on the user's wired set.

It will help to identify a wired set that is programmed exactly or close to the way the handsets should be programmed. This set can be used to copy the programming to the new handsets.

Assign Extension Numbers

The wire contractor should inform the system administrator which port numbers have been designated for the handsets.

The system administrator may use the Extension Assignments Worksheet at the end of this document to track the port numbers, extensions, users, and features assigned to handsets.

The Wireless Telephone Display

The SpectraLink Wireless Telephone will display the telephone number as it is dialed.

Certain characters may be used by the system that are not implemented in the handset. Flashing characters are not implemented on the handset, nor is rolling or scrolling of text.

Handset indicators

Line indicators are associated with line access keys. Status indicators or icons are associated with voicemail, low battery function, other functions, and service interruption. A left or right arrow is displayed when the screen can be toggled either left or right to display more characters.

When lines are programmed as shown on the key-map diagrams, the numeral icons on the handset display will be mapped to any deskset LEDs associated with the corresponding feature keys. The line icons will be displayed as follows:

Line State	Handset Line Status Icon State
On-hook	Off
Off-hook	On
Ringing	Fast flash
On hold	Slow flash

Feature Programming Requirements

When planning the interface, the following information must be taken into account:

Line sequences

The handset uses two types of key sequences to access PBX features and multiple lines. Line sequences are those where the user presses the **LINE** key and then a number key. The key-map design designates “line” keys that should be programmed for line appearance so that they correspond to line sequences on the handset.

The **LINE** icon on the handset will reflect activity on the corresponding deskset key. For this reason, it is recommended that line appearance keys be used only for line access. If only one line is assigned to a particular handset, leave the other designated line keys identified on the key maps unassigned. The corresponding handset **LINE+** key sequences will then have no function.

Pressing **LINE** followed by a digit (1-7) on the handset is equivalent to pressing one of the programmable line keys on the M2616 (Keys 0-6). **LINE + 8** (Key 7) is reserved for local programming, as on the Modular phone. **LINE + 0** is equivalent to the RLS button.

Assign Prime DN and virtual lines and DN's accordingly.

Function sequences

Function sequences are those where the handset user presses the **FCN** key and then a number key. Designated “function” deskset keys programmed to system features such as Transfer and Conference may have their corresponding menu items display on the handset function menu. See the key-map diagram for the function keys that are available for feature programming.

Function Menu Programming

SpectraLink 6300 MCU

The function menu text defaults for the handsets associated with the SpectraLink 6300 MCU can be changed via the SpectraLink Operator's Console.

SpectraLink 6100 MCU

For the SpectraLink 6100 MCU, the handset function menu text can only be changed via remote configuration through the services of Polycom's Customer Support.

SpectraLink 8000 Telephony Gateways

Function menu text options can be changed in the Administration Console of the SpectraLink 8000 Telephony Gateways.

Hold

The Hold feature should be programmed to the Hold key as shown on the key-map diagrams so that when the **Hold** key or softkey is pressed on the handset, the call is placed on hold.

Mute

The handset Mute function is hard-coded to **FCN +1** on the PTB4xx handset. This function sequence is recommended, but the system administrator can assign the Mute function to any available function key sequence or leave the function unassigned. The SpectraLink 6000 and SpectraLink 8020/8030 Wireless Telephones use a **Mute** softkey.

Voicemail

The message-waiting icon on the handset is activated with the message indication of the deskset. The voicemail feature on the deskset must be assigned to the feature key as shown in the key-map diagrams. Do not assign any other feature to this key, since the associated LED is directly mapped to the message-waiting icon on the handset. This LED assignment must be used in order to support the

message-waiting icon. Using this key for any other feature or for line access could cause unacceptable system performance.

Speakerphone

If a handset such as the PTB 4xx has no speaker, speakerphone function and functions that require the use of the volume keys will not be made available on the handset.

Ring Types

Handset ring types (soft, normal, vibrate, etc.) are programmed by the handset user and are not accessible or changeable by the system switch. Whenever possible the audible ringer on the handset will follow the cadence provided by the system switch. Call progress tones provided by the host system will be passed through to the handset.

Interface Implementation

This section describes the recommended programming to use the Wireless Telephone System (MCU) with a Meridian 1 PBX or Meridian SL-100 (Meridian1 Options 201 and 211, and Meridian SuperNode). The procedures assume:

- The Meridian system is installed and operational in an approved configuration. See *Telephone Switch Interface Matrix* for tested configurations.
- A trained Meridian technician or system administrator will be on site with the Polycom installer to program the system.
- The SpectraLink 6000 System or SpectraLink 8000 Telephony Gateway is installed and the handsets are available for programming.

Set the Switch Interface Type

SpectraLink 6100 MCU

The SpectraLink 6100 Master Control Unit requires the switch interface type to be configured using the front panel buttons. The configuration procedures are detailed in *SpectraLink 6100 MCU: Installation and Operation*.

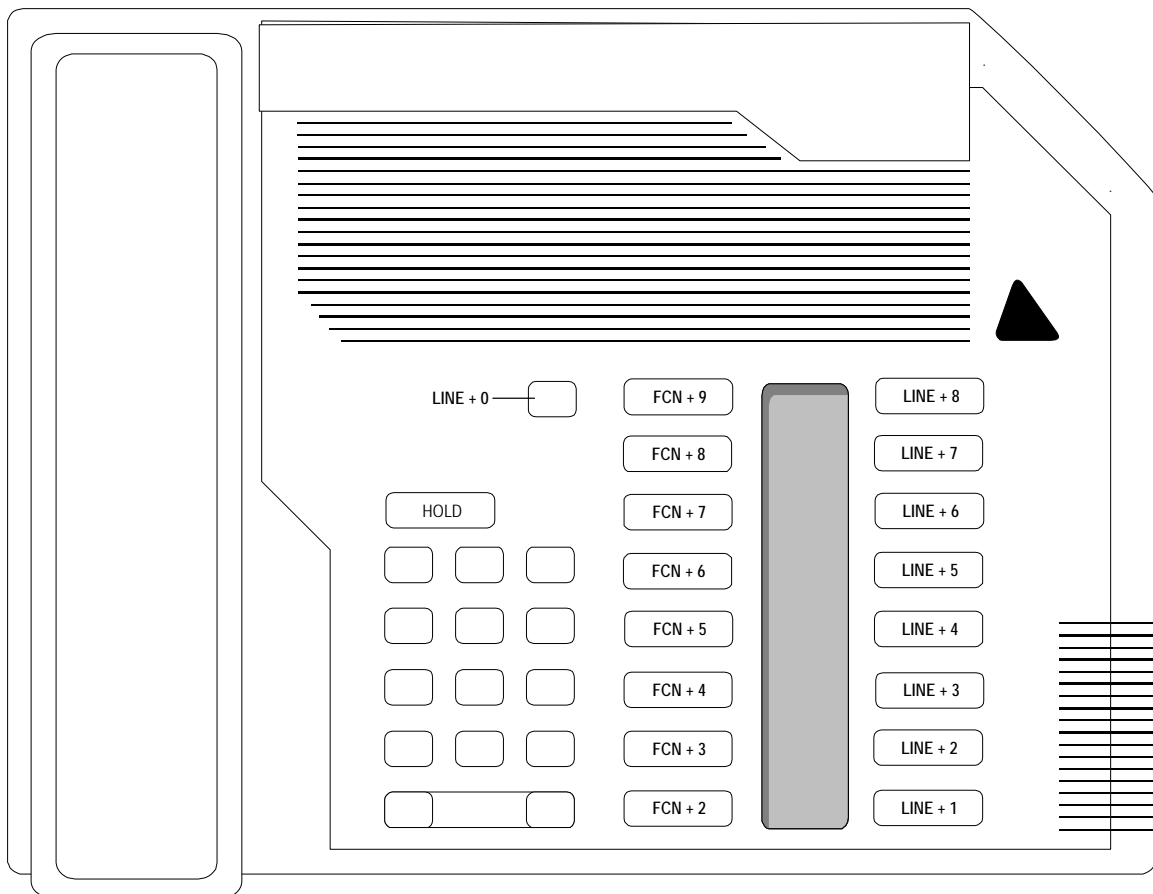
SpectraLink 6300 MCU

When configuring the SpectraLink 6300 MCU, the PBX interfaces are available as sub-menu selections when defining the Interface Module type using the SpectraLink 6300 MCU Operator's Console. Refer to *SpectraLink 6300 MCU: Operator's Console* for details on configuring the Interface Modules.

SpectraLink 8000 Telephony Gateways

Connect to the SpectraLink 8000 Telephony Gateway using the serial or modem interface. From the Main Menu, choose Gateway Configuration. Scroll to Telephone Switch Type and press enter to change this field, from the Submenu of PBX types, select Nortel Meridian. Refer to *SpectraLink 8000 Telephony Gateway: Administration Guide for SRP* for details on configuring the Telephone Switch Type.

Key-mapping the Handset to Emulate M2616 Functionality



Meridian M2616 Key Mapping

The FCN + [number] and LINE + [number] labels represent the key sequence on the handset mapped to the corresponding key on the desk set.

The handset displays a **LINE** icon that corresponds to each line key.

The handset function menu default settings are shown in the table below; these may be changed as described above in *Function Menu Programming*. Some of these functions (Mute, Redial, Forward, etc.) are activated by softkeys or **FCN** menu options on the SpectraLink 6000 and SpectraLink 8020/8030 Wireless Telephones.

FCN + 1	MUTE	FCN + 2	XFER
FCN + 3	CONF	FCN + 4	LAST NO
FCN + 5	FWD	FCN + 6	MSG
FCN + 7	PICK	FCN + 8	RING AGAIN
FCN + 9	EXIT MENUS (Cancels out of the handset display)	LINE + 0	RLS

Program Meridian

The Meridian Technician should perform the necessary system programming using the LD11 overlay software.

Copy settings from a wired phone

If possible, use the LD11 Copy command to copy the settings from a wired phone with similar settings and restrictions to a handset.

Program handsets

Use the Easy Change command to make the following changes on one handset, then copy the programming to other handsets or groups of handsets.

Change Class of Service

The following Class of Service settings should be selected for the handsets:

- Automatic Answerback should be denied.
- Allow Digital Display should be turned on.

ACD telephones

If the handsets are to be used in an ACD group, program the handsets as ACD telephones, and be sure to assign ACD functions to the FCN keys.

Copy programming to groups

After the model handset or phones have been programmed, use the Copy command to copy the programming to all “like” handsets.

The installer can now test the handsets.

Utilizing On-hook Features

Some features on the Meridian PBX can only be activated or deactivated in an on-hook state. For a handset to utilize these on-hook features, the user must first release the active call line while still keeping a radio link to the Master Control Unit. With the radio link intact, the handset can send signals to the PBX in an on-hook state.

Releasing the line

The Release key on a Meridian deskset (M2616) has been mapped to a **LINE** key on the PTB 4xx handset. To release an active call, and be in an on-hook state, press the **LINE** key followed by the **0** key.

Example:

One example of an on-hook feature on the Meridian is the Forward function. For this to work, the Forward function must be mapped to a key on the handset.

This example assumes that Forward is programmed on **FCN + 5**. The following detail the steps used to forward a Wireless Telephone.

1. Press **START** on the handset,
2. Press **LINE**, then **0**,
3. Press **FCN**, then **5**,
4. Press the station number you want to forward your line to,
5. Press **END**.

To un-forward the handset, use the following steps:

1. Press **START** on the handset,
2. Press **LINE**, then **0**,
3. Press **FCN**, then **5**,
4. Press **FCN**, then **5**,
5. Press **END**.

Extension Assignments Worksheet

Shelf: _____ Interface Module: _____

Handset #	Ext. #	Name	Interface Module Circuit #	Comment	Handset Serial #
Handset 1			1		
Handset 2			2		
Handset 3			3		
Handset 4			4		
Handset 5			5		
Handset 6			6		
Handset 7			7		
Handset 8			8		
Handset 9			9		
Handset 10			10		
Handset 11			11		
Handset 12			12		
Handset 13			13		
Handset 14			14		
Handset 15			15		
Handset 16			16		