



# Toshiba Strata DK/CTX System

## LinkPlus Interface Guide

SpectraLink 6000 System

SpectraLink 8000 System

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

Customer Support

## 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](mailto: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.



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# 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, verify the features assigned to the wired telephones to plan the system and extension programming required for the handsets. If this site used the System Record Sheets (in the Toshiba Strata Documentation) to record initial programming, you may want to use the sheets to check existing programming and record handset programming.

### **Line assignment**

The handset supports up to nine line resources (including one reserved for Intercom). Which trunks (outside lines) should ring at this handset (Ring Assignments) and which trunk will be selected when the user goes off-hook (Automatic Preference)? What station numbers will be assigned to the handsets?

### **Station hunting**

To which alternate station will calls be forwarded when this handset is busy or not answered? Should any of the handsets be designated as the overflow for Incoming CO calls?

### **Group pickup**

To which Pickup Group (if any) is this handset assigned?

### **Class of Service**

Which features controlled by Class of Service should be assigned or denied for the handsets?

### **Toll restrictions**

To what class of toll restriction should this handset be assigned?

### **Flexible buttons**

The handset supports 15 flexible feature buttons including nine line resources. Determine which features, if any, should be programmed

on the handsets. These assignments should emulate assignments on the user's wired set.

## 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.

Although some desksets do not have a display, any display information sent by the system will be displayed on the handset.

### 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.

### 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 MSG button must be programmed using Program 39 if access from the handset is desired.

### Speakerphone

The speakerphone function that is used in programming sequences has been assigned **LINE + 0** on the PTB4xx handset; the Vol and Mic buttons on the 2020-SD have no corresponding handset function. Speakerphone functions in the SpectraLink 6020 and 8020/8030 handsets are softkey driven.

### 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.

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# Interface Implementation

This section describes the recommended programming to use the Wireless Telephone System with a Toshiba Strata DK/CTX key telephone system. The procedures assume:

- The Toshiba system is installed and operational in an approved configuration. See the Telephone Switch Interface Matrix document for tested configurations.
- A trained Toshiba Strata technician or system administrator will be on site with the 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.

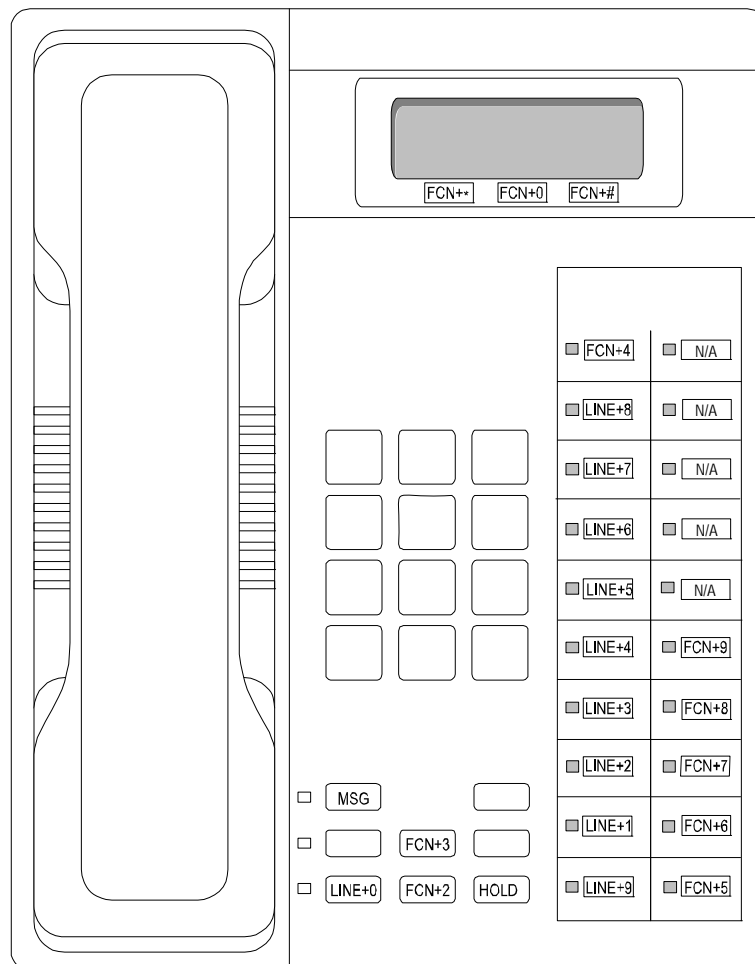
### SpectraLink 8000 Telephony Gateways

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 Toshiba. Refer to *SpectraLink 8000 Telephony Gateway: Administration Guide for SRP* for details on configuring the Telephone Switch Type.

## Key-mapping the Handset to Emulate 2020-SD Functionality

The following diagram shows the mapping of the 2020-SD Toshiba Strata set (with a Type C 20-button keypad) to the SpectraLink Wireless Telephone.



Toshiba 2020-SD 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 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.

<b>FCN + 1</b>	MUTE	<b>FCN + 2</b>	CNF/XFR
<b>FCN + 3</b>	REDIAL	<b>FCN + 4</b>	MSG
<b>FCN + 5</b>	FWD	<b>FCN + 6</b>	SPEED
<b>FCN + 7</b>	PICK	<b>FCN + 8</b>	PAGE
<b>FCN + 9</b>	EXIT MENUS		

## Program Toshiba

### Station features

Perform the necessary system programming using a 20-button LCD digital or electronic telephone connected to Port 005. All or a group of handsets can be programmed at one time by entering a range of ports.

- Use Program 30 and Program 31 to designate Station Class of Service features for the handset. If the handset has no speaker be sure to set these features as follows:  
Speakerphone Enabled - Off  
Mic on at Start of Call - Off  
Handsfree Disabled  
Paging Zone Off
- Use Program 32 to designate Automatic Preference for the handset, if desired.
- Use Program 33 to designate the "Hunt to" port number or range of numbers for the handset, if desired.
- Use Program 40 to designate CO Line Access, if necessary. This may need to be done if the ports assigned to the handsets are new (i.e. not previously initialized).

- Use Program 41 to restrict outgoing calls on this handset, if desired.
- Use Program 48 to assign a class of restriction to the handset.
- Use Program 58-5 to assign one or more of the handsets to receive overflow CO line calls from the Attendant Console, if desired.

## **Keystrip type and flexible buttons**

Program the handset's flexible buttons according to the pre-installation planning. In most cases, the buttons will emulate the programming on the user's desk set.

Use Program 38 to assign Code 33(20-button keystrip type C) to the handset.

After assigning the default keystrip, use Program 39 to program the handset's individual buttons as desired.

- Assign one button to Speed Dial Select. Keystrip 33 (Type C) should have assigned this, but if it is not assigned the \* key will not work.
- If messaging is used at your site, assign a button to LCD Message to allow users to scroll messages.

For example, when you assign LCD Message to Button 10 in place of Speed Dial Button 10, the handset user will access LCD messages by pressing FCN then 4, the key sequence that maps to Button 10.

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## 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		