



# SpectraLink 6300 MCU

## Operator's Console

SpectraLink 6000 System

August 2012 Edition  
1725-36125-001  
Version M



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# About this Guide

This document explains how to use the Operator's Console to perform maintenance and administration tasks on Polycom's SpectraLink 6000 System. It is written for use by Polycom field service engineers and technicians and the customer system administrator who will be responsible for equipment troubleshooting and changes.

From the Operator's Console the operator can:

- Configure the system's Interface Modules in order to register handsets and Base Stations.
- Configure system parameters.
- View information about the connections between system components and between the SpectraLink system and the telephone system.
- Monitor the status of the wireless system, including handsets, Base Stations, and MCU.
- Check for and diagnose system alarms.

The Operator's Console is a menu-based software program called Chk3000. The software lets the operator select operations using the arrow keys, function keys, and the Enter key, and enter system information using the PC keyboard.



For Chk3000 version Aug 1, 2012 and above, the Operator's Console must be run on a PC using Windows Server 2003 or 2008, XP, Vista or Windows 7. If the PC is running an earlier operating system such as NT or Windows 2000, then an earlier version of Chk3000 must be used. Contact your service representative for assistance if you need an earlier version.

See *SpectraLink 6300 MCU: Installation* for specifications of the Operator's Console.

## Polycom Model Numbers

This document covers the following registered model numbers:

JPI300, MCS300, RCC400, RCO400, RCU100, RCU200, RCU201

## Related Documents

*SpectraLink 6300 MCU: Facility Preparation (1725-36121-001)*

*SpectraLink 6300 MCU: Installation (1725-36122-001)*

*SpectraLink 6300 MCU: Maintenance and Diagnostics (1725-36123-001)*

*SpectraLink 6300 MCU: Open Application Interface (OAI) Installation and Configuration (1725-36124-001)*

*SpectraLink 6300 MCU: T1 Remote Module Installation (1725-36126-001)*

*Installing the Outdoor Base Station (1725-36127-001)*

*SpectraLink 6020 Wireless Telephone Configuration and Administration (1725-36094-001)*

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)

*LinkPlus Interface Guide (1725-361xx-001 where xx indicates a number corresponding to the type of PBX)*

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

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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# Install the Console

## Connect Console to MCU

Before the Operator's Console can be connected, the System Controller card on the MCU must be installed and operational.

To connect the console, connect an RS-232 null modem cable from a COM port on the console to either one of the **RS-232** ports on the System Controller card in the MCU. The System Controller card has a 9-pin male connector.

### Remote operation

Remote Operator's Console operation is accomplished by connecting modems to both the PC and the MCU. The MCU modem must have Hardware Flow disabled. The modem should be connected to the **A** COM port on the MCU.

## Install Software

Before you can use the computer as an Operator's Console you must load the Operator's Console software and run the program. The software is 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)

See the SpectraLink 6300 MCU page, Downloads section. Look for SpectraLink 6300 Administration Software.

To install the software:

1. Create a directory called chk3000 on the PC's hard disk.
2. Download the files from the website to the chk3000 directory.

## Navigating within the Operator's Console

Use the following keys to move around the Operator's Console screens. You can also use the mouse to move the cursor to the desired field.

To Perform this Function:	Press:
Select function from main menu	Function key (F1 through F10) or Use arrow keys to highlight selection, press Enter or Left Mouse
Display menu associated with highlighted field	Enter or Left Mouse
Exit screen	Esc, or select <b>Cancel</b> from menu, or Right Mouse
Move one line up	Up arrow
Move one line down	Down arrow
Move one screen up	Pg Up
Move one screen down	Pg Dn
Move to top of screen	Home
Move to bottom of screen	End

The following functions apply to the **Portcard (Interface Module) State (F2)** and **Portcard Configuration Display and Administration (F4)** screens:

To Perform this Function:	Press:
Move to first configured or running card	Ctrl-Home
Move to last configured or running card	Ctrl-End
Go to next card	Ctrl -Right arrow
Go to previous card	Ctrl -Left arrow
Go to first configured card in next shelf	Ctrl -Pg Dn
Go to first configured card in previous shelf	Ctrl -Pg Up
Find next (in search mode)	Alt-F

## Port Location

The Operator's Console, enabled through the chk3000 software program, provides information about the SpectraLink 6000 System components. The system is designed in a star topology. At the center is the System Controller card, which manages the call processing for the wireless network. Shelf Controllers work with the System Controller card to pass calls within the wireless network and to the telephone system. All shelves provide universal slots for up to ten Interface Modules. Interface Modules connect Base Stations and handsets to the system. Up to 20 shelves can be connected together for maximum system capacity.

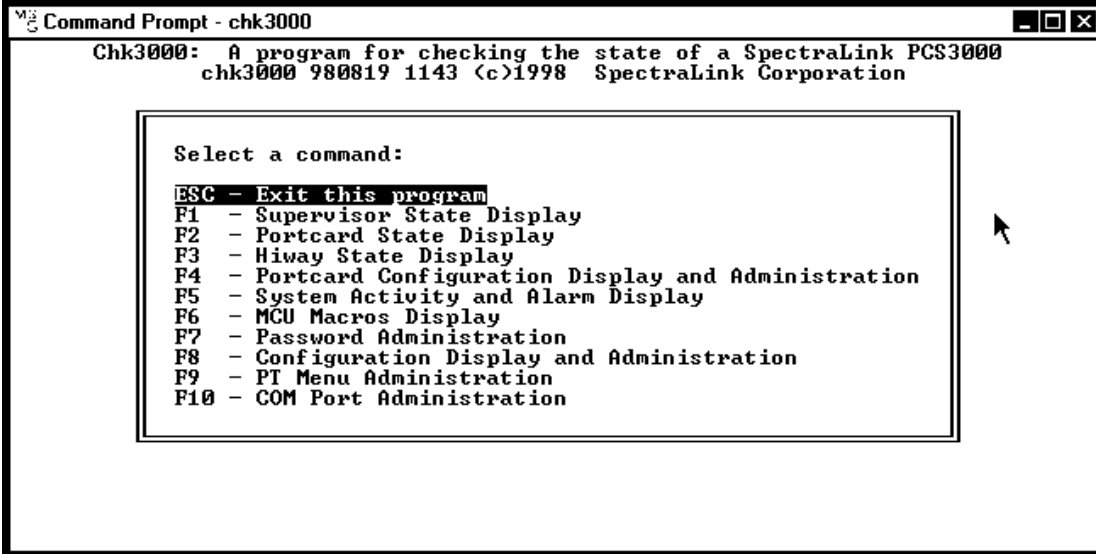
Chk3000 identifies each system component by a unique Port Location, based on the following address scheme:

Shelf (1- 20)	Slot (3- 12)	Line port 1-16 Base Station port 1-6
---------------	--------------	---

For example:

- Wireless Telephone in Shelf 2, slot 3, line port 10 – Port Location is 2.03.10
- Wireless Telephone in Shelf 1, slot 5, line port 1 – Port Location is 1.05.01
- Base Station associated with Shelf 3, slot 3, Base Station Port 2 - Port Location is 3.03.02
- The Interface Module in Shelf 2, Slot 3 is identified as 2.03.

## Main Menu



The screenshot shows a Windows Command Prompt window titled "Command Prompt - chk3000". The text inside the window is as follows:

```
Chk3000: A program for checking the state of a SpectraLink PCS3000
chk3000 980819 1143 (c)1998 SpectraLink Corporation

Select a command:
ESC - Exit this program
F1 - Supervisor State Display
F2 - Portcard State Display
F3 - Hiway State Display
F4 - Portcard Configuration Display and Administration
F5 - System Activity and Alarm Display
F6 - MCU Macros Display
F7 - Password Administration
F8 - Configuration Display and Administration
F9 - PT Menu Administration
F10 - COM Port Administration
```

A mouse cursor is visible on the right side of the menu list.

Key	Menu Name	Description
ESC	Exit this program	Ends program.
F1	Supervisor State Display	Displays status and alarm information for system shelves. Controls Listen Verify diagnostic function, where Base Stations listen for signal strength from others.
F2	Portcard State Display	Displays status of Interface Modules (port cards), including up time, alarms, and traffic information. Displays status of each telephone and Base Station.
F3	Hiway State Display	Displays status of communications between Shelf Controller and System Controller card.
F4	Portcard Configuration Display and Administration	Add, delete, or edit information for lines and Base Stations associated with each Interface Module (port card), and define the host telephone system type for the module. Also move or delete a whole Interface Module.
F5	System Activity and Alarm Display	Summarizes status and alarm information for system.
F6	MCU Macros Display	For analog interfaces, review and edit the procedures associated with the <b>FCN</b> key on the handset.
F7	Password Administration	Assign a new password to protect access to the MCU.
F8	Configuration Display & Administration	Displays and allows modification of system configuration information: frequency, telephone and flash disconnect times, signal compression type, and values.
F9	PT Menu Administration	Customizes the display menus for each type of telephone system in use with this SpectraLink 6000 System.
F10	COM Port Administration	Set the communication options, such as speed and parity, and usage parameters for the COM port on each shelf.



---

# System Configuration

System configuration can be done after the System Controller card is installed in the MCU. Other cards do not need to be physically installed in order to perform this configuration. System configuration includes these tasks:

**Configure Interface Modules (F4)** Defining the type of host telephone system to which the Interface Module is connected, associating the handset serial numbers and user information with a line on the wired telephone system, and input Base Station information.

**Configure MCU (F8)** Setting the system's frequency and timing parameters.

**Program Macros (F6)** Defining the features and functions accessed by the FCN key on the handsets.

**Program Menus (F9)** Defining the default messages that will display on the handset.

## Configure Interface Modules (Port Cards) (F4-Portcard Configuration Display and Administration)

This option allows you to define the type of host telephone system to which the Interface Module (port card) connects and input or edit information about lines and Base Stations (RCUs). The function also allows you to search line and RCU information for specific data.

### Searching or selecting a specific shelf or port

When you press **F4** to enter **Portcard Configuration Display and Administration**, the system displays either the last Interface Module that was displayed or the search submenu (**Select Cabinet/Portcard (Interface Module)**). Use the submenu to find the shelf or port you want to configure. Press Enter to display the submenu as needed.

To select a specific shelf (cabinet) or port using the search menu:

1. With the port location field highlighted, press Enter to display the menu.
2. Scroll down to **Select Cabinet (shelf) /Portcard (Interface Module)** and press Enter. This displays a menu of options. Scroll down to the desired option and press Enter to select it.

**Select Cabinet** Displays all shelves (cabinets) and slots in the system. Use the arrow keys to scroll through the list. Highlight the shelf or slot you want to see and press Enter.

**Find First Line Note** Allows you to search the Notes (usually entered as the user's name) for all lines for a specific sub-string (e.g., Jones.). Notes are case sensitive.

**Find First Line Extension/SPID** Allows you to search all extension numbers or SPIDs for a extension or SPID (e.g., 333).

**Find First Line PT Serial Number** Allows you to search all handset serial numbers for a specific nine-digit serial number. The number must be nine digits and entered exactly.

**Find First RCU Note** Allows you to search all Base Station notes (usually entered as the location) for a specific sub-string (e.g. West Wing). Notes are case sensitive.

**Find Next** Allows you to repeat the search again. Alt-F also performs this function.

3. Use the arrow keys to highlight the desired menu option, then press Enter.
4. Enter the search criteria, then press Enter.

## Define Interface Module (Portcard) type

Each Interface Module in the system must be assigned a type which defines the type of host telephone system with which the card will interface.

1. From the **Portcard Configuration Display and Administration** screen (F4), use the arrow keys or mouse to position the cursor on the PBX field (if this is a new card it will say **Unconfigured**) and press Enter.
2. When the submenu displays, use the arrow keys or mouse to select the Portcard type from the menu of switch interfaces, and press Enter. The selected Portcard type will display. The screen below shows type **Analog**.



```

Command Prompt - chk3000
F4 - Portcard Configuration Display and Administration
1.04. PBX: Analog
Line 1 498010141 OperateRmsGen 73014
2 498008798 OperateRmsGen 73015
3
4 397003320 OperateRmsGen 73017
5 397013637 OperateRmsGen 73018
6 397021082 Anesthesia 73021
7 498028434 Anesthesia 73019
8 397007372 Anesthesia 73020
9 498008724 Coronary Observ 73117
10 000000002 Coronary Observ 73022
11 397013200 Coronary Observ 73023
12 498018224 sci-opr 73131
13 397012982 Coronary Observ 73025
14 397004463 Coronary Observ 73026
15 000000004 Coronary Observ 73027
16 397012154 Nurse 9th Flr 49530
RCU 1 7 No B-13;CHS-BS-373
2 8 No B-14;CHS-BS-673
3 9 No B-15;CHS-BS-489
4 10 No B-16;CHS-B7-298
5 11 No A-8;CHS-AL-124
6 12 No A-9;CHS-A7-065

```

## Configure lines for handsets

This procedure associates a handset, identified by its serial number, with a specific port location. Refer to the completed *Extension Assignments Worksheet* from *SpectraLink 6300 MCU: Installation* for serial numbers, user names, and extensions.

1. Using the arrow keys or mouse, position the cursor on the port location to be configured, and press Enter.
2. When the menu displays, scroll down to **Edit Line**, and press Enter.
3. At the pop-up menu, type the information for each handset. The following screen shows the pop-up menu.

```

Command Prompt - chk3000
F4 - Portcard Configuration Display and Administration
1.04. PBX: Analog
Line 1 498010141 OperateRmsGen 73014
2 498008798 OperateRmsGen 73015
3
4 397003320 OperateRmsGen 73017
5 397013637 Ope
6 397021082 Ane
7 498028434 Ane
8 397007372 Ane
9 498008724 Cor
10 000000002 Cor
11 397013200 Cor
12 498018224 sci
13 397012982 Cor
14 397004463 Cor
15 000000004 Cor
16 397012154 Nur
RCU 1 7 No B-13;CHS-BS-373
2 8 No B-14;CHS-BS-673
3 9 No B-15;CHS-BS-489
4 10 No B-16;CHS-B7-298
5 11 No A-8;CHS-AL-124
6 12 No A-9;CHS-A7-065

```

```

Line      : 1.04.01
PT Serial : 498010141
Note      : OperateRmsGen
Extension/SPID: 73014

```

**Serial Number** The factory assigned serial number for this telephone, located inside the battery compartment under the battery. Double-check this number when it is entered. If the serial number is entered incorrectly the telephone will not function and will appear to be defective.

**Note** User name or any other information. Do not enter quotes (") in this field or an error message will display. The system does not require an entry in this field but it is highly recommended.

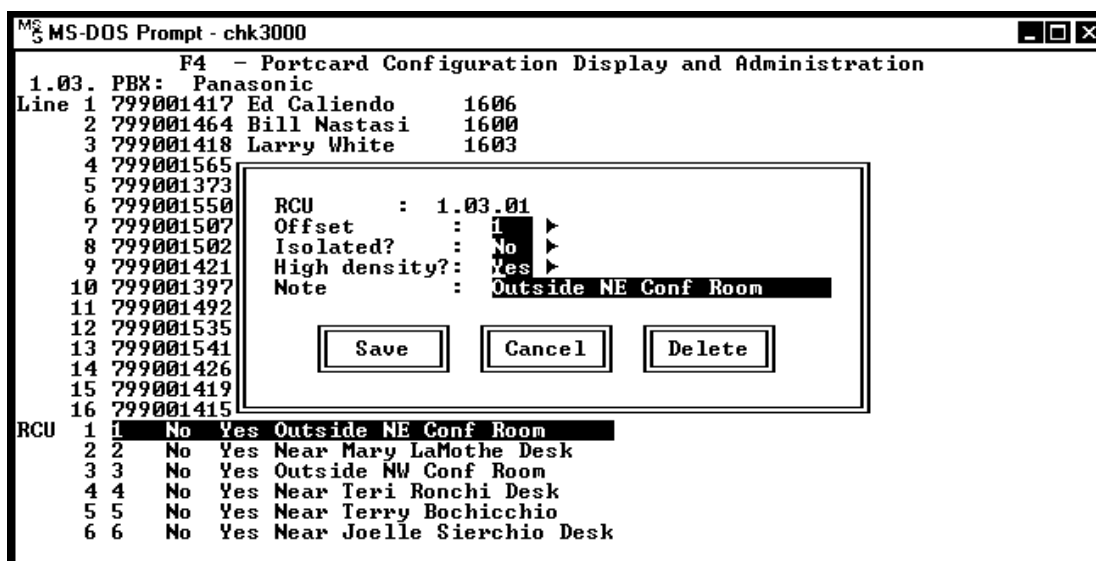
**Extension/SPID** Extension number or SPID (required for ISDN lines). Must be numeric, cannot contain quotes (").

When information is correctly entered, select **SAVE** to save it.

## Configure Base Stations (RCUs)

This procedure associates a Base Station with a specific port location. It also assigns the Base Station's frequency offset, and allows you to enter a description of the location. Refer to the completed *Base Station Location Form* from *SpectraLink 6300 MCU: Installation* for locations and circuit IDs of Base Stations.

1. Select the appropriate Cabinet/Portcard.
2. Use the arrow keys or mouse to position the cursor on the **RCU** to be configured, and press Enter.
3. When the menu displays, scroll down to **Edit RCU (Base Station)**, and press Enter.
4. At the pop-up menu, type the information for each Base Station. The following screen shows the pop-up menu.



**RCU ID** assigned by the system, from 0 to 1023.

**Offset** Offsets ensure that a Base Station can communicate with telephones without interfering with neighboring Base Stations. Each Base Station is assigned a unique two-digit offset in one of the ranges 1 to 50.

To change the offset, press the right arrow key to see a menu of choices.

For whole-hop systems with up to 50 Base Stations, or half-hop systems with up to 25 Base Stations, number the Base Stations in order 1 through 50, or 1 through 25.

If the system has more than 25 or 50 Base Stations, the offset IDs must be reused. Consult the map that was generated during system installation. Assign unique offsets such that adjacent or nearby Base Stations do not share the same offset. When selecting offset assignments, keep in mind through-floor penetration and the Base Station's proximity to windows.

If you are not sure which offsets to assign, check the offset usage through the **Show RCU Offset Reuse** function (see *Base Station (RCU) Offset Reuse Example*, below).

**Isolated?** If this Base Station is isolated from all other Base Stations, enter **Y**. This will disable the Listen Verify alarm for this Base Station. If this is not done, spurious alarms will be generated for this Base Station.

**High density?** If this Base Station is a High Density Base Station, enter **Y**. High Density Base Stations are used with the ccSpectralLink 6000 System. Note that normal and High Density Base Stations cannot be mixed within one system.

**Note** Type a short description of where the Base Station was installed (a room or floor number, for example). The note can be up to 30 characters long. Do not enter quotes (") in this field or an error message will display. The system does not require an entry in this field but it is highly recommended.

5. When information is correctly entered, select **SAVE** to save it.

## Base Station (RCU) Offset Reuse example

The following screen shows a sample Base Station (RCU) Offset Reuse display. This report provides a snapshot of the usage of Base Station Offsets, providing information about the number of times each offset has been assigned. A half-hop system should show zeroes in offset 26

through 50. This report can be used in conjunction with a floor plan of the system to assign Base Station Offsets.

```

MS Command Prompt - chk3000
F4 - Portcard Configuration Display and Administration
1.08. PBX: Analog
Line 1 397004084 Nurse 5 West 73073
2 498
3 397
4 397
5 498
6 397
7 397
8 397
9 397
10 498
11 397
12 397
13 397
14 498
15 397
16 397
RCU 1 31
2 32
3 33
4 34 No BH-1;CHS-BH-219
5 35 No BH-2;CHS-BH-265
6 36 No BH-3;CHS-BH-841
  
```

```

RCU Reuse Display. 164 RCUs
1: 3 11: 4 21: 3 31: 3 41: 3
2: 4 12: 3 22: 4 32: 3 42: 3
3: 4 13: 4 23: 3 33: 3 43: 3
4: 3 14: 4 24: 3 34: 3 44: 3
5: 4 15: 3 25: 3 35: 3 45: 3
6: 3 16: 4 26: 3 36: 3 46: 3
7: 4 17: 3 27: 3 37: 3 47: 3
8: 4 18: 4 28: 3 38: 3 48: 3
9: 3 19: 4 29: 3 39: 3 49: 3
10: 4 20: 4 30: 3 40: 3 50: 3
  
```

```

Press any key to continue.
  
```



The following functions are available through both the **Line** and **RCU Configuration** main menus.

## Delete line/Base Station (RCU)

This option lets you delete a line or Base Station.

1. From the **Portcard Configuration** screen (F4), highlight the line or Base Station (RCU) to be deleted. Press Enter.
2. Select the **Delete Line** option (for lines) or **Delete RCU** option (for Base Stations.).
3. A pop-up screen prompts you to select **CANCEL** or **DELETE**. Select **DELETE** to delete the line or Base Station.

## Move Line/Base Station (RCU)

This option lets you move a line or Base Station to a new port location.

1. From the **Portcard Configuration** screen (F4), highlight the line or Base Station (RCU) to be moved. Press Enter.
2. Select the **Move Line** option (for lines) or **Move RCU** option (for Base Stations.).

3. A pop-up screen prompts you to select a new shelf (cabinet) slot, and port location.



The cable connecting the line or Base Station to the port must also be moved, if required.

## Move Port Card (Interface Module)

This option lets you move an entire Interface Module (port card).

1. From the **Portcard Configuration** screen (F4), press Enter.
2. Select the **Move Portcard** option.
3. A pop-up screen prompts you to select a new shelf (cabinet) and slot location.



You cannot move an Interface Module to a slot which already contains configuration information. Also, the Interface Module must be physically moved to the new slot and connected with a cable in order for the module to become operational.

## Configure MCU (F8-Configuration Display and Administration)

This function sets the system's frequency and timeout parameters.

Field	Value	Range
1. Frequency	1	1 - 7
2. PT Disconnect	30	1 - 255 secs
3. Flash Delay	2.0	0.1 - 2.0 secs
4. Flash Disconnect	0.50	0.01 - 2.00 secs
5. Listen Average	0.10	0.01 - 2.55 secs
6. Listen CRC	0.30	0.01 - 2.55 secs
7. Listen Sig Pcnt	0	1 - 100 pcnt
8. Companding Type	Mu-Law	Mu-Law - A-Law
9. Listen Verify Time	0:00	0:00 - 23:59:59
10. Ring Filter	0.20	0.01 - 2.00 secs
11. Time Zone	1	0 - 21
12. Master Clock Cab.	0	0 - 19
13. Local GPS Cabinet	0	0 - 19

1. Press F8 to enter **Configuration Display and Administration**, then press Enter to display menus for each field.
2. From the menu, use the mouse or arrow keys to select your option.
  - If you are not sure of an entry, leave the default.
  - To change a selection press Enter, then enter the new value.

**Frequency** Select an alternate frequency sequence to be used by the system in cases of interference by other radio devices. Use the frequency ranges shown on the display to select the best interference avoidance pattern for your situation. Range is 1 through 7.

**PT Disconnect** The number of seconds the system should wait before disconnecting from the telephone line if the handset has stopped communicating with any Base Station. This may happen if the telephone is turned off or the user walks out of the coverage area during a call. The allowed range is from 1 to 600 seconds. Default value is 30.

**Flash Delay** (analog interface only) The time the system should wait after the "on-hook" flash signal ends before allowing other keys to be transmitted to the host telephone system. The allowed range is from .01 to 2 seconds. The value depends on the requirements of the host telephone system.

**Flash Disconnect** (analog interface only) The length of time the system should be "on-hook" when the user presses the **Start** key during a call, or uses a macro that includes a Flash code. The allowed range is from .01 to 2 seconds. The value depends on the requirements of the host telephone system.

**Listen Average** Used by Polycom engineering. Leave the default entry (.10).

**Listen CRC** Used by Polycom engineering. Leave the default entry (.30).

**Listen Sig Pcnt** Used by Polycom engineering. Leave the default entry (0).

**Companding Type** Signal compression type. Mu-law is standard format in most host telephone systems in North America. A-law is typically used in Mexico. If the companding type of the MCU does not match the host telephone system's the handsets will have distorted dial tone and unintelligible voice quality.

**Listen Verify Time** Sets the time at which the Listen Verify function will run automatically. This can be set to run once per day.

**First Ring Filter** (analog only) The level which filters the initial spurious ring signals. Value depends on the requirements of the host telephone system.

**Time Zone** Sets the time zone of the SpectraLink 6000 System.

**Master Clock Cabinet** In a system connected via T1 facilities, if the T1 facilities are Network Clocked, this field is used to designate one shelf as the Master Clock Source.

**Local GPS Cabinet** In a system connected via T1 facilities, GPS timing may be required when remote and main shelves are within 600 to 800 feet of one another. This field is used to designate the cabinet that controls the GPS timing.

**All Ring Filter** (analog only) The level which filters spurious ring signals. Value depends on the requirements of the host telephone system.

**Echo Suppression** To disable, enter **0** (zero).

3. Select **SAVE** to save the entries.

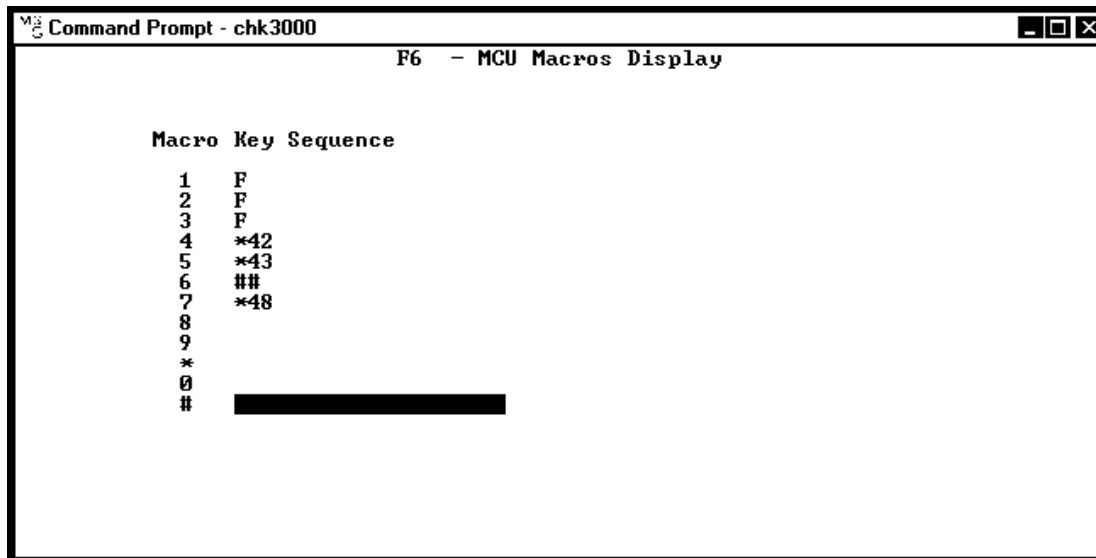
## Program MCU Macros (F6-MCU Macros Display)

See the *LinkPlus Interface Guide for Analog Systems* for additional information about planning and programming the interface.



Macros apply only to analog interfaces and Open Application Interface (OAI) function key assignments.

1. Press F6 to enter the **MCU Macros Display** function. The following screen displays. The screen allows you to define macros that correspond to pressing the **FCN** key on the handset plus one of the digits **1** through **9**, **\***, **0**, and **#**.



2. Use the arrow keys or mouse to move to the desired entry, and press **Enter**.
3. In the menu, type in the new macro characters for this digit or function, then select **SAVE** to save.
4. To assign a function key to initiate the OAI application, enter **##555** as the macro sequence. When the related function key is pressed, the OAI application will recognize the key sequence and initiate the appropriate OAI application.

The OAI macro can be programmed to more than one key sequence to support multiple OAI functions within the same application. The application must then be able to distinguish which key sequence is assigned to which function.



If you customize the handset menus, the features defined on the custom menu should match the system macro. For example, if you define **FCN 2** on the Analog Function Menus as Xfer, you must also define **FCN 2** on the Macros Menu as Xfer.

**FCN 1** is assigned to the Mute function on all handsets.

## Examples of Macro programming

### Transfer

To assign Transfer to **FCN 4** on the handset when the Transfer feature is accessed using **\*42** on the wired phone system:



On the Macro definition screen, enter the following sequence next to **4**, as shown in the sample screen above:

**\*42**

### Speed dial

To have **FCN 8** dial **555-1234** when the system must access an outside line by dialing **9** and wait for dial tone, then dial the call.

On the Macro definition screen, enter the following sequence next to **8**:

**9,,5551234**

The number of pause entries (commas) depends upon how quickly your telephone system accesses outside dial tone.

### OAI

To have **FCN \*** access the OAI interface:

On the Macro definition screen, enter the following sequence next to **\***:

**##555**

### Clear or erase a macro function

1. Use the arrow keys or mouse to move to the desired entry, and press **Enter**.
2. Select **DELETE** from the menu.

## Program Telephone Menus (F9-PT Menu Administration)

The handset displays a menu of functions to prompt users. The system is shipped with a standard menu of features most commonly accessed by users of the host telephone system(s) supported. You can customize one (and only one) menu for each type of host telephone system at your location, up to a maximum of eight menus. All handsets assigned to a specific type of host telephone system will use the same custom menu.

- For analog interfaces, the features defined for the custom menus should match the System Macro defined in *Program MCU*

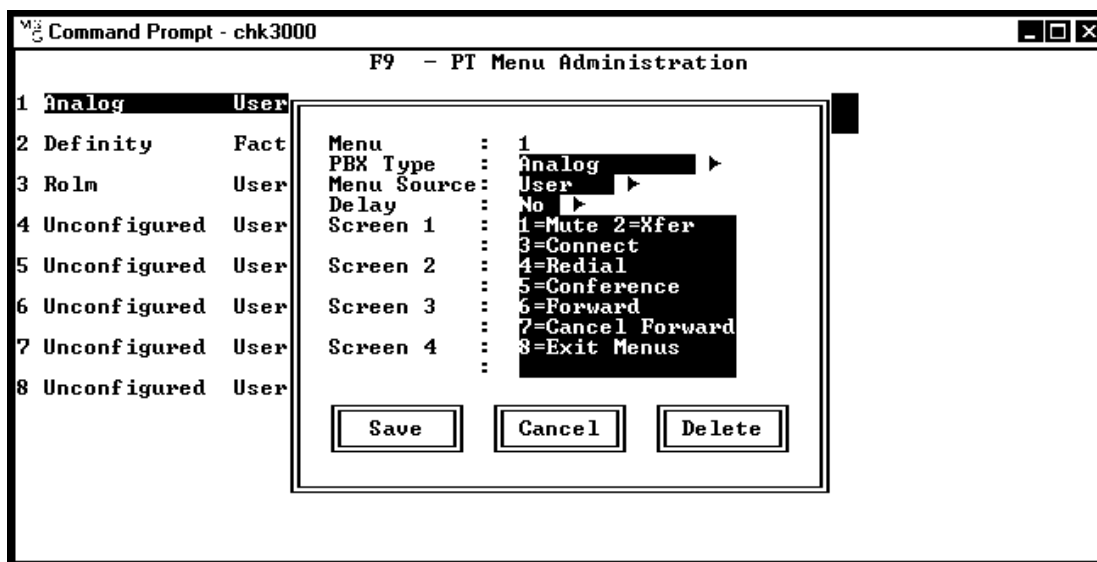
*Macros*

(*F6-MCU Macros Display*). For example, if you define **FCN 2** on the "Analog" custom menu as Xfer, you must also define **FCN 2** on the Macros menu as Xfer.

- For digital interfaces, the features defined for the custom menus should match the programming assigned through the telephone system. For example, if you define **FCN 2** on the "Meridian" function menu as Xfer, you must assign Xfer to the key that corresponds to **FCN 2** on the Meridian digital telephone which is emulated by the handset. See the *LinkPlus Interface Guide* for information on key assignments for your type of telephone system.  
Note that some key assignments cannot be customized on certain types of telephone systems.

Follow this procedure to customize the handset (PT) menus for Analog Systems:

1. Select **F9** to enter the **PT Menu Administration** function.
2. Select the menu number (1 through 8) to be edited. At the pop-up menu, enter the information for that menu.



**PBX type:** This custom menu will apply to **all** handsets on any Interface Module associated with this host telephone system (PBX) type. Press the right arrow key to display a menu of choices. Use the arrow keys to highlight the host telephone system (PBX) type, and press Enter to select it.

**Menu Source** Press the right arrow key to display a menu of choices. Use the arrow keys to highlight the setting, and press

Enter to select it. **Disable** will turn this menu off; **User** will prompt for new user defaults; or **Factory** will assign the factory default settings. Default factory settings for each switch are listed below.

**Delay** Press the right arrow key to display a menu of choices. Use the arrow keys to highlight the setting, and press Enter to select it. Select **Yes** if your digital host telephone supports softkeys (e.g., DEFINITY, Mitel, Norstar), otherwise select **No**.

If **Yes** is selected the system requires the user to press **FCN** twice before the menu displays, allowing the first press of the **FCN** key to access softkey functions. If **No** is selected the user menu displays at the first **FCN** key press.

**Screens 1 through 4** Type the **FCN** key number and the feature abbreviations to be displayed on each menu. Be sure your entries correspond to the system macros (analog systems) or the telephone system programming (digital systems). If you are assigning OAI features, be sure the key was defined as an OAI key in the system macros.

3. Select **SAVE** to save the entries.



You cannot customize more than one menu per PBX type.

## Telephone menu factory defaults

See the appropriate *LinkPlus Interface Guide* for the default menu settings.

# Program COM Ports (F10-COM Port Administration)

There are two RS-232 COM ports on the System Controller and one on each Expansion Shelf Controller. Each COM port can be assigned one administrative function.

1. Press F10 to enter the **COM Port Administration** function. The screen allows you to assign one, and only one, function to each COM port.
2. Use the arrow keys or mouse to highlight the COM port to be configured. The COM port on the right side of the screen for Shelf

1, Slot 1, is for RS-232 Port **B**.

Port **A** must be configured for Admin.

Note: The first number designates the Shelf and the second designates the Slot (e.g. **1.1** designates Shelf 1, Slot 1).

3. Press Enter to display a pop-up menu of options:

**Admin** COM port will be used for system administration access.

**OAI** COM port will be used for communication with Open Application Interface.

**Alarm** COM port will be used to output SpectraLink 6000 System alarm data.

**CDR** COM port will be used to output Call Detail Records. See below for more information.

4. Use the arrow keys to highlight the desired option, and press Enter to select it.



If more than one COM port is assigned the same option, the system will use the first COM port with the option assigned.

## Call Detail Records

If the COM port is set to CDR, the SpectraLink 6000 System will output a Call Detail Record (CDR) every time a user makes or receives a Wireless Telephone call. The CDR output is a comma-delimited ASCII text string containing the following call information:

- Direction of call
- Date
- Time
- Wireless Telephone port number
- Duration of call; User name
- User Extension

This data can be analyzed and charted to determine level of wireless usage, peak times of usage, trends of usage, and to identify light and heavy users.

Several mechanisms can be used to capture the CDR data stream:

- Directly connect a PC to the SpectraLink 6300 MCU. The PC will capture the data and save it to a file. The PC does not have to be dedicated to this task, but it must be left on continuously with the capture program running in the background during the period that data is to be collected. A software tool - CDR Capture, running under Windows 95 or higher - is available from Polycom for this task.
- Save the data to a serial port data buffer box, such as a Western Telematics Pollcat CRB-256. The buffer box is emptied into a PC via a serial port. The PC need not be continuously available, but the buffer box must be emptied on a regular schedule to avoid overflow and loss of data.
- Data can be accessed via remote dial-in through a buffer box with a modem, such as Western Telematics Pollcat CRB-256M or Pollcat III. Password and callback features may be available for security purposes. In this arrangement, a standard PC terminal program such as Hyperterminal is used to access the buffer box, download the data, and save it to a file.

For more information on how to capture, save, and analyze SpectraLink 6000 System CDR data, contact Polycom or your distributor.

## **System Alarm recording**

If the COM port is set to Alarm, the SpectraLink 6000 System will output a record of each system alarm as it occurs. You may want to record this data to troubleshoot a problem or if a record of alarms is required for any reason.

Alarm data may be captured using the same mechanisms used for Call Detail Recording, described above. For more information on how to capture and save SpectraLink 6000 System Alarm data, contact Polycom or your distributor.

---

# System Status

This section explains how to use the Operator's Console to check the status of the SpectraLink 6000 System and its components.

- **Supervisor State Display (F1)** Shows information about the controller cards in each shelf.
- **Portcard (Interface Module) State Display (F2)** Shows information about the Interface Modules, Wireless Telephones, and Base Stations (RCUs).
- **Hiway State Display (F3)** Shows the status of communications between shelves.
- **System Activity and Alarm Display (F5)** Shows a snapshot of system activities and alarms.

## Supervisor State Display (F1)

The **Supervisor State Display** screen shows detailed status information about each card in a specific shelf, including alarm and usage information. The left side of the screen (**1** through **20**) shows the status of shelves. The right side of the screen shows the status of the Controller card.

```

MS-DOS Prompt - chk3000
F1 - Supervisor State Display

1 Running Card Alarm 23:34:58 4 3 3 !
2 Running 0 1 0 R
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Date : 1999/08/11
Time : 12:50:59
SC Uptime : 18-20:17:17
SC State : Running
SC Port : 1.02.01 CD
Lis Token :
Lis Token Tim:
Lis Verify :
Lis Verify St:
Lis Verify Re:
DL Card/Page :
DL Time :
Super Hi/Ovfl: 2/ 0
Broad Hi/Ovfl: 1/ 0
Fullest Queue: 0
Sys Cfg Uer : 13/012f
Sys Cfg State:
Sys Cfg Time :
PC Cfg Uer : 33/0afb
PC Cfg State:
PC Cfg Time :

```

### System Shelf status (left-hand columns)

Shelves **1** through **20** summarize shelf status information.  
Each line shows:

- Cabinet state,
- Alarm,
- Alarm time,
- # of handsets active,
- # of Base Stations active,
- Card alarms,
- Alarm notify (!)

An **R** at the end of the line indicates a Remote (T1) shelf.

To view the shelf detail screen, highlight the shelf and press Enter.





Do not power off the system until the **PC Cfg State** is idle (blank), or recent configuration information will be lost.

## System Controller state (right-hand columns)

**Time** Current time according to the system

**SC Uptime** Amount of time the System Controller card has been running.

**SC State** In normal function, state is **Running**.

**SC Port** Port which is currently connected to the System Controller card. **.01** = A port; **.02** = B port. Downloads are supported only by the A port. The modem should be connected to the A port in most cases.

**Lis Token** The card that has the token to listen.

**Lis Token Time** The length of time that card has had the listen token.

**Lis Verify** The Base Station that is listening at that time in a Listen Verify diagnostic.

**Lis Verify St** The status of the listening Base Station (listening, transferring, waiting, idle). Idle state is indicated by blank

**Lis Verify Re** The number of Base Stations remaining to listen.

**DL Card/Page** Which card has requested a download. The card will be downloaded with software to match what the rest of the system is running. The card/page is prefixed with a single digit representing which type of code is being downloaded followed by a " - ". The type of code being downloaded is used by engineering for diagnostics.

**DL Time** Length of time the download has been running. Most downloads take about a minute, higher numbers may indicate a problem.

**Super Hi/Ov** High water mark and the number of times the supervisor queue has overflowed. Overflow should be **0**. Used by Polycom engineering.

**Broad Hi/Ovfl** High water mark and the number of times the broadcast queue has overflowed. Overflow should be **0**. Used by Polycom engineering.

**Fullest Queue** The depth of the fullest queue in the system. Used by Polycom engineering.

**Sys Cfg Ver** The version of the system configuration (macros, menus etc.)

**Sys Cfg State** Shows the status of the system configuration. During an update, the config passes through these states: dirty, erasing, programming, and back to idle (blank). Dirty state remains for 60 seconds after the last change made. The erasing and programming state lasts for around 50 seconds.

**Sys Cfg Time** Amount of time the system configuration has been in the cfg state.

**PC Cfg Ver** The version of the Interface Module (port card) configuration.

**PC Cfg State** Shows the status of the Interface Module (port card) configuration. During an update, the config passes through these states: dirty, erasing, programming, and back to idle (blank). Dirty state remains for 60 seconds after the last change made. The erasing and programming state lasts for around 50 seconds.

**PC Cfg Time** Amount of time the Interface Module (port card) config has been in the cfg state.

## Supervisor State Display – menu of options

From the **Supervisor State Display** screen (F1) press Enter to display a menu of options for the selected shelf.

**Show Cabinet Detail** Displays details about this shelf (cabinet). See following section.

**Remotecard Options** Displays menu of options for remote T1 card, including editing Remote Shelf configuration, displaying remote card details, clearing alarms for remote cards, and resetting remote cards.

**Delete Cabinet** Deletes a shelf (cabinet) from the system.

**Lock System** Used to take the system down for system-wide maintenance or reconfiguration. A locked system does not allow new calls to start, but allows existing calls to complete.

**Unlock System** Used to bring the system back to normal state after it has been in the locked state.

**Start Listen Verify** Immediately starts the Listen Verify diagnostic routine. Normally this routine is run automatically at the time set in **Configuration Display and Administration**. It should be run after all Base Stations are installed and running.

**Check Listen Verify Report** Checks report and displays Base Stations with possible problems. See Chapter 4 *Diagnostics Procedures*, section *Listen Verify Test*.

**Dump Listen Verify Report** Writes the latest Listen Verify report to the file `lisver.log` in your working directory. Prompts to replace or append the file.

**Dump Portcard State/History Report** Writes the latest Portcard report to the file `portcard.log` in the working directory. Prompts to replace or append the file.

**Set Date and Time** Sets or re-sets the date and time for the system. The system gets the date and time information from the PC connected to the system.

**Save Configuration Now** Forces the System Controller card to immediately save the configuration to non-volatile memory. Use when configuration changes are made and you do not want to wait to load the changes.

**Dump System Configuration to PCS.CFG** This function copies configuration data for the system to a file for backup purposes. See Chapter 5 *Backups*.

**Load System Configuration from PCS.CFG** This function copies configuration data from a backup file to the System Controller card. See Chapter 5 *Backups*.

**PT Active** Shows 12 lines of information about handsets. Also shows whether or not the configuration is active (System Controller card or Interface Module) and if someone is dialed into the system. See Chapter 3 *System Status*, section.

**Clear Supervisor/Router Variable** Provides a menu of options to clear the following variables: Peak Hiway Fullness; Peak Missed Count; Reset Count; RCU Timeslot Full Count; Router Peak; Router Overflow; Router Collision.

**Clear Cabinet Alarm** Provides a menu of options to clear alarms for all shelf (cabinet) components appropriate to that shelf.

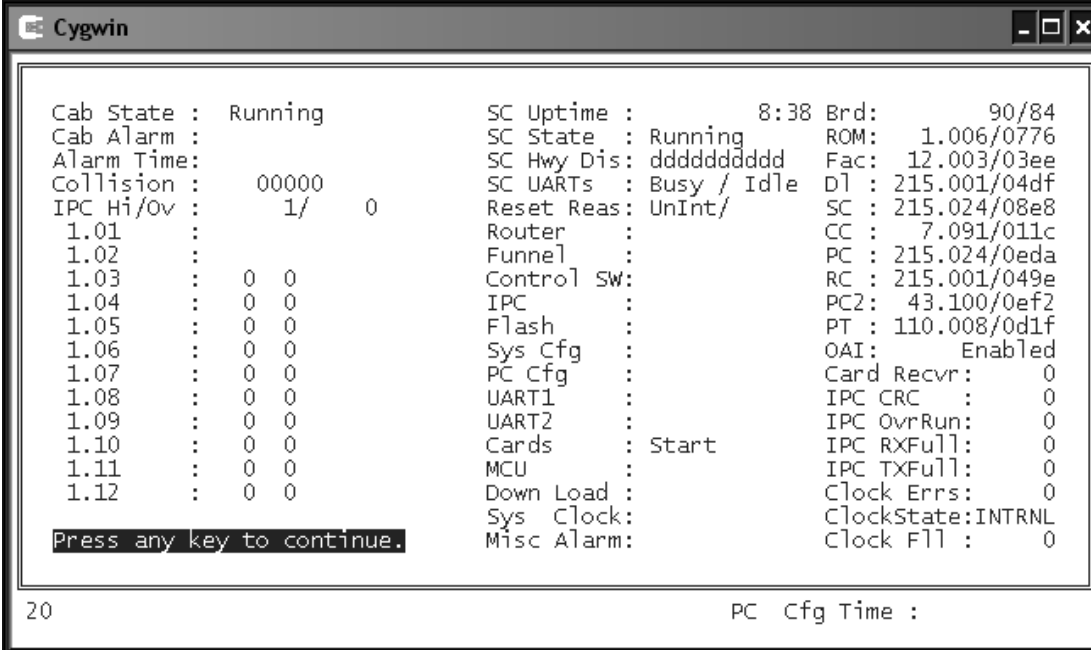


If alarms or variables reappear after being cleared, there is a problem which must be diagnosed and resolved.

## Show Cabinet Detail Function

### Shelf detail – Primary Shelf

The following screen shows the details for the Primary Shelf.



```

Cygwin
Cab State : Running          SC Uptime :      8:38 Brd:      90/84
Cab Alarm :                 SC State  : Running  ROM:    1.006/0776
Alarm Time:                 SC Hwy Dis: dddddddddd Fac:   12.003/03ee
Collision :      00000      SC UARTs  : Busy / Idle D1 : 215.001/04df
IPC Hi/Ov :      1/   0     Reset Reas: UnInt/   SC : 215.024/08e8
1.01 :                      Router      :          CC :   7.091/011c
1.02 :                      Funnel     :          PC : 215.024/0eda
1.03 :      0  0             Control SW:          RC : 215.001/049e
1.04 :      0  0             IPC        :          PC2: 43.100/0ef2
1.05 :      0  0             Flash     :          PT : 110.008/0d1f
1.06 :      0  0             Sys Cfg  :          OAI: Enabled
1.07 :      0  0             PC Cfg  :          Card Recvr: 0
1.08 :      0  0             UART1   :          IPC CRC  : 0
1.09 :      0  0             UART2   :          IPC OvrRun: 0
1.10 :      0  0             Cards   : Start    IPC RXFull: 0
1.11 :      0  0             MCU     :          IPC TXFull: 0
1.12 :      0  0             Down Load:         Clock Errs: 0
                               Sys Clock:         ClockState:INTRNL
                               Misc Alarm:         Clock Flt : 0

Press any key to continue.

20                                     PC Cfg Time :

```

**Cabinet State** In normal function, state is **Running**.

**Cabinet Alarm** Lists alarm name if shelf is in alarm state.

**Alarm Time** The last time this shelf went into alarm state.

**Collision** If there is an alarm (!), indicates a problem with cabling between System Controller card and the Intershelf Junction Panel (e.g. A and B connectors are not correctly connected to the A and B ports on the shelf card.)

**IPC Hi/Ov** The highest level reached in the shelf's queue, and the number of times the queue has overflowed. The overflow should be **0**. Used by Polycom engineering.

**Card Status (01 through 12)** An exclamation point (!) indicates an alarm on that card.

**SC Uptime** Amount of time the System Controller card has been running.

**SC State** System Controller card state. In normal function, state is **Running**.

**SC Hwy Dis** Shows which highways on this shelf are disabled or not yet in use. Shows 10 dots (one for each card between slots 3 and 12). If a dot (.) displays, the highway is ok or has been used. If a **d** displays, the highway is disabled or not used yet. A **d** displays if there is no card plugged into a slot.

**SC UARTs** Supervisor UART. Used by Polycom engineering.

**Alarms - Router through Download** These are sub-components of the shelf. If they are in an alarm state, there will be an alarm message or reason listed next to the component. See *SpectraLink 6300 MCU: Maintenance and Diagnostics* for troubleshooting information.

**Brd, ROM, Fac and DI** Version numbers of the system hardware. These are set at the factory.

**SC, CC, PC, RC, PC2, and PT** Software version numbers of the System Controller card, Shelf Controller, Interface Module, and Remote Shelf (if installed), Interface Module Type 2, and Wireless Telephone. The 1- to 3-digit IDs of these can be different, but the 3-digit IDs of each version number should be the same (e.g. 6.006, 7.006) except for the PT, which may have an unrelated number.

**Card Recvr** Used by Polycom engineering.

**IPC CRC** Number of IPC CRC errors detected by System Controller card.

**IPC OverRun** Number of IPC overrun errors detected by System Controller card.

**IPC RX Full** Number of IPC receive queue full occurrences detected by System Controller card.

**IPC TX Full** Number of IPC transmit queue full occurrences detected by System Controller card.

**Clock Errs** Cumulative number of problems with clock state.

**ClockState** Source of clocks (**Internal** or **External**). Should always be **Internal** if no T1 remote modules are present. Will be **External** if T1 remote modules are present and the Master Clock Cabinet parameter has been changed.

## Shelf detail – Expansion Shelf

The following screen shows the details for the Expansion Shelf.

```

Command Prompt - chk3000

Cab State : Running          CC Uptime : 01:59:03 Brd: 11/82
Cab Alarm : Card Alarm      CC State  : Running   ROM: 1.002/0dc0
Alarm Time: 06:23:56        CC Hwy Dis: d.ddd...dd Fac: 3.002/06d2
Collision  :                 CC UART   : Idle      D1 : 5.004/04ab
IPC Hi/Ov  : 2/ 0           Reset Reas: /         CC : 7.006/0bed

3.01      :
3.02      :
3.03      : 0 0             Control SW:
3.04      : 0 0             MCU       :
3.05      : 0 0             IPC       :
3.06      : 0 0             UART1    :
3.07      : 0 0             !
3.08      : 0 0
3.09      : 0 1
3.10      : 0 0
3.11      : 0 0
3.12      : 0 0

Press any key to continue.

20                                     PC Cfg Time :

```

**Cabinet State** In normal function, state is **Running**.

**Cabinet Alarm** Lists alarm name if shelf is in alarm state.

**Alarm Time** The last time shelf went into alarm state.

**Collision** If there is an alarm (!), indicates a problem with cabling between Shelf Controller and the Intershelf Junction Panel (e.g. A and B connectors are not correctly connected to the A and B ports on the shelf card.)

**IPC Hi/Ov** The highest level reached in the shelf's queue, and the number of times the queue has overflowed. The overflow should be **0**. Used by Polycom engineering.

**Card Status (01 through 12)** An exclamation point (!) indicates an alarm on that card.

**CC Uptime** Amount of time the Shelf Controller card has been running.

**CC State** Shelf Controller card state. In normal function, state is **Running**.

**CC Hwy Dis** Shows which highways on this shelf are disabled or not yet in use. Shows 10 dots (one for each card between slots 3 and 12). If a dot (.) displays, the highway is ok or has been used. If a **d** displays, the highway is disabled or not used yet. A **d** displays if there is no card plugged into a slot.

**Reset Reas** Reason for last shelf card reset.

**Alarms: Control SW through UART** These are sub-components of the shelf. If they are in an alarm state, there will be an alarm message or reason listed next to the component. See *SpectraLink 6300 MCU: Maintenance and Diagnostics* for troubleshooting information.

**Brd, ROM, Fac and DI** Version numbers of the system hardware. These are set at the factory.

**CC** Software version number of the Shelf Controller.

## PT Active Function– Handset Summary

```

Command Prompt - chk3000
F1 - Supervisor State Display

PT Active Display - Running
0:39
1.02 PC Cfg Dirty 49510 3.08.05 6-6;CHS-67-206
1.08.04 Nurse 6E Surg 46663 3.10.02 6-7;CHS-67-320
1.09.11 Nurse 6W Surg 73083 2.05.04 3-10;CHS-34-189
2.03.15 Nurse 3rd Flr 73086 2.04.06 3-11;CHS-36-191
2.04.01 Nurse 3rd Flr 73099 2.05.06 4-6;CHS-47-214
2.04.14 Nurse 3rd Flr

6 Total

Press any key to continue.

20 PC Cfg Time : 0:23

```

The **PT Active** screen shows up to 12 active items. An item can be :

- An active handset. Each entry shows the port location, note associated with the handset, extension, Base Station on which the handset is communicating, and the Base Station's note.
- **UART Busy** Indicates that someone else is using the other COM port on the System Controller card.
- **PC or Sys CFG state** Status may be **Dirty**, **Erasing**, or **Programming**, and amount of time in that state.

## Remote Card Options

If the system has T1 remote cards installed, select **Remotecard Options** from the submenu to display information about the cards. The following options are available.

**Show Remotecard Detail** Displays detailed information about the T1 remote cards (near and far).

**Edit Remote Cabinet Configuration** Input or change information about the T1 connections and synchronization. See *SpectraLink 6300 MCU: T1 Remote Module Installation* for more information.

**Clear Near Remote Card Alarm** Clears alarms on the near-end remote card.

**Clear Far Remote Card Alarm** Clears alarms on the far-end remote card.

**Reset Near Remote Card** Resets the near-end remote card.

**Reset Far Remote Card** Resets on the far-end remote card.

### Remotecard (Shelf) detail

To display details for the Remote Shelf:

1. From the **Supervisor State Display** screen (F1) press Enter to display a menu of options.
2. Highlight the remote card to be displayed and select **Remotecard Options**.
3. Select **Show Remotecard Detail**. The following screen displays.



```

MS-DOS Prompt - chk3000
-----
Brd:      40/86  T1 U/Fll: 19    0  Brd:      40/86  T1 U/Fll: 19   61
ROM:     1.006/0776  T1 Delay: 52    0  ROM:     1.006/0776  T1 Delay:  3    1
Fac:     37.001/01c3  T1 Stat: 0x0F 0x00  Fac:     37.001/01c3  T1 Stat: 0x0F 0x00
Dl :     38.001/04ca  Frame : 0/ 0/ 0  Dl :     38.001/04ca  T1 Stat: 0x0F 0x00
RC :     39.021/0a17  Frame : 0/ 0/ 0  RC :     39.021/0a17  Frame : 0/ 0/ 0

RC Uptime : 18-20:10:28          RC Uptime :  5-10:40:47
RC State  : Running            RC State  : Running
Reset Reas: /                  Reset Reas: /
MCU       :                    MCU       :                    IPC CRC:  0
FPGA     :                    FPGA     :                    IPC OUR:  0
IPC      :                    IPC      :                    IPC UNR:  0
T1 A    :                    T1 A    :
T1 B    :                    T1 B    :

IPC RX:  0    3  T1CRC:47972    0  IPC RX:  0    2  T1CRC:  0    0
IPC TX:  0    2  T1OUR:  0    0  IPC TX:  0    1  T1OUR:  0    0
T1 RX :  0    2  T1UNR:  0    0  T1 RX :  0    2  T1UNR:  0    0
T1 TX :  0    1  T1SLP: 23    0  T1 TX :  0    2  T1SLP:  0    0
Main  :  0    2
Time  :  0    6
Time  :  0    6

```

The left side of the screen shows the detail for the T1 remote card connected to this shelf at the near end.

The right side of the screen shows the detail for the T1 remote card at the far end, in the remote shelf.

**Brd, ROM, Fac, Dl, and RC** Version numbers of the system hardware. These are set at the factory.

**T1 V/Fll** Current T1 configuration version / current frequency lock loop adjustment.

**T1 Delay** Current delay (skew) on T1 A/B.

**RC Uptime** Amount of time the remote card has been running.

**RC State** Remote card state. In normal function, state is **Running**.

**Reset Reas** Reason for the last remote card reset.

**Alarms MCU through T1 B** If these components are in an alarm state, there will be an alarm message or reason listed next to the component. See *SpectraLink 6300 MCU: Maintenance and Diagnostics* for troubleshooting information.

**IPC CRC** Number of local IPC CRC errors.

**IPC OVR** Number of local IPC overrun errors.

**IPC UNR** Number of local IPC underrun errors.

**IPC RX** Highest level reached in IPC RX queue and number of times queue overflowed.

**IPC TX** Highest level reached in IPC TX queue and number of times queue overflowed.

**T1 RX** Highest level reached in T1 RX queue and number of times queue overflowed.

**T1 TX** Highest level reached in T1 TX queue and number of times queue overflowed.

**T1 CRC** Number of T1 A/B IPC CRC errors.

**T1 OVR** Number of T1 A/B IPC overrun errors.

**T1 UNR** Number of T1 A/B IPC underrun errors.

**T1 SLP** Number of T1 A/B IPC slip errors.

**Main** Highest level reached in main queue and number of times queue overflowed.

**Time** Highest level reached in time queue and number of times queue overflowed.

## Clear Remote Card alarms

1. From the **Supervisor State Display** (F1) menu, use the arrow keys to highlight the number of the shelf to be checked, and press Enter.
2. Select Remotecard Options.
  - Select **Clear Near Remote Card Alarm** to clear alarms on the T1 Remote card at the local site.
  - Select **Clear Far Remote Card Alarm** to clear alarms on the T1 Remote card at the remote site.

## Reset T1 Remote Module

1. From the **Supervisor State Display** (F1) menu, use the arrow keys to highlight the number of the shelf to be checked, and press Enter.
2. Select Remotecard Options.
  - Select **Reset Near Remote Card** to reset the T1 remote card at the local site. Note: Resetting the Near Remote Card will automatically reset the Far Remote Card.
  - Select **Reset Far Remote Card** to reset the T1 Remote card at the remote site.

## Portcard State Display(F2)

```

Cygwin
F2 - Portcard State Display
1.03. Period: 1/1 PBX: Analog Uptime : 0:36
Line 1 [REDACTED] MCU State : Running
2 [REDACTED] MCU Alarm :
3 [REDACTED] CT1 Alarm :
4 [REDACTED] CT2 Alarm :
5 [REDACTED] DAA1 Alarm :
6 [REDACTED] DAA2 Alarm :
7 [REDACTED] Reset Reason: /
8 [REDACTED] CT Max/Full : 0/ 0
9 [REDACTED] CT Full Time:
10 [REDACTED] IPC RX CRC : 0
11 [REDACTED] Brd : 38/83/90
12 [REDACTED] ROM : 1.011/0a29
13 [REDACTED] Fac : 9.002/0895
14 [REDACTED] D1 : 251.002/09a7
15 [REDACTED] PC : 229.024/0946
16 [REDACTED] PT : 110.008/0d1f
RCU 1 Running 1 0 0 0:00
2
3
4
5
6

```

This screen shows detailed information about the Interface Module (port card). The Interface Module's shelf and slot are shown on the top line, followed by the **Period** number. Under this is information about the Lines and Base Stations (RCUs).

To see detailed information about any line or Base Station (RCU), highlight the **Line** or **RCU** and press Enter. You can also use the **Select Cabinet/Portcard** option to search for or select a specific card. See Chapter 2 *System Configuration*, section *Configure Interface Modules (Port Cards)* (*F4-Portcard Configuration Display and Administration*).

### Line and Base Station information (left-hand columns)

**Period** Indicates the seven-day period for which data is currently being saved, and the number of seven-day periods for which historical data exists.

**Lines** Screen displays the following information for each line (1 through 16): Port #, State, # of Resyncs, # of times Full, # of Calls in, #

of Calls out, Amount of time in use (or in Alarm), Base Station the line is active on.

**RCU (Base Stations)** Screen displays the following information for each Base Station (RCU): Port #, State, # of Downloads, # of MCU detected Link errors, # of Base Station detected Link errors, Amount of Time Full (or in alarm), Lines active on that Base Station.

## Alarm and Status information (right-hand columns)

**Uptime** Amount of time the Interface Module has been running.

**MCU State** Interface Module state. **Running** in normal function.

**Alarms CT1 through DAA 2** These are sub-components of the module. If they are in an alarm state, there will be an alarm message or reason listed next to the component. See *SpectraLink 6300 MCU: Maintenance and Diagnostics* for troubleshooting information.

**CT Max/Full** The first number is the maximum number of simultaneous calls on this Interface Module at a given time. Each Interface Module can handle eight simultaneous calls. The second number is the number of times the Interface Module's queue was full.

**CT Full Time** Length of time the Interface Module's queue was full.

**IPC RX CRC** Used by Polycom engineering.

**Brd, ROM, Fac and DI** Version numbers of the system hardware. These are set at the factory.

**PC** Software version numbers of the Interface Module.

**PT** Software version number of the code loaded on the port card available for download to the wireless telephones.

## Line menu

Highlight any Line on the Interface Module and press Enter to display a menu of display options for lines:

**Show Line Detail** Displays detailed information about a specific line. See Chapter 3 *System Status*, section *Supervisor State Display (F1)*.

**Clear Line Alarm** Clears any alarms associated with a specific line.

**Clear MCU/CT/DAA Alarms** Displays a menu of possible alarms to be cleared.

**Reset Portcard** Resets the Interface Module (port card). Similar to unplugging and replugging the card.

**Advanced Functions** Access to diagnostic information. Use by Polycom engineering.

**Select Cabinet/Portcard** Allows you to search for a particular cabinet, line or Base Station. See Chapter 2 *System Configuration*, section *Configure Interface Modules (Port Cards)* (*F4-Portcard Configuration Display and Administration*).

## Show line detail

This option shows the detail for a specific line. Highlight a specific line on the **Portcard State Display** and press Enter; or use the **Select Cabinet** function to search for a specific line.

```

MS-DOS Command Prompt - chk3000
F2 - Portcard State Display
1.08. Period: 1/1 Uptime : 3-06:36:56
Line 1 Idle 0 3 State : Running
Line 2 Idle 0 5 Alarm :
Line 3 Idle 0 0 Alarm :
Line 4 Idle 0 0 Alarm :
Line 5 Idle 0 0 Alarm :
Line 6 Active 0 0 Alarm :
Line 7 Idle 0 0 t Reason: /
Line 8 Idle 0 0 Max Use : 6
Line 9 Idle 0 0 Full : 0
Line 10 Idle 0 2 RCU :
Line 11 Idle 0 0 Resyncs : 0
Line 12 Idle 0 0 RCU Full : 0
Line 13 Idle 0 0 Calls In : 42
Line 14 Idle 0 0 Calls Out: 93
Line 15 Idle 0 0 Calls Dur: 01:47:02
Line 16 Idle 0 0 RX CRC : 10/83/90
RCU 1 Running 1.002/0dc0
RCU 2 Running 9.002/0895
RCU 3 Running 5.004/04ab
RCU 4 Running 8.006/09c0
RCU 5 Running
RCU 6 Running
Press any key to continue.

```

**Line** The port location of this line.

**Period** Indicates the seven-day period for which data is currently being shown, and the number of seven-day periods for which historical data exists.

**PT Serial** Serial number of this wireless handset.

**Note** User name or any other information.

**Extension** Extension number or SPID (ISDN).

**State** **Active** if in use; **Off** if powered off; **Idle** if turned on and not in use.

**Alarm** Shows alarm if the handset associated with the line is in alarm. Digital interface only.

**RCU** If active, the Base Station the telephone is communicating with.

**Resyncs** Number of resyncs for this line.

**RCU Full** Number of times the line accessed a full Base Station.

**Calls In** Number of calls received.

**Calls Out** Number of calls made.

**Calls Dur** Amount of time the handset was off-hook (or active).

## Base Station (RCU) menu

Highlight any Base Station (RCU) on the Interface Module and press Enter to display a menu of display options for Base Stations.

**Show RCU Detail** Displays detailed information about a specific line. See next section.

**Show RCU Listen Report** Displays results of the last Listen Verify diagnostic test for the selected Base Station. See Chapter 4 *Diagnostics*, section *Listen Verify Test*.

**Clear RCU Alarm** Clears any alarms associated with a specific Base Station (RCU).

**Clear MCU/CT/DAA Alarms** Displays a menu of possible alarms to be cleared.

**Reset RCU** Resets the Base Station (RCU) selected.

**Reset Portcard** Resets the Interface Module (port card).

**Advanced Functions** Access to diagnostic information. Used by Polycom engineering.

**Select Cabinet/Portcard** Allows you to search for a particular cabinet, line or Base Station. See Chapter 2 *System Configuration*, section *Configure Interface Modules (Port Cards) (F4-Portcard Configuration Display and Administration)*.

## Show Base Station (RCU) detail

This option shows the detail for a specific Base Station.

```

MS-DOS Command Prompt - chk3000
F2 - Portcard State Display
01:59:58
Running
1.04. Peri
Line 1 Idle
2 Idle
3 Idle
4 Idle
5 Idle
6 Idle
7 Idle
8 Idle
9 Idle
10 Idle
11 Idle
12 Idle
13 Idle
14 Idle
15 Idle
16 Idle
RCU 1 Runn
2 Runn
3 Runn
4 Runn
5 Running
6 Running

RCU      : 1.04.01
Period   : 1/1
Serial   : 397009729
Offset   : 7
RCU Id   : 1
Isolated : No
Note     : B-13;CHS-BS-373
Uptime   : 02:00:48
State    : Running
Alarm    :
Lines    :
Downloads: 1
MCU Link : 0
RCU Link : 0
RCU Full :

10/83/90
1.002/0dc0
9.002/0895
5.004/04ab
8.006/09c0

Press any key to continue.

1 0 0 0:00
1 0 0 0:00

```

**RCU** Port location of this Base Station

**Period** Indicates the seven-day period for which data is currently being shown, and the number of seven-day periods for which historical data exists.

**Serial** Serial number of this Base Station.

**Offset** Offset ID of this Base Station.

**RCU Id** Assigned by the system.

**Isolated** **Yes** if this Base Station is isolated from all other Base Stations. This disables Listen Verify alarms for this Base Station.

**Note** Short description of where the Base Station was installed (room or floor number.)

**Uptime** Amount of time this Base Station has been running.

**State** Shows state of the Base Station. **Running** if in use; **Idle** if not in use; **Reset** if in reset state.

**Alarm** Shows alarm if this Base Station is in alarm.

**Lines** If a handset is communicating with this Base Station, the ID of that telephone.

**Downloads** Number of times the Base Station has downloaded in the current period.

**MCU Link** MCU detected link errors for this Base Station

**RCU Link** Base Station detected link errors.

**RCU Full** Amount of time this RCU has been full (four users).

## Hiway State Display (F3)

This option displays information about the usage of Audio timeslots for the two hiways in each shelf.

The SpectraLink 6000 System's Intershelf Junction Panel (JPI-300) carries call traffic on two pair of wire for the Interface Modules in slots 3 through 7, and two pair for call traffic on Interface Modules in slots 8 through 12. Each two pair set, or hiway, carries up to 48 active calls; therefore, a shelf link carries a maximum of 96 calls.

```

Command Prompt - chk3000
F3 - Hiway State Display

          SCA 3-7                SCB 8-12
1  3/ 15  0:00      0  0      4/ 12  0:00      0  0
2  2/ 11  0:00      0  0      0/  4  0:00      0  0
3  0/  5  0:00      0  0      3/ 12  0:00      0  0
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Retry 1 receiving get_ts_full

```

Information displays for each half of the shelf. **SCA 3-7** is the first half of the shelf, Slots 3 through 7. **SCB 8-12** is the second half of the shelf, slots 8 through 12.

- Current Time Slots/Highwater mark (example above shows 3/15).
- Time full (full = carrying 48 active calls)
- Error counts: used by Polycom engineering only.



Press Enter to display details about each time slot (**1 through 48**) in the shelf.

```
Command Prompt - chk3000

1 - SCA 3-7 1/ 5      0:00      0  0
1 L  1.06.02  1.09.04.1 17      33
2      18      34
3      19      35
4      20      36
5      21      37
6      22      38
7      23      39
8      24      40
9      25      41
10     26      42
11     27      43
12     28      44
13     29      45
14     30      46
15     31      47
16     32      48

Press any key to continue.
```

Each half-shelf has a total of 48 time slots. The report summarizes current usage of each time slot:

- **L** or **R**: Line or RCU (Base Station) based
- Port address of the handset using that time slot
- Port address of the Base Station using that time slot

## System Activity and Alarm Display (F5)

This function shows a snapshot of system activities and alarms. Rows 1 through 20 show information for each shelf. Columns 1 through 12 show information for each slot in the shelf. For example:

```

Command Prompt - chk3000
F5 - System Activity and Alarm Display

>  1  1  2  3  4  5  6  7  8  9  10  11  12
   1  -  -  i-  1-  1-  -  -  -  -  2  -  -  -
   2  -  -  1-  1-  -  1  -  -  -  -  -  -  -
   3  -  -  -  -  -  -  -  -  !  -  -  2  -  -
   4
   5
   6
   7
   8
   9
  10
  11
  12
  13
  14
  15
  16
  17
  18
  19
  20

```

To see details, use the arrow keys to select the desired shelf or slot and press Enter.

The number under each card is the number of handsets or Base Stations active on that card.

An exclamation point (!) indicates a card in alarm. Select and press Enter to see details.

---

# Diagnostic Procedures

## Listen Verify Test

Listen Verify is a daily Base Station test used to ensure that the Base Stations are functioning properly.

This test requires that each Base Station in turn stop transmitting so that it may listen to all the other Base Stations. Each Base Station must hear at least one other Base Station and be heard by at least one other Base Stations. This test occurs daily at the Listen Verify time set on the **Configuration Display and Administration** screen (F8).

If a Base Station is physically isolated from other Base Stations, the Listen Verify alarm can be disabled by configuring the Base Station as **isolated**, see Chapter 2 *System Configuration*, section *Configure Interface Modules (Port Cards) (F4-Portcard Configuration Display and Administration)*, under *Configure Base Stations (RCUs)*.

### Run Listen Verify on demand

The Listen Verify test can be run on demand. To do this:

1. From the **Supervisor State Display** screen (F1), press Enter.
2. From the menu, select **Start Listen Verify** and press Enter.
3. Check **Listen Verify Report**.

```

MS-DOS Command Prompt - chk3000
1 Running
2 Running
3 Running
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Listen Verify Error Display

1.04.03 B-15;CHS-BS-489      Reuse      :      12:17:14
1.04.04 B-16;CHS-B7-298     Strong     :      4-05:53:38
1.04.06 A-9;CHS-A7-065      Strong     : Running
1.05.04 A-14;CHS-A7-290     Strong     : 1.02.01 CD
1.05.06 1-7;CHS-17-057     Strong     :
1.06.02 1-9;CHS-17-187     Strong     m:
1.06.04 1-13;CHS-17-301    Lockout    t:
1.06.05 2-5;CHS-27-117     Lockout    e:
1.06.06 7-5;CHS-72-202     Strong     :
1.07.05 MD A1;MD-A2-331    Strong     :
1.09.05 B-3;CHS-BU-125     Strong     :
1.10.04 A-3;CHS-AU-135     Strong     l:      22/      0
1.11.03 1-1;CHS-13-294     Strong     l:      2/      0
1.12.05 1-11;CHS-14-127    Reuse      e:      27/0b90

45 errors. 164 RCUs
Press any key to continue.
e:
:      230/0c76
e:
:

```

The **Listen Verify Error Display** shows the first 14 errors found by the Listen Verify diagnostic. The report shows:

- Base Station Address
- Base Station Note (location or name of the Base Station)
- Error types:
  - Reuse** The Base Station has the same offset as another Base Station it heard.
  - Strong** The Base Station is close to locking out because it is too close to another one.
  - Lockout** The Base Station has locked out.
  - Weak** The Base Station barely heard another Base Station.

This report points out possible problems with Base Station locations. If a Base Station has a problem, look at the Listen Verify data for that Base Station. See below.

## Show Listen Verify data for a specific Base Station

1. From the **Portcard State Display** (F2) screen, highlight the RCU for which you want to see data. Press Enter.
2. From the menu of options, select **Show Listen Report** and press Enter.

The following shows sample results for one Base Station.

```

MS-DOS Command Prompt - chk3000
F2 - Portcard State Display
1.03. Period: 1/1
Line 1 Idle 0 0 0 0 0:00 Uptime : 07:35:47
2 Idle 0 0 8 3 04:24 MCU State : Running
3 Idle 0 0 0 0 0:00 MCU Alarm :
CTI Alarm :

1.03.05 B-11;CHS-BR-151 < 1 38> 397010093 isolated=no
09:49:58 Listen-Verify < 10 30 0>

1.03.04 B-10;CHS-BR-120 < 4 29> -58 <9e 81> 103/ 103 3
2.09.06 A-12;CHS-AR-237A < 2 154> -67 <9e 72> 12/ 12 0
1.07.03 A-17;CHS-A7-180B <27 23> -69 <9e 6f> 12/ 11 0
1.03.06 B-12;CHS-BU-238 < 6 48> -74 <9e 67> 12/ 12 3/90
1.05.01 A-10;CHS-A2-240 <13 2> -98 <9e 40> 27/ 7 0dc0
Press any key to continue. 0895
RCU 04ab
09c0
2 Running 1 0 0 0:00
3 Running 1 0 0 0:00 1.03.09
4 Running 1 0 0 0:00
5 Running 1 0 0 0:00
6 Running 1 0 0 0:00

```

## Listening Base Station

The first two lines of the report show configuration information about the listening Base Station, including port location, name (note), offset, and whether or not the Base Station is isolated. If a listening Base Station which is not isolated has no information from other Base Stations, this indicates a problem.

## Heard Base Station

The next section of the report shows signaling information for each Base Station heard by the listening Base Station.

## Signal level

This is the most important information from the heard Base Station. This is the signal from the Base Station that was heard by the listening Base Station, converted to an equivalent level in dBm. The same values in hexadecimal (in the range 00 to FF) are also shown next to the dBm value.

If signal levels indicate problems, you may need to relocate Base Stations. For example:

Signal Level Range	Action
-38 to -45 dBm	Base Station may be too close to another and is in danger of locking out and alarming. Move the Base Stations farther apart.
-46 to -75 dBm	Normal signal level.
-76 to -102 dBm	Weak signal which may indicate that Base Stations may not be providing adequate coverage. You may need to rearrange Base Stations by moving them closer together.

**This table is a guideline only.** Use the floor plans for the facility as a guide for planning Base Station moves. Also, coverage may be designed to serve areas without crossover traffic; therefore even though Base Stations are far apart, coverage is adequate for user needs.

Before moving any Base Station, consider what effect the move will have on other Base Stations that are close by. For instance, if you want to move one Base Station away from another, you may also be moving it closer to a third Base Station.

If you relocate Base Stations, review the listen values after all the Base Stations have completed the listen cycle.

## Dump Listen Verify report

The latest Listen Verify report can be copied to a file (lisver.log) in your working directory. To do this:

1. From the **Supervisor State Display** screen (F1), press Enter.
2. From the menu, select **Dump Listen Verify Report** and press Enter.
3. At the prompt, select **Replace** (to overwrite existing file) or **Append** (to add to the existing file. You may want to append the file if you need to compare old and new data.

For each Base Station in the system, the report lists the results of the Listen Verify test between that Base Station and all others.

For example:

```

980717 175207
1.04.01 " 7.1 Accounting/Support " ( 7 1) 397009828 isolated=no 17:44:28 10
30 0 (LISTEN VERIFY)
1.09.01 "20.1 Eastern Conference " (20 0) -35 (87 90) 103/ 103
1.09.02 " 9.2 Elevator " ( 9 3) -44 (87 80) 12/ 12
3.11.06 " 6.1 Demo Room " ( 6 23) -39 (87 8a) 12/ 12
3.11.05 " 5.1 Break Room " ( 5 22) -46 (87 7c) 12/ 12
3.11.04 " 4.1 West Corridor " ( 4 21) -51 (87 74) 12/ 12
1.09.03 "10.2 East Corridor " (10 8) -55 (87 6e) 12/ 12
0.00.00 "10.3 East Courtyard " (22 2) -56 (87 6c) 10/ 10
1.04.02 " 8.2 Courtyard " ( 8 4) -61 (87 64) 11/ 9

```





---

# Backups

System configuration information is stored in the System Controller card. The system automatically transfers config information to the controller when updates are made. However, it does not automatically save a copy to the Operator's Console PC.



If the System Controller card fails and there is no backup on the PC, all handsets and Base Stations will need to be re-registered.

## Dump Config to Disk

Backups to the PC should be done at the completion of installation, and periodically (especially if major changes are made) after installation.

1. From the **Supervisor State Display** screen (F1) press Enter to display the menu.
2. Scroll down to **Dump Config to PCS.CFG** and press Enter. The system will copy the configuration to a file called PCS.CFG, and save it in your working directory. If a PCS.CFG file already exists, the system prompts to see if you want to overwrite it.
3. Copy the file to a diskette for safekeeping.

## Restore Config

In the event of a system failure that results in replacement of the System Controller card, the configuration will need to be restored from file or disk.

1. From the **Supervisor State Display** screen (F1) press Enter to display the menu.
2. Scroll down to **Restore Config from PCS.CFG** and press Enter. The system will copy the configuration from PCS.CFG in your working directory to the System Controller card.



---

# Alarms

The SpectraLink 6000 System software constantly monitors system components for problems. If a problem is detected, the system will flag the problem with an alarm. Alarms are displayed in two places:

- **LEDs** The front panels of all system cards (System Controller card, Shelf Controller, and Interface Modules) have six LEDs: one red (labeled **ALARM**), and five green (labeled **1** through **5**) to indicate status, including alarm conditions. LED sequences, descriptions, and recommended procedures are provided in *SpectraLink 6300 MCU: Maintenance and Diagnostics*, section on *Troubleshooting Card Alarms*.
- **Operator's Console** The Chk3000 program allows the administrator or technician to display details about each system component. If the component is in an alarm state, details about the alarm will display on the appropriate screen.

See *SpectraLink 6300 MCU: Maintenance and Diagnostics* for more information about troubleshooting alarms.



---

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