Technical Bulletin CS-10-02

Troubleshooting Tips for SpectraLink 6020 Wireless Handsets

POLYCOM

Problem

Customer handset issues often result in unnecessary RMA returns causing lost time, money and resources for administrators and users.

System Affected

SpectraLink 6020

Description

For many problems customers experience with their wireless handsets it results in the need for unnecessary RMA replacements. With additional troubleshooting it is often possible to eliminate the need for an RMA and quickly return a handset to service preventing any user from being without a handset.

Resolution

When SpectraLink system administrators receive handsets from end-users with reports of failures it is always a good idea to substantiate and verify the failure. Many administrators are not aware of the built-in troubleshooting tools that are available in the handset.

Following are a number of troubleshooting aids that should be considered when investigated reports of handset issues by end-users.

Functional Self-Test -

With any reportedly failed handset the administrator should always perform the self-test function on the handset. The test allows the administrator to narrow down whether specific hardware has failed or if the user reported issue is simply the result of handset configuration promoting the need for additional end-user training.

To perform handset self-test perform the following steps.

1. Ensure the handset to be tested is powered off and has a known working battery installed.

2. Start Functional Self-Test – Power up the handset by completing these steps:

   Press and hold the LINE key

   Press and hold the POWER-ON/END Call key

   Release the POWER-ON/END Call key when handset double chirps

   Release the LINE key

3. Test audible and vibrating Ring – The handset audible tone and vibrate ring should play when entering self test mode.

   If no audible tone is heard the rear speaker may be faulty

   If no vibration is felt then the vibrator motor may be faulty

Effective Date: 2/3/2010

4. Test display – Observe the solid lines scrolling on the display and look for any missing pixels. The backlight will be active for a short time as well after entering self-test.

If there are missing pixels or there are no scrolling lines then the display may be faulty

If there is no backlight at self-test start then the display may be faulty

5. Test microphone and earpiece speaker – Gently brush the microphone opening and listen for sound coming from the earpiece speaker.

If no audio is heard from the earpiece speaker then the microphone may be faulty

If no audio is heard from the earpiece speaker then the earpiece speaker may be faulty

Note: If the handset can power up and enter a call then…

If the far-end cannot hear the wireless handset the microphone is faulty

If the far-end cannot be heard on the wireless handset the earpiece speaker is faulty

6. Test keypad function – Press each key on the keypad one at a time except the POWER-ON/END Call key to hear a key tone played.

Each key, including side keys, soft keys and rocker pad keys, will produce an audible tone. The tone is constant until the key is released at which point the tone should end.

If any key below the display does not produce a tone then the keypad is faulty

If the volume side keys do not produce a tone then the side keys are faulty

Note: Pressing the LINE key will cause the phone to briefly enter a special engineering diagnostic mode during which time a number of different tones play and the display will cease scrolling, the keypad will be disabled and the microphone will also stop receiving. When this special test completes the scrolling lines will disappear and an engineering code will be displayed. At this time the keypad and microphone tests can once again be accessed.

If any of the above tests fail this will indicate that a hardware fault has most likely occurred and it will be necessary to obtain a replacement handset. Please contact your Polycom Service Partner or contact the Polycom RMA Help Desk at 1-800-775-5330.

Restoring Factory Defaults –

In some situations it may be necessary to restore a handset to factory defaults as a step in troubleshooting undesirable behavior with a handset. Most often a restore defaults will be necessary to address unidentifiable changes to the handset's configuration by an end-user. For example, if a user complains the ringer volume of their handset is too low they may have adjusted the profile in the phone to either

turn down the ringer or possibly even disable it completely. And resetting the handset to defaults is a quick means to confirm where an issue may lie.

To restore defaults on the SpectraLink 6020 handset perform the following steps:

1. Ensure the handset to be reset is powered off and has a known to be working battery installed.

2. Power on the handset and wait for it to come to the standby screen with the Ext. showing.

3. Press the CFG soft key on the handset and scroll down to the Admin Settings and press the OK key.

4. Enter the handset password and press the OK key.

   Default handset password is 123456

5. Scroll down to Restore Defaults and press the OK key.

   Verify the reset by pressing the soft key under the YES text on the display.

It is recommended that the handset be power cycled at this point to ensure all settings in the handset get properly initialized. The handset should now be reconfigured for the specific end-user and tested to determine if issue is resolved or remains.

If the issue remains please contact your Polycom Service Partner or Polycom Technical Support for further troubleshooting at 1-800-775-5330.

Handset Error Messages –

Handset error messages can be a powerful tool for any administrator when determining the reason for a handset failure. Error messages can aid in determining whether the handset's configuration is inconsistent with the site requirements or to help pinpoint the potential source of the problem, such as a PBX issue or possible coverage issue.

The following is a list of error messages that may result in a handset being returned for RMA replacement and the troubleshooting steps that should be attempted prior to seeking a replacement.

Message	Description	Action
(battery icon), Battery Low, beep (audio)	Low battery.	In call: the battery icon displays and a soft beep will be heard when the user is on the handset and the battery charge is low. User has 15-30 minutes of battery life left. The Battery Pack can be changed while the call is still in progress. Do not press the END key. Quickly remove the discharged Battery Pack and replace with a charged Battery Pack, power on the handset and press the START key to resume the call in progress. Not in call: The battery icon displays whenever the Battery Pack charge is low. The message Low Battery and a loud beep indicate a critically low battery charge when user is not on the handset. The handset will not work until the Battery Pack is charged.
Battery Failure	The Battery Pack is not functioning.	Replace the Battery Pack with a new or confirmed SpectraLink Battery Pack. Any non-SpectraLink Battery Packs will not work.
Battery Failed	Battery Pack is damaged or incompatible with handset.	Replace the Battery Pack with a new or confirmed SpectraLink Battery Pack. Any non-SpectraLink Battery Packs will not work.
Charging …	The handset is charging in the Desktop Charger.	No action needed.
Charge Complete	The handset is now fully charged	No action needed.
Charger Error	The handset has detected a problem with the charging circuitry.	Allow the charger and battery to cool. If the problem persists, try a new or confirmed battery. If the problem still persists, contact technical support and report the error.
DO NOT POWER OFF	The handset is in a critical section of the software update.	None. Do not remove the Battery Pack or attempt to power off the handset while this is displayed. Doing so may require the handset to be returned to Polycom to be recovered.

Fatal Error Err Code ####	The handset has detected a fault from which it cannot recover.	Record the error code so it can be reported. Turn the handset off then on again. If error persists, try registering a different handset to this telephone port. If error still persists, contact Polycom technical support and report the error.
Internal Err. # #	The handset has detected a fault from which it cannot recover.	Record the error code so it can be reported. Turn the handset off then on again. If error persists, try registering a different handset to this telephone port. If error still persists, contact Polycom technical support and report the error.
Net Busy	Handset cannot obtain sufficient resources to support a call.	Try the call again later.
No Net Found	This indicates that the handset cannot find any base stations and has no additional information to display as to why. Possible problems are enumerated below. No radio link. Out of range.	Verify that the base station is connected to the system and powered on. Try getting closer to a base station. Check to see if other handsets are working within the same range of a base station. If so, contact Polycom technical support and report the error.
No PBX	No communication with host telephone system.	Displays before the system has synchronized ports with the host telephone system. Should disappear when the ports are correctly wired and programmed. Make sure the proper PBX switch type has been configured on the SpectraLink 6x00 MCU.
Restarting…	The handset is in the process of rebooting. There will be a 20 second delay in an attempt to let potential system errors clear.	None.
Service Unavailable. Restarting…	An error has caused the handset to lose the call. It is now making its best effort to restart and return to standby mode.	The handset is attempting to register with the PBX and resume normal operation.
Waiting	Handset has attempted some operation several times and failed and is now waiting for a period of time before attempting that operation again.	None. The handset is waiting for a specified period of time before attempting that operation again.
System Unavailable	Handset out of range of base station or system inoperative	Move back into coverage area or wait for system
System Busy	Insufficient bandwidth available on base station	Wait for available bandwidth or move within range of a base station with available bandwidth
Unregistered	Handset is not registered with infrastructure	Register handset

Flash config error or Bad Config	Configuration data is corrupt	Perform restore defaults on handset and reenter configuration data.

Troubleshooting wireless handset issues will help to achieve a faster recovery from failures and helps to ensure end-users are able to continue to have a working handset available to them as much as possible. While not all troubleshooting steps can resolve a handset issue in the field the vast majority can be resolved without an RMA.

It is well worth the few extra minutes needed to verify the reported failure as it can prevent unnecessary RMA returns saving money, time and resources for administrators and users.