

Spectralink 72x2-Series

# Technical Release Notes R2, 2021

Firmware Version PCS 21D

# Table of Contents

<b>Introduction .....</b>	<b>3</b>
Terms and Definitions .....	3
Release .....	3
Driver for the Handset Management Cradle .....	3
Upgrading the Handset.....	3
<b>Changes.....</b>	<b>4</b>
Version PCS 21D – R2, 2021 .....	4
Version PCS 21B – R1, 2021.....	4
Version PCS 20G – R3, 2020 .....	4
Version PCS 20B – R1, 2020.....	4
Version PCS 19K – R3, 2019.....	4
Version PCS 19B – R2, 2019.....	5
Version PCS 18F – Q4, 2018.....	5
Version PCS 18D – Q3, 2018 .....	6
Version PCS 18C – Q2, 2018 .....	6
Version PCS 18A – Q1, 2018 .....	7
Version PCS 17K – Q4, 2017 .....	7
Version PCS 17J – Q3, 2017 .....	8
Version PCS 17H – Q2, 2017 .....	8
Version PCS 17A – Q1, 2017 - Cancelled.....	11
Version PCS 16W – Q4, 2016.....	12
Version PCS 16S – Q4, 2016.....	13
Version PCS 16P – Q3, 2016.....	14
Version PCS 16H – Q2, 2016 .....	14
Version PCS 16G – Q2, 2016 .....	14
Version PCS 16B – Q1, 2016 .....	15

# Introduction

## Terms and Definitions

HMT	Handset Management Tool for Spectralink Butterfly and 7xx2 Series handsets.
MSF	Message Service Format. Contact <a href="mailto:compliance@spectralink.com">compliance@spectralink.com</a> for detailed information
PBX	Private Branch Exchange (IP/Lync/CUCM/Analog)
PCS	Product Change Status
P-ID	Production Identification
SUOTA	Software Update Over The Air
ARI	Access Rights Identity. Unique ID for a DECT system
COTA	Configuration Over The Air
CTI	Computer Telephony Integration
DTMF	Dual-Tone Multi-Frequency
CUCM	Cisco Unified Communications Manager

## Release

These combined release notes apply to the released versions of firmware for the Spectralink 72x2-Series. This version specifically applies to version PCS 21D of the firmware. This is a main release that replaces previous releases as the latest generally available (GA) release.

The current handset firmware PCS information can be found in Menu→Status→General information under Firmware. The version consists of two digits and two letters. The digits and first letter forms the major version. The last letter, which can be either small or capital, is the minor version.

Minor versions are irrelevant for these release notes and are therefore left out.

For more information about the new features, please look at the User Guide for your handset.

## Driver for the Handset Management Cradle.

Ensure that the latest driver is installed. You can download it [here>>](#)

## Upgrading the Handset

Download the latest software for 72x2 series handsets from the [Spectralink Support Portal](#). Use the HMT to update and configure individual handsets, or use SUOTA/COTA from the Spectralink DECT server to wirelessly update and configure the handsets.

# Changes

## Version PCS 21D - R2, 2021

### Improvements, Added or Changed Features

- Emergency call support in accordance with regulations (e.g. Kari's law). The feature allows for direct calling of emergency numbers when keypad is locked. I.E. if 911 is defined as an emergency number, the user can dial 9-1-1 and then hook key, without having to unlock keypad beforehand. Emergency numbers are defined server side.

## Version PCS 21B - R1, 2021

### Improvements, Added or Changed Features

- Added support for new display driver present from HW PCS 20.
- Added possibility to enable speakerphone while in a call using left navigation key.

## Version PCS 20G - R3, 2020

### Improvements, Added or Changed Features

- Using COTA it is now possible to set the handset settings to their default configuration before performing a COTA update.

## Version PCS 20B - R1, 2020

### Corrections

- DECTESC-1064: When the handset is in CS1k compatibility mode, the handset did not silence correctly. This has been fixed.

## Version PCS 19K - R3, 2019

### Improvements, Added or Changed Features

- Added support for "Configuration Over The Air" – COTA. This enables centralized management of the handset settings and menu structure from a Spectralink server, using configuration files. It's possible to read and write the current settings and modify the handset menu structure by hiding menu items. This means creating default settings and simplifying the menu to only show the items relevant for the user. Hiding menu items also blocks the user from changing critical settings in the given menu item. Shortcuts pointing to hidden items are also disabled.

- Added support for Cisco's "Computer Telephony Integration" - CTI.  
This allows for a CTI client to control call related features through a Spectralink server. Supported features are: Create/end call, answer call, transfer call, hold/resume call, mute/unmute microphone and send keypresses/DTMF tones.  
CTI is currently only supported on Cisco Unified Communications Manager (CUCM).
- Added support for "Zone based paging".  
This feature allows for the server to track which "zone" the handset is located in. This reduces the number of base stations paging for a given handset when a connection is needed. The feature is to be used on large scale systems where paging is delayed or lost due to high traffic activity.
- Added "echo cancellation" feature.  
This feature is added to support sites that have an environment with loud background noise. In these environments, poor audio quality can be experienced, due to audio muting. This can be alleviated by enabling the echo cancellation feature, which must be enabled on all handsets on site.  
When this feature is enabled, it is possible to increase the ear speaker volume with an additional two steps. These two steps give a volume increase of 3dB / 6dB.  
The setting can be enabled in "Menu→Settings→Advanced→Echo canceller".

### Corrections

- DECTESC-1044: When searching the local phonebook, the handset could end in a state where it would reset. This has been fixed.
- When calling a non-existing user from the "Company phonebook", an empty name would appear in the call register instead of the name of the user. This has been fixed.
- Improved handling of busy base stations.

## Version PCS 19B - R2, 2019

### Corrections

- DECTESC-982. Changed naming of menu "Deployment level" to "Handover profile" with the options "Normal", "Fast" and "Rapid".
- When entries were added to the call register, the handset could end in a state that would cause a reboot. This has been fixed.

## Version PCS 18F - Q4, 2018

### Improvements, Added or Changed Features

- It is now possible to use the Company Phonebook during a call for call transfer. (DECTESC-896)

## Corrections

- DECTESC-888: The company phonebook did not persist the input method selected. This has been fixed.
- DECTESC-888: The company phonebook will show an error message sooner if handset can't connect to the server.
- In some cases, the handset would detect a DECT server 2500/8000/200/400/6500 as a legacy system, resulting in reduced functionality. This has been fixed.
- DECTESC-905: When using auto subscription, the handset could end in a state where it was not possible to make and receive calls. This has been fixed.
- DECTESC-906: When receiving a call, the display could become unresponsive. This has been fixed.

## Version PCS 18D - Q3, 2018

### Improvements, Added or Changed Features

- SUOTA performance has been optimized.
- The Company and Local phonebook now correctly sorts non-ASCII letters.
- Added a Missed Call Notification, when a call is missed in call waiting state – previously this was only shown in the Call register
- Minor UI optimizations

### Corrections

- DECTESC-869: The Company phonebook now rejects calls to a number which is an empty string.

## Version PCS 18C - Q2, 2018

### Improvements, Added or Changed Features

- The product item number has been added to the Status menu.
- General performance improvements.

### Corrections

- The LED was not flashing during charging. This has been fixed.
- DECTESC-850: The volume in handsfree speaker mode has been increased.

## Version PCS 18A - Q1, 2018

### Improvements, Added or Changed Features

- Added two additional volume levels for ringtones (Menu->Settings->Ringing volume). The two new volume levels give the possibility to increase the ringing volume compared to previous releases, making the ringtone more noticeable in loud environments.
- New graphical layout for the RSSI deployment interface (Menu->Status->RSSI). Consult the Synchronization and Deployment guide for further information on the new layout.
- Added new shortcut that can be used when the system provides an option for signing in. This can for instance be used for signing in to Skype For Business. The functionality is depending on the server supporting the specific feature.
- DECTESC-838. Increased volume level when using a wired headset.

### Corrections

- Stability improvements for the company phonebook.
- DECTESC 839: It was not possible to call a SIP uri from the company phonebook. This has been fixed.

## Version PCS 17K - Q4, 2017

### Improvements, Added or Changed Features

- The 74-series handset MSF advanced alert feature has been added. This feature allows for an alert to be sounded if a MSF I/II is received during a call. The user can pick between two different sounds and vibrating as alerts.
- Company phonebook. It is faster to enter multiple search letters, and digits can now be used for searching in multitap mode.
- Create login manually. The user can enter the ARI of a DECT system directly instead of searching for DECT systems and log on to it.

### Corrections

- DECTESC-807. An issue with downgrading to the handset firmware released in Q2 (17H) or Q3 (17J), has been fixed. Downgrading to these releases, will result in the logo, language and display text is reset to default. If a downgrade to Q2 (17H) or Q3 (17J) is desired, first a downgrade to 16WA must be done, followed by an upgrade to the Q2 or Q3 release.
- DECTESC-749, 799. If a handset had a call waiting, and both ends disconnected the call simultaneously, this could in some situations result in random characters being displayed on the handset.
- DECTESC-808. There was an issue when absent in charger was active, Flash LED on call was active and the handset is in a charging cradle, this resulted in the LED would start to flash and not turn off again. This has been fixed.

- Company phonebook. Searching on lowercase letters is now working correctly. Various cosmetic issues have also been fixed.
- The handset now sends multi charger status correctly. This fixes an issue where absent in multi charger was not functioning correctly, as the handset was always reported to be out of the multi charger.

## Version PCS 17J - Q3, 2017

### Improvements, Added or Changed Features

- Company phonebook. A new centralized phonebook with an improved GUI has been added. There are better search possibilities and browsing contacts are seamless. The “navigation-key” is used to access it. The old centralized phonebook is unchanged and available under "menu > external services". The local phonebook is also unchanged and found in "Menu > Phonebook".

### Corrections

- Problems where some Skype for Business addresses couldn't be entered have been solved by allowing more special characters to be entered.
- RSSI color problem. The background red color was sometimes almost black. This has been corrected so it is red.
- The sound quality has been improved to be more natural. The low frequencies have been emphasized and the high frequencies are less dominating. Due to the decrease in the high frequency area, this change can give a perception of lower volume level if used in environments with high level of low frequency background noise.
- Black screen when powering on handset. A problem with the backlight has been solved. Sometimes the backlight wasn't turned on when the lowest light setting was used.
- DECTESC-775. The number of dropped calls have been reduced.
- A charging indication problem has been fixed. When a powered off handset was charging it could sometimes toggle between ‘charging’ and ‘charging complete’.

### Known Limitations

- Downgrading to this release will reset standby text, logo and language to the default settings for the specific part number. This means that OEM handsets will get OEM default settings, other handsets will get Spectralink default settings. If wanting to downgrade to this release without getting default settings, first downgrade to PCS 16W, and then upgrade to this release.

## Version PCS 17H - Q2, 2017

### Improvements, Added or Changed Features

- Added support for CUCM FAC.



- Added menu setting to adjust microphone gain (Menu→Settings→Advanced). Previously this gain could only be adjusted using the Handset Management Tool. The gain can be set to 0dB (default), -2dB, -4dB, -6dB.
- Added menu setting to enable LED flashing when receiving a call (Menu→Settings→Advanced).
- Added menu setting to enter Master handset feature (Menu→Settings→Advanced). This feature is only available when using DECT Server 2500 and DECT Server 8000. The menu item will only be shown if the feature is enabled in the server.
- Hidden pin code feature displaying stars is now supported. This is for instance used when performing login on CUCM FAC.
- Time & date have been updated with a third date format: YYYY-MM-DD (Menu→Settings→Advanced).
- Added shortcut to Corporate directory while in idle state. If pressing the top of the navigation key the corporate directory will be entered.
- Handset frequency mode can now be seen under handset status (Menu→Status→General information).
- Added missing translations for currently available languages.
- Changed handling of rear speaker amplifier. It is recommended to upgrade to this release.
- Following service commands have been moved into the menu:

**The moved service commands can no longer be accessed by dialling \*999xx\*!**

Service Cmd	Description	New location	Comment
*99945*	CS1K compatibility.	Menu→Settings→Advanced→Old DECT servers→CS1K compatibility	On/Off
*99947*	Absent mode (Absent in charger).	Menu→Settings→Absent mode	On/Off
*99951*	Phonebook delete all contacts.	Menu→Phonebook→Delete→Delete all	Default password: 0000
*99963*	Show missed call notification.	Menu→Settings→Missed calls	Show/Hide
*99964*	Hearing Aid Compatibility (HAC).	Menu→Settings→Advanced→Hearing aid comp	On/Off
*99968*	B-answer in charger.	Menu→Settings→Auto Answer→Settings→Also in charger	On/Off

*99969*	Local tones (Call progress)	Menu→Settings→Advanced→Local tones	<ul style="list-style-type: none"> <li>• Standard</li> <li>• US</li> <li>• UK</li> <li>• Australia</li> <li>• Germany</li> </ul>
*99972*	Message list content	Menu→Settings→Advanced→Message list content	Text/Callback number
*99982*	Extended location registration.	Menu→Settings→Advanced→Old DECT servers→Use extend location	On/Off
*99989*	RSSI scanning*	Menu→Status→RSSI	-
*99990*	Deployment Level	Menu→Settings→Advanced→Deployment level	<ul style="list-style-type: none"> <li>• Normal</li> <li>• Weak</li> <li>• Bad</li> </ul>

\*RSSI scanning functionality now shows call display when dialing, and allows toggling between call display and RSSI scanning display during call. The two bottom lines regarding frequency adjustment are no longer shown.

## Corrections

- When the keypad was locked, it would not relock automatically after a missed call. This has been fixed.
- Handset variants with 50mW maximum emission power was above limit. This has been fixed.
- DECTESC-771: When deleting all read messages on handsets using the Italian language, the handset would restart. This has been fixed.
- When doing factory reset the logo and standby text is no longer changed if the handset has a OEM sales part number.
- Resolved error related to comparing names in the phonebook. When comparing two names that has an identical part, such as “John” and “John Doe”, the names could in some cases be detected as the same name. This has been fixed.
- When performing subscription on DECT systems from other vendors than Spectralink, the subscription could fail if access code was used during the subscription procedure. This has been fixed.

## Known Limitations

- Downgrading to this release will reset standby text, logo and language to the default settings for the specific part number. This means that OEM handsets will get OEM default settings, other handsets will get Spectralink default settings. If wanting to downgrade to this release without getting default settings, first downgrade to PCS 16W, and then upgrade to this release.

## Version PCS 17A - Q1, 2017 - Cancelled

### Improvements, Added or Changed Features

- Added menu setting to adjust microphone gain (Menu→Settings→Advanced). Previously this gain could only be adjusted using the Handset Management Tool. The gain can be set to 0dB (default), -2dB, -4dB, -6dB.
- Added menu setting to enable LED blinking when receiving a call (Menu→Settings→Advanced).
- Handset frequency mode can now be seen under handset status (Menu→Status→General information).
- Enhanced radio scanner intelligence and speed, resulting in better performance in handover situations and for environments with a high amount of radio noise.
- Factory reset (\*99940\*) can now be done from Menu→Settings→Advanced.
- Following service commands have been moved into the menu:

**The moved service commands can no longer be accessed by dialling \*999xx\*!**

Service Cmd	Description	New location	Comment
*99945*	CS1K compatibility.	Menu→Settings→Advanced→Old DECT servers→CS1K compatibility	On/Off
*99947*	Absent mode (Absent in charger).	Menu→Settings→Absent mode	On/Off
*99951*	Phonebook delete all contacts.	Menu→Phonebook→Delete→Delete all	Default password: 0000
*99954*	Remove all logins.	Menu→Settings→Advanced→Login→Remove all logins	Default password: 0000
*99963*	Show missed call notification.	Menu→Settings→Missed calls	Show/Hide
*99964*	Hearing Aid Compatibility (HAC).	Menu→Settings→Advanced→Hearing aid comp	On/Off
*99968*	B-answer in charger.	Menu→Settings→Auto Answer→Settings→B-answer charg	On/Off
*99969*	Local tones (Call progress)	Menu→Settings→Advanced→Local tones	<ul style="list-style-type: none"> <li>• Denmark</li> <li>• US</li> <li>• UK</li> <li>• Australia</li> </ul>

			• Germany
*99972*	Message list content	Menu→Settings→Advanced→Message list content	Text/Callback number
*99975*	Create login from ARI (and AC)	Menu→Settings→Advanced→Login→Create login→Enter ARI	ARI: AC:
*99982*	Extended location registration.	Menu→Settings→Advanced→Old DECT servers→Use extend location	On/Off
*99989*	RSSI scanning*	Menu→Status→RSSI	-
*99990*	Deployment Level	Menu→Settings→Advanced→Deployment level	• Normal • Weak • Bad

\*RSSI scanning functionality now shows call display when dialing, and allows toggling between call display and RSSI scanning display during call. The two bottom lines regarding frequency adjustment are no longer shown.

### Corrections

- When the keypad was locked, it would not relock automatically after a missed call. This has been fixed.
- Handset variants with 50mW maximum emission power was above limit. This has been fixed.

## Version PCS 16W - Q4, 2016

### Improvements, Added or Changed Features

- Improved fast frequency compensation resulting in higher radio stability, especially on older systems with more significant frequency drift.
- Softkey label for handsfree speaker functionality in English has been changed from "Loud on" / "Loud off" to "Spkr. on" / "Spkr. off".
- Alarms:  
When an alarm is activated, the user no longer have to press "OK" to make the notification disappear, as this will automatically happen.
- Automatic detection of Nortel DMC and support for corresponding features.  
See document 14225153 PA Key Comparison Guide for a description of how the Nortel DMC softkey functionalities of the 7440/4145Ex/4146Ex handsets are mapped to the 7xx2 handsets.
- Audio setting for noisy environments. (Menu→Settings→Advanced→Noisy environment)  
The handset has automatic ear gain adjustment, as part of preventing far end echo experiences. When 'Noisy environment' is set to 'On', the handset will keep the ear gain

at a higher level. Be aware of a much higher risk of far end echo in quiet environments, when the setting is set to 'On'.

### Corrections

- DECTESC-738: Audio becomes low during call-waiting.  
This bug was introduced in PCS 16S and have now been fixed.
- DECTESC-741: Activating alarm key results in alarm tone.  
This bug was introduced in PCS 16S and have now been fixed.

## Version PCS 16S - Q4, 2016

### Improvements, Added or Changed Features

- DECTESC-713: No dial tone on handset subscribed on KWS500.  
Minimum ringing time menu item has been added under advanced settings. It is now possible to adjust the minimum ringing time in the handset, to compensate for short ringtone signals controlled by the PBX, when this cannot be adjusted at the infrastructure/DECT-server.
- DECTESC-720: Sorting special characters correctly.  
Phonebook contact names sorting is lexicographically improved for diacritic marks and special characters.
- Service command \*99984\* now shows if handset frequency swapping is allowed.
- Service command \*99989\* now shows symbol when handset is off hook and no quality info when handset is on hook.
- Frequency adjustment procedure has been improved, resulting in a more stable and reliable connection handover between base stations.
- Added battery charging indication on the display, when the handset is charging while powered off.
- When the power key is pressed, and the battery level is too low for the handset to power on, the red LED light will switch on for 72x2, 76x2 and 77x2.
- Battery level indication icon at home screen is now always furthest to the left.
- Alarm notifications are now shown in German when this is chosen as handset language.
- Alarm user feedback and notifications improved. Alarm notifications will now be shown as long as the user has not confirmed with "OK".

### Corrections

- When adding a contact to the phonebook, that already exists, a new contact duplicate would in some cases be added, instead of just adding the new numbers to the existing contact. This has been fixed.
- When the handset receives a call and start ringing, and then receives an MSF, it would in some cases continue ringing even though the call has been released. This has been fixed.

- Deployment level setting (\*99990\*) had incorrect memory write permissions, which in some cases might cause invalid or wrong configuration. This has been fixed.

## Version PCS 16P - Q3, 2016

### Improvements, Added or Changed Features

- Microphone filter has been adjusted to be more flat in the frequency response.
- Invalid model number will disable all menu items except “Status” and “Settings”.

### Corrections

- Handset user could not update standby text by saving phonebook number \*\*\*\*. This has been fixed, including updated user write permissions for standby text.
- Status indication with status type PPSshutdownCfm (0xC1) was not send at power off. This has been fixed.
- Bug that could cause unexpected abnormal releases in calls has been fixed.
- When reading from static memory, data from pending write requests would be read even though the write request did not have write permissions. This has been fixed.
- DSP test sine loop did not run at 8kHz. This has been fixed.
- Enabling Tunstall positioning module using PPRetryConfig was not supported. This has been fixed. \*99956\* can be used to enable positioning module.
- When receiving MSF with alert timeout 0, the handset did not alert only one cycle. This has been fixed.
- LED color handling issue could result in wrong or no LED color indication. This has been fixed.

## Version PCS 16H - Q2, 2016

### Improvements, Added or Changed Features

- Improved handling of radio noise disturbances from asynchronous systems.
- API commands for deleting inbox, outbox, templates and adding templates returned wrong type ID in response packet. This has been fixed.

## Version PCS 16G - Q2, 2016

### Improvements, Added or Changed Features

- Invalid model number will cause error message when handset is powered on.
- Higher reliability for battery measurements.
- Handsfree (Loud On) speaker gain is automatically adjusted to avoid distortion.

- Audio quality has been improved. This is both ringing tones and audio in a call.
- Microphone attenuation has been adjusted. This will in some cases reduce distortion and for analogue systems also results in less crackling/distortion of the side tone.
- Improved mute functionality. This results in less crackling when experiencing low signal or external radio noise.

### Corrections

- Handset Compatibility Mode could cause subscription issues on older systems (KWS 1500 and 6000). This has been fixed.
- Auto login settings could in some cases be cleared unintentionally. This has been fixed.
- When performing subscription on KWS6000, the subscription could fail with the following log message: "Subscription failed, Timer expiry." This has been fixed.
- When receiving a "Text call", the given alert timeout was not being used. This has been fixed.
- Placing the handset in charger during a "Text call" alert, did not result in the text call being released. This has been fixed.

## Version PCS 16B - Q1, 2016

### Added or Changed Features

- Updated battery parameters for optimal utilization of the battery capacity.
- Added service menu \*99947\* to set absent mode.
- Added idle screen battery indicator.
- Improved backwards compatibility for Handset Management Tool, and support for adjusting ear gain, microphone attenuation, and reading custom logo.
- Speed dial entry is now deleted if corresponding phone book contact is deleted.
- Fixed setting the time and date manually.
- Fixed text being truncated on MenuSelectSetupReq.
- Fixed LEDs blinking on MenuSelectSetupReq and AsciiStrReq.