Spectralink 75-76-77x2-Series

Technical Release Notes R3, 2022

Firmware Version PCS 22D

Table of Contents

Introduction..3

Changes 4

Introduction

Terms and Definitions

HMT   Handset Management Tool for Spectralink Butterfly and 7xx2 Series handsets.

MSF   Message Service Format. Contact compliance@spectralink.com 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 75-76-77x2-Series. This version specifically applies to version PCS 22D 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 75-76-77x2 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 22D - R3, 2022

Corrections

- DECTESC-1277: Fixed issue where Noisy Environment could not be set using COTA.

- Added a missing translation label for Norwegian

Version PCS 22B - R1, 2022

Improvements, Added or Changed Features

- Added support for Teams integration.

Corrections

- DECTESC-1130: Pressing left navigation key in Ringing Tone settings menu did not result in preview of internal ringing tone. This has been fixed.

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.

Corrections

- It was possible for the user and COTA to disable the lone worker mode shortcut. This has been fixed.

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.

- Added support for lone worker mode using SfB setup, disabling sign in/out possibility when lone worker mode is active.

Corrections

- If changing lone worker mode password, without disabling lone worker mode, the password could be invalid if the new password had shorter length than old password. This has been fixed.

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.

Corrections

- DECTESC-1124: SAFE - The alarms are silenced if the handset is in silent mode. It is now possible to silence or un-silence the alarms independently from the handset silence setting. See document 14225111 PP7 MSF III for more information.

- Previously, the sound level set in an intercom call request would under certain circumstances be ignored. This has been fixed.

- DECTESC-1148: If setting a pin code length of more than 8 digits in a lone worker mode config request, the handset could reset. This has been fixed.

- Using COTA to read screen lock settings, could result in the reading action failing. This has been fixed.

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".

- New 7642 handsets with red alarm button has been released. The firmware now supports
  the handsets with the following item numbers: 72650000, 72650020, 72650030,
  72651000.

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 19H – DECT security step A certification

Improvements, Added or Changed Features

- Changes to pass DECT security step A certification.

Version PCS 19F – R2, 2019

Improvements, Added or Changed Features

- Added support for lone worker mode 1 in the 7642 and 7742 handsets. See document
  14124618 "XML-RPC SDK" for further description.

- Added support for silent alarms and enabling of search tone when alarm message is
  shown. See document 14124618 "XML-RPC SDK" for further description.

- Added battery alarm that can be configured to trigger at a given level. See document 14124618 "XML-RPC SDK" for further description.

- In BGR139 mode, the Alarm button can now be configured for individual behavior on long press, single/short press and double press. See document 14124618 "XML-RPC SDK" for further description.

- Optimized the alarm test for faster execution. See document 14124618 "XML-RPC SDK" for further description.

Corrections

- DECTESC-982: Changed naming of menu "Deployment level" to "Handover profile" with the options "Normal", "Fast" and "Rapid".

- DECTESC-985: The CS1K DECT system would reject subscription due to handset indicating support for Early encryption and re-keying. The subscription routine has been changed to not indicate support for the additional security features, when CS1K compatibility is enabled.

- When enabling the running alarm, it was not possible to enable the no move alarm. This has been fixed.

Version PCS 19B – Q1, 2019

Improvements, Added or Changed Features

- Support for 3rd party systems have been added to the 7502 handset series.

- When dialing SIP extensions, the input method is now saved for future use.

Corrections

- When subscribing a 7502 handset to old Spectralink systems, the handset would in some cases not detect this as a legacy system. This has been fixed.

- DECTESC-899: The pre-alarm did in some cases get re-triggered instead of going to alarm state. This has been fixed.

Version PCS 18F – Q4, 2018

Improvements, Added or Changed Features

- Screen lock feature has been added. This feature is not available on the 7502 handset.

- 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 server.

- SIP URIs could not be used for alarm key speed dial. This has been fixed.

- 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.

Version PCS 18D – Q3, 2018

Improvements, Added or Changed Features

- Added DECT Security Step A support utilizing the following features:

  Early encryption.

  Re-keying

  Monitoring of legacy systems.

- SUOTA performance has been optimized.

- The Company and Local phonebook now correctly sorts non-ASCII letters.

- Site Survey scanning algorithm has been optimized. All channels and timeslots can now be seen in the "Free Channels" feature when not in a call.
  This feature is not available on the 7502 handset.

- Added a Missed Call Notification, when a call is missed in call waiting state – previously this was only shown in the Call register.

- When a Bluetooth headset is connected, and the handset hook key is used to answer a call, the audio will be in the Bluetooth headset. Previously the audio would be in the handset, unless the Bluetooth headset requested the audio.
  This feature is only available for handsets that have Bluetooth, which are the 7x32/7x42 series.

- Minor UI optimizations

Corrections

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

- DECTESC-872: Sometimes when Auto Subscribe was used, not all handset information was sent to the server. This has been fixed.

- DECTESC-877: The handset would make a strange noise when receiving an MSF III during a call. It now plays a single beep instead.

- DECTESC-889: The position module is now only supported in the 7722P handsets, item number 02662000

- DECTESC-899: The pre-alarm did in some cases get re-triggered instead of going to alarm state. This has been fixed.

Version PCS 18C – Q2, 2018

Improvements, Added or Changed Features

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

- General performance improvements.

- Added support for 7502 handset series. This means that the 7502 can not be downgraded to software versions prior to this release.

- Handset models 7x42 with hardware PCS '9B' or newer has had a replacement of the 'tear off sensor'. Support for this new tear off sensor has been added. Software releases prior to PCS18A will give incorrect tear off readings on handset models 7x42 with hardware PCS '9B' or newer.

Corrections

- Site survey did not function correct with single cell systems. This has been fixed.

- DECTESC-850: The volume in handsfree speaker mode has been increased.

- DECTESC-853: When a message without priority was received, the pager alarm didn't work. This has been fixed.

- DECTESC-853: When a message response was selected, the alarm tone didn't stop. This has been fixed.

- DECTESC-854: Navigation in site survey could get stuck. This has been fixed.

Version PCS 18B

Corrections

- DECTESC-848. When receiving more than approximately 400 'MSF 3', 'priority 0' messages without the 'save in stack' bit set, would cause the handset to reboot. This has been fixed.

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.

- Added site survey functionality (Menu->Status->Survey). Consult the Site Survey user guide for further information.

- 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-824. Receiving a MSF2 while a MSF3 was shown in the display, could result in the shown MSF3 getting corrupted. This has been fixed.

- DECTESC-837. If receiving a MSF3 message shortly after triggering the alarm button, the MSF3 message could get corrupted after a few seconds. This has been fixed.

- When using the MSF3 'heartbeat' feature with the 'dead man' option enabled, the 'dead man' notification on the handset would time out before the configured time.
  This has been fixed.

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

- Handset models 7x42 with hardware PCS '9B' or newer has had a replacement of the 'tear off sensor'. Support for this new tear off sensor has been added. Software releases prior to PCS18A will give incorrect tear off readings on handset models 7x42 with hardware PCS '9B' or newer

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.

- The handsets now support Turkish language.

- The local phone book has been improved to hold up to 4 directory numbers, where it previously could hold 2 SIP URIs and at most 2 directory numbers for a total of 4 number entries per name.

- 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-804. A long Bluetooth device name would sometimes result in the handset restarting during the process of pairing. This has been fixed.

- 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.

- The tear-off string, running detector and man down detector menu points found in Settings, Advanced, Alarms are only enabled when an Alarm License is installed on the server.

- DECTESC-789: Handsets using a positioning module, could during the configuration of the module, potentially end in a state that would cause the module to be turned off. This has been fixed.

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.

- DECTESC-784. "Unknown calls" can now be answered with voice commands to Bluetooth Plantronics Legend-headsets. Incoming calls with no caller ID couldn't be answered with voice command.

- 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.

- DECTESC-795. Motion sensor. The "not vertical" detection was too sensitive. This has been fixed to avoid false alarms.

- 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 support for PIN authentication.

- 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.

- Emergency call feature is now supported. This is for instance used for SFB E911.

- Hidden pin code feature displaying stars is now supported. This is for instance used when performing login on CUCM FAC or SFB.

- 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 and Bluetooth software version can now be seen under handset status (Menu→Status→General information).

- Added missing translations for currently available languages.

- Added alarm activation time parameter for Tear-off, Running, No Move and Not Vertical, which can be configured through ExtenHwReq. The alarm activation time can be configured from 0 to 60 seconds. See document 14225111 describing MSF 3 and SAFE features for 76x2 and 77x2 handsets, including ExtenHwReq specifications.

- Added service command *99997* for advanced alarm configuration of Tear-off, Running, No Move and Not Vertical, for handsets supporting these. Configuration is only possible when no 3rd party alarm application is available, and an Alarm Call App. license is installed at the DECT server.

- 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	• Standard • US • UK • Australia • Germany
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	• Normal • Weak • Bad
99995	Rolling alarm settings	Menu→Settings→Advanced→Rolling alarm (76x2 and 77x2 handset series only)	Time visible Time interval

*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.

- Tear-off alarm did not utilize the PreAlarmTimeX4 parameter. This has been fixed.

- Handset would in some situations play continuous distorted tone during Bluetooth update. This has been fixed.

- Pre-alarm display notifications would in certain situations disappear as soon as the alarm condition was resolved, even though the alarm state had not yet switched back to idle. This would in some cases give the wrong impression, that the pre-alarm would be activated and deactivated several times without reinitializing the pre-alarm timer. 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.

- DECTESC-789: Handsets using a positioning module, could during the configuration of the module, potentially end in a state that would cause the module to be turned off. 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.

- DECTESC-793: When using line feed in MSF messages, the text could be formatted incorrectly, resulting in additional line feeds being inserted. This has been corrected.

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 and Bluetooth software version can now be seen under handset status (Menu→Status→General information).

- Site survey functionality added under Menu→Status. See document 14225120 "Site Survey Functionality in Handset" for description (Will be released soon).

- Enhanced radio scanner intelligence and speed, resulting in better performance in handover situations and for environments with a high amount of radio noise.

- Added alarm activation time parameter for Tear-off, Running, No Move and Not Vertical, which can be configured through ExtenHwReq. The alarm activation time can be configured from 0 to 60 seconds. See document 14225111 describing MSF 3 and SAFE features for 76x2 and 77x2 handsets, including ExtenHwReq specifications.

- Added service command *99997* for advanced alarm configuration of Tear-off, Running, No Move and Not Vertical, for handsets supporting these. Configuration is only possible when no 3rd party alarm application is available, and an Alarm Call App. license is installed at the DECT server.

- 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	• Denmark • US • UK • Australia • 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
99995	Rolling alarm settings	Menu→Settings→Advanced→Rolling alarm (76x2 and 77x2 handset series only)	Time visible Time interval

*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.

- Tear-off alarm did not utilize the PreAlarmTimeX4 parameter. This has been fixed.

- Handset would in some situations play continuous distorted tone during Bluetooth update. This has been fixed.

- When using MSF 3 (SMSSetupReq) action 0x03 (New alarm SMS and add to rolling list), it was not possible to subsequently use action 0x04 (Hide alarm SMS from rolling list) or action 0x05 (Put alarm SMS into rolling list again). This has been fixed.

- Pre-alarm display notifications would in certain situations disappear as soon as the alarm condition was resolved, even though the alarm state had not yet switched back to idle. This would in some cases give the wrong impression, that the pre-alarm would be activated and deactivated several times without reinitializing the pre-alarm timer. 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".

- Sensor check test:
  A notification is now shown during sensor test initialization.
  When a sensor test has succeeded/failed, the user can no longer make the notification disappear by pressing "OK". Instead the user has to wait for the notification to disappear automatically.

- Alarms:
  When a pre-alarm is active, the user can no longer temporarily hide the pre-alarm notification by pressing "OK". The handset can therefore not be used for any other tasks until the user has either resolved the pre-alarm condition, or the pre-alarm times out.
  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'.
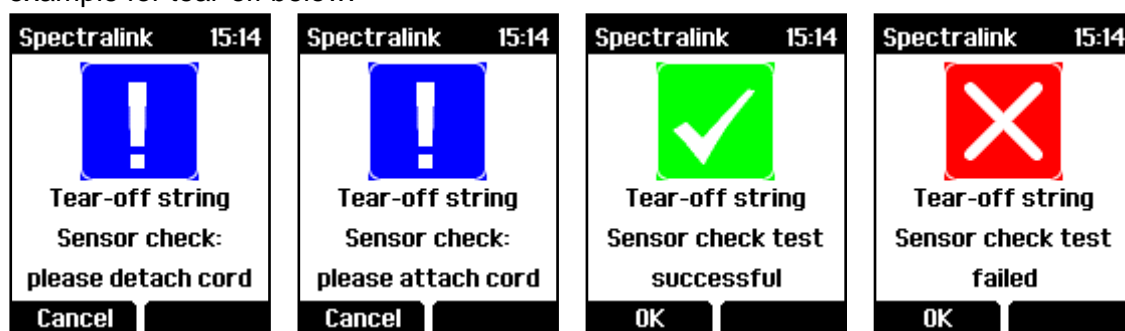
Corrections

- 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.

- Sensor check test user feedback and notifications improved. Pressing "OK" during sensor check test would previously hide the test notification, while the test kept running in the background. This has been changed to a "Cancel" option instead, and the notification will be shown as long as the test is active. Furthermore, notification for failed sensor test has been added, and notification for successful sensor test improved. See example for tear-off below:

- Alarm and sensor check notifications are now shown in German when this is chosen as handset language.

- Alarm key is disabled during sensor check test to avoid user activation by mistake.

- Alarm user settings for Tear-off string, Running detector and Man down detector, in the advanced settings menu, now includes the settings: Off, Send MSF, Speed dial, Pre alarm and Loudspeaker for Speed dial.

- Alarm user feedback and notifications improved. Alarm notifications will now be shown as long as the user has not confirmed with "OK". Pre-alarm will keep notifying every few seconds as long as the pre-alarm condition is not resolved. The notification includes name of the pre-alarm type and instructions for disabling it. Furthermore, a yellow bell indication icon is shown at the home screen, as long as an alarm notification is active. See example for tear-off below:

Corrections

- DECTESC-718: Handset not responding to ExtenHwReq for position module read configuration and sensor values. Handset only accepted ExtenHwReq when 6 data bytes were included, even though these are not required for read requests. This has been fixed.

- 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.

- During sensor check test, the tear-off alarm routine is disabled. When the test has completed, the tear-off alarm routine was not reactivated. 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 PPShutdownCfm (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 handeling 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 CUCM conference join.

- Added service menu *99947* to set absent mode.

- Added idle screen battery indicator.

- Improved Bluetooth audio quality.

- 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 LEDs blinking on MenuSelectSetupReq and AsciiStrReq.

Version PCS 15Q – Q4, 2015

Added or Changed Features

- Added Presence menu for supported servers.

- Adding ringtone 11 and 12 for noisy environments.

- Improvements to handover in multicell environments.

- Improved battery time.

- Fixed writing shortcuts to EEPROM.

- In-band tone could hang and start on new call. (DECTESC-624)

- Changed "battery low" and "out-of-range" tones to in-band busy tone if in call.

- Alerting will now stop when text calls are accepted.

- Fixed internal and external alert pattern for messages.

- When phonebook search buffer is full do not continue accepting input.

- Call Control: Fixed idle display. External, Internal, Knock-knock and silent alerting will play correctly.

- Don't turn on backlight when trickle charging on/off.