CONFIGURATION MANUAL

Ascom d83 DECT Handset

ascom

Abbreviations and Glossary

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ALS	Acoustic Location Signal A loud audio signal used for localizing the handset.
BLE	Bluetooth Low Energy Wireless technology that uses the same 2.4 GHz radio frequencies as classic Bluetooth, with low bandwidth. For example, used for location with BLE beacons.
CLIP	Calling Line Identity Presentation
CNIP	Calling Name Identity Presentation
DECT	Digital Enhanced Cordless Telecommunications Global standard for cordless telephony.
Device Manager	Application for management of handsets, charging racks, etc.
IM	Interactive Messaging Makes it possible to access information from an application and control the information by selecting an option received in a message.
IPDI	International Portable DAM (DECT Authentication Module) Identity. See IPEI for more information.
IPEI	International Portable Equipment Identity IPEI/IPDI is needed to enable network subscription of the handset. At delivery of the handset, IPEI and IPDI are the same and either can be used for network subscription. If one handset is replaced with another using the Easy replacement procedure the IPDI is exchanged and IPEI and IPDI are no longer the same. If the IPEI and the IPDI differ, the IPDI is used for network subscription.
IR	A location system based on infrared light transmitters used to determine the location of a handset.
LF	A location system based on low frequency magnetic field used to determine the location of a handset.
OTA	Over-the-Air
PBX	Private Branch Exchange A telephone system within an enterprise that switches calls between local lines, and allows all users to share a certain number of external lines. Also referred to as Call Manager.
WinPDM	Windows Portable Device Manager An application, running on a PC under Windows, for managing portable devices, charging racks, etc.

Unite Module	Common name for Integrated Message Server (IMS3), Unite Connectivity Manager (Unite CM) and Unite Communication Server (Unite CS).
User ID	User ID identifies a set of user parameters that can be saved and managed. It can be moved together with user parameters between handsets. It is normally set automatically at DECT subscription to be equal to call number.

Contents

1 Introduction

This document is a guide for installing, configuring and maintaining Ascom d83 DECT handsets.

The handset can be used immediately, but it is highly recommended to install the Windows Portable Device Manager (WinPDM) or use the centralized Device Manager available in the Unite module. This enables customization of the behavior of the handset to suite each user profile and the specific PBX used in the system.

WinPDM is aimed for smaller sites where the handsets are near to hand. The Device Manager allows handsets to be managed centrally via a web interface without needing to collect the handsets beforehand.

The reader is recommended to have a basic knowledge of the system and how handsets are subscribed to the PBX.

For information about WinPDM, Device Manager and related systems, refer to Related Documents.

1.1 Functionality Matrix

The following matrix shows the functions that are available for the handset. Available functions require settings to be made using WinPDM/Device Manager.

Functions	**d83 Talker**	**d83 Messenger**	**d83 Protector**	**d83 Protector Lite**
General				
Easy registration	x	x	x	x
Enhanced DECT Security	x	x	x	x
Vibrator	x	x	x	x
Headset connector	x	x	x	x
Loudspeaking function	x	x	x	x
3 Programmable Soft keys	x	x	x	x
9 Programmable Hot keys	x	x	x	x
Profiles	x	x	x	x
System profiles	-	x	x	x
Shared phone	x	x	x	x
Contacts (250 contacts)	x	x	x	x
Central phonebook	x	x	x	x
Company phonebook (1000 contacts)	x	x	x	x
Downloadable languages	x	x	x	x
Multifunction buttons	x	x	x	x
Programmable Navigation key	x	x	x	x

Centralized management	x	x	x	x
Personalized menus	x	x	x	x
Easy replaceable battery	x	x	x	x
Easy replacement of handset	x	x	x	x
Handset restrictions	x	x	x	x
Bluetooth	x	x	x	-
Telephony				
Push to Talk (PTT)	-	x	x	x
Procedure call	x	x	x	x
Voicemail access	x	x	x	x
Microphone on/off during call	x	x	x	x
Five predefined emergency numbers	x	x	x	x
Messaging				
Mini messaging (12 characters)	x	-	-	-
Mobile data	-	x	x	x
Colored messaging	-	x	x	x
Interactive messaging	-	x	x	x
Patient ECG Waveform Monitoring	-	x	x	x
Data with prefix	-	x	x	x
Message template	-	x	x	x
Alarm				
Push button alarm	-	-	x	x
Pull-cord alarm	-	-	x	x
Man-down and No-movement alarm	-	-	x	x
Acoustic Location Signal (ALS)	-	-	x	x
Alarm with data	-	-	x	x
Automatic call after alarm	-	-	x	x
Location				
IR Location	-	x	x	x
LF Location	-	x	x	x

BLE location	-	x	x	-
Location, base stations[1]	x	x	x	x
DECT Location	-	x	x	x
LED				
Basic LED (Red/Green/Orange)	x	-	-	-
Multicolor LED	-	x	x	x

1. For Talker, it can deliver a rough location of the handset in response to a 'Poll location' request from an external system.

2 Getting Started

The handset can be configured by inserting it into a DP1 desktop programmer or a CR3 Advanced Charging Rack. The charger is connected via USB or ethernet to the WinPDM/Device Manager. For IP-DECT systems, the handset can be configured over-the-air.

This chapter describes how to configure handsets in three different system setups:

- with WinPDM
- with Device Manager via chargers
- with Device Manager over-the air

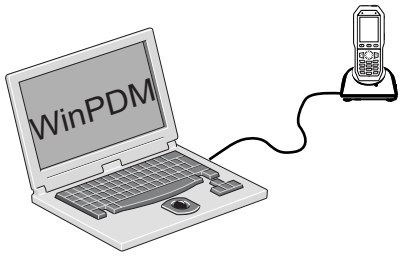
2.1 WinPDM

WinPDM is run on a PC. The handset is configured as follows:

1. Connect a DP1 desktop charger or a CR3 rack charger via USB to the computer running WinPDM.
2. Start WinPDM.
3. Place the handset in this charger connected to WinPDM. A handset that is turned off starts up automatically and the battery charging symbol is displayed.

For instructions on how to use WinPDM, refer to the *Installation and Operation Manual, Portable Device Manager (WinPDM), Windows Version, TD 92325EN*.

Figure 1. Configuration of handsets via WinPDM



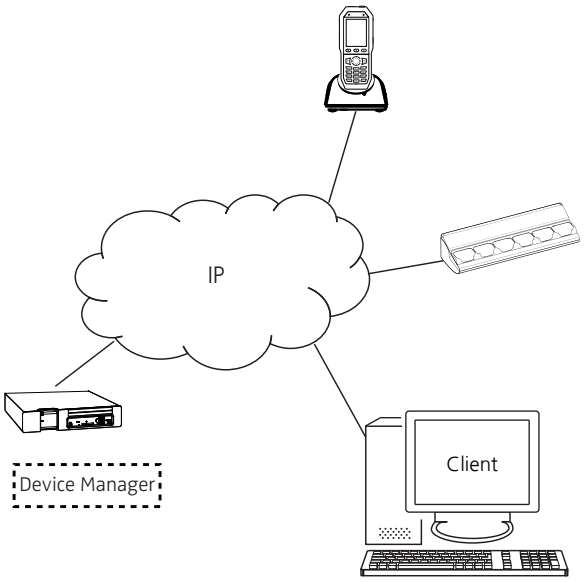
2.2 Device Manager

For instructions on how to use the Device Manager, refer to the applicable User Manual.

2.2.1 Via Chargers

1. Connect a CR3 rack charger via the Ethernet port to the network.
2. The charger is by default configured to connect to the network using DHCP. If DHCP is not used in the network, connect each charger via USB to WinPDM and configure a static IP address.
3. Open the Device Manager.
4. Place the handset in a charger that is connected to the Device Manager. The handset can either be turned off or turned on when placing it in the charger. A handset that is turned off starts up automatically and the battery charging symbol is displayed.

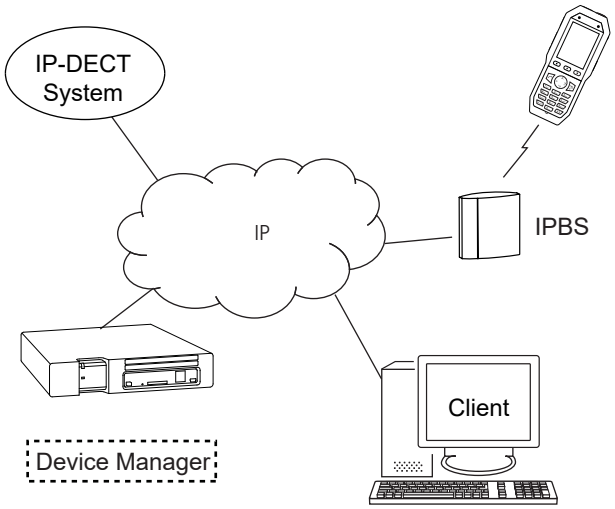
Figure 2. Configuration of handsets via Device Manager and chargers



2.2.2 Over-the-Air via IP-DECT

There is no external equipment needed besides Device Manager and IP-DECT. Please proceed to chapter 3 Handset Installation and Configuration, page 7.

Figure 3. Configuration of handsets via the Device Manager and over-the-air



2.3 Device Management in Multiple Systems

When changing the **Device Management system** parameter to another system, the handset loses the connection to the IP-DECT system for a few seconds.

1. In WinPDM/Device Manager, select the **Number** tab.
2. Select the handset to be configured.
3. In the Number menu, select **Edit parameters**. A dialog window opens.
4. Select **Systems**.
5. In the *Device Management System* drop-down list, select the system to be used for device management.

3 Handset Installation and Configuration

This section describes the recommended procedure for installing and configuring handsets. There are several ways to install a handset, but the procedures described here ensure simple maintenance of the system.

The Device Manager is the recommended method for installing, upgrading and configuring handsets in a large system because it allows large numbers of handsets to be maintained simultaneously. Another benefit is that the recall and collection of handsets from users is not required. Handsets can be maintained while placed in desktop chargers or rack chargers connected to a network, or an IP-DECT over-the-air connection.

WinPDM is suitable for smaller systems where a handset is managed by inserting it in a desktop charger or charging rack connected to a computer over USB.

For WinPDM, refer to the *Installation and Operation Manual, Portable Device Manager (WinPDM), Windows Version, TD 92325EN*.

3.1 Preparing WinPDM or Device Manager for Handset Handling

If the parameter definition file (".def" file) for the handset is not present in WinPDM/Device Manager, it can be added by following the procedure below. The parameter definition file and software files are delivered as a package file with the extension ".pkg".

Template files (".tpl") may also be included in a package file.

1. Open WinPDM/Device Manager.
2. In the File menu, select **Import → Packages**.
3. Select the package and click **OK**.

The package is imported and the files are created: one definition file with the extension ".def" and one software file with the extension ".bin". Template files may also be created.

3.2 Installing a New Handset

The installation basically contains three steps:

- Subscribing to the DECT system – needed to be able to make calls and send messages (Mandatory).
- Creating an identity for the handset in WinPDM/Device Manager– needed to be able to configure the behavior of the handset and take backups of the handset configuration (Recommended).
- Configuring the handset using WinPDM/Device Manager – customizing the behavior of the handset to suite each user profile and the specific PBX used in the system (Recommended).

The installation is described in two different scenarios, see below. Before starting, check which scenario suits best.

- 3.2.1 Handset Installation in IP-DECT System using Easy Registration, page 7.
- 3.2.2 Manual Handset Installation in DECT System, page 8.

3.2.1 Handset Installation in IP-DECT System using Easy Registration

A handset can subscribe to an IP-DECT system automatically if the following are fulfilled:

- The IP-DECT system is configured for Easy Registration. Refer to the Installation and Operational Manual for your IP-DECT system.

- The handset's extension number and IPEI are registered in the IP-DECT system. Refer to the Installation and Operational Manual for your IP-DECT system.
- The handset is not subscribed to any systems.

The easy registration procedure is described in the handset user manual.

During the easy registration procedure, the handset User ID is set automatically to the same as the extension number. The User ID is used to identify the handset when it is connected to WinPDM/Device Manager and is visible in the Number column.

The User ID can be viewed in the handset by navigating to the menu: **Admin menu → Device info → User ID**.

See also examples of handset configurations that can be made in 5 Handset Configuration, page 14.

3.2.2 Manual Handset Installation in DECT System

The handset to be installed must not have any previous valid registrations. If it has a valid registration, unsubscribe the handset.

Subscribe

1. Assign an extension number for the handset in the IP-DECT system. Refer to the corresponding manual for the IP-DECT system.
2. Subscribe the handset to the IP-DECT system. For information about the subscription procedure, refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

During the subscription procedure, the handset User ID is automatically set to the same as the extension number. The User ID is used to identify the handset when it is connected to WinPDM/Device Manager and is visible in the Number column.

The User ID can be viewed in the handset by navigating to the menu: **Admin menu → Device info → User ID**.

See also examples of handset configurations that can be made in 5 Handset Configuration, page 14.

4 Maintenance

4.1 Definitions

In the replacement descriptions, the handsets are defined as:

- **Old handset**: the handset to be replaced, possibly damaged but still working.
- **New handset**: the replacement handset that uses the settings downloaded from the old handset.

4.2 Upgrade Handset Software

The software on a handset can be upgraded or reinstalled. When upgrading the software of the handset, any data (for example, messages) may be deleted.

1. Open WinPDM/Device Manager.
2. In the **Devices** tab, right-click the handset to be upgraded/reinstalled and select **Upgrade software...**.
3. If needed, import the software file to be used by clicking **Import**. Locate the software file (".bin", ".pkg") and click **Open**.
4. In the **Available software** drop-down list, select the desired software file (".bin") and click **OK**.

The software is now downloaded to the handset. The following table shows the approximately download times when done over-the-air (OTA) in an IP-DECT system, or via charger in a DECT system.

OTA via IPBS	**CR3 Charger connected to WinPDM via Ethernet**	**OTA via IPBL**	**DP1 Charger connected to WinPDM via USB**
Approx. 1h 10 min.	Approx. 15 min.	Approx. 6h.	Approx. 2 min. 30 s

The software download capacity depends on call traffic stated below. The table below is not applicable for DP1 chargers connected to WinPDM since IPBS, IPBL or Device Manager is not needed.

IPBS/IPBL	0-4 simultaneous downloads depending on call traffic as follows:	
	No. of calls	No. of possible simultaneous downloads
	0	4
	1	3
	2	2
	3	1
	4 >	0
Device Manager	Max. 10 simultaneous downloads (max. 20 when using an external web server).	

Several handsets of the same device type can be updated simultaneously using the *Baseline* function in the Device Manager.

4.3 Perform a Factory Reset

When a factory reset is performed on a handset, all configuration settings are restored to their default values and PBX subscriptions and all data are removed. This includes contacts, messages, etc. The software is left intact.

Factory Reset using WinPDM/Device Manager

1. In WinPDM/Device Manager, click the **Devices** tab and mark the handset to be factory reset. Note that the handset must be online.
2. In the Device menu, select **Factory reset**. Alternatively, right-click the handset and select **Factory reset**.
3. A `Reset devices` dialogue appears, click **Yes**. The handset restarts.

Factory Reset using Handset

A handset can be factory reset from the Admin menu:

1. To activate the Admin Menu, enter the Call time screen and press > * < < * <.
2. Select **Factory Reset**.
3. A `Reset portable?` dialogue appears, press **Yes**. The handset is restarted.

4.4 Replacement Procedure Choice Guide

Depending on situation, different replacement procedures can be chosen; replacement via WinPDM/Device Manager, Parameter Migration or Easy Replacement. Use the following list as a guide to choose which procedure to use.

- If a handset needs to be replaced due to a broken display for example, refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.
- If the electrical connection is damaged, the Easy Replacement procedure may not work. Depending on fault, a replacement might work via WinPDM/Device Manager, see 4.5 Replacement of Handset with the Device Manager, page 10 or 4.6 Handset Replacement with WinPDM, page 11.
- If two handsets and their settings are to be switched between two users, follow 4.5 Replacement of Handset with the Device Manager, page 10 or 4.6 Handset Replacement with WinPDM, page 11.
- If old d81 DECT handsets need to be replaced with new d83 DECT handsets, follow 4.7 Parameter Migration, page 12.

4.5 Replacement of Handset with the Device Manager

Both the old handset and the new handset must be of the same device type. The same extension number is assigned to the new handset.

Make sure that the old handset is saved in the Device Manager. Start the Device Manager and navigate to the **Numbers** tab. There shall be a tick in the **Saved** column for the old handset.

If the handset is not saved, insert it into a desktop charger or rack charger connected to Device Manager and perform a save.

If the old handset settings cannot be saved, stop this replacement procedure. Instead unsubscribe the old handset from the PBX, register the new handset and follow the instructions for installing a handset, see 3.2 Installing a New Handset, page 7.

When the handset is saved, unsubscribe the old handset from the PBX.

The following steps are described in two different scenarios, check which one suits the best before proceeding.

4.5.1 Data Included in a Replacement Transfer

The following data is replaced during a replacement with Device Manager:

- User parameters (including User ID)
- Contacts (entered by the user)

The following data is not replaced:

- DECT registration
- Call list
- Company phonebook
- Downloaded Language

4.5.2 Handset Replacement with Device Manager in DECT System

The handset to be installed must not have any previous valid registrations. If it has a valid registration, unsubscribe the handset.

1. Unsubscribe the old handset. If it cannot be performed in the handset, unsubscribe the handset via the DECT interface.
2. Subscribe the new handset with the same extension number as the old handset. The subscription procedure is described in the *User Manual, Ascom d83 DECT Handset, TD 93434EN*. During the subscription procedure, the handset User ID is automatically set to be the same as the extension number.
   The User ID can be viewed in the handset by navigating to the menu: **Admin menu → Device info → User ID**.
3. Insert the handset into a desktop charger or rack charger connected to Device Manager or use an IP-DECT over-the-air connection.
4. Navigate to the Numbers tab in the Device Manager.
   The new handset now has the same User ID as the old handset. The new handset is automatically synchronized and data and parameter settings are transferred to the new handset.
   The synchronization can take a while if *Contacts* in the original handset contains a large number of entries.

4.6 Handset Replacement with WinPDM

To see which data is replaced during this process, see 4.5.1 Data Included in a Replacement Transfer, page 10.

Both the old handset and the new handset must be of the same device type. The same extension number is assigned to the new handset.

The new handset should not be subscribed to the PBX yet.

1. Perform a factory reset if the new handset has been previously used. See 4.3 Perform a Factory Reset, page 9.
2. Make sure that the handset is saved in WinPDM. In the Numbers tab, a saved handset has the **Checked** symbol ✓ in the Saved column. If not, right-click the handset and select **Save** to transfer the settings to the new handset later on.

If the old handset settings cannot be saved, stop the replacement procedure. Instead register the new handset and follow the instructions for installing a handset, see 3.2 Installing a New Handset, page 7.

4.6.1 Handset Replacement with WinPDM in DECT System

The handset to be installed must not have any previous valid registrations. If it has a valid registration, unsubscribe the handset.

1. Unsubscribe the old handset. If it cannot be performed in the handset, unsubscribe the handset via the DECT interface.
2. Subscribe the new handset with the same extension number as the old handset. The subscription procedure is described in the *User Manual, Ascom d83 DECT Handset, TD 93434EN*. During the subscription procedure, the handset User ID is automatically set to be the same as the extension number.
   The User ID is used to identify the handset when it is connected to WinPDM and is visible in the Number column.
   The User ID can be viewed in the handset by navigating to the menu: **Admin menu → Device info → User ID**.
3. Insert the new handset into a desktop charger or rack charger connected to the WinPDM.
4. A dialogue window appears, asking the user to decide whether to use the Number settings in WinPDM or the Number settings in the device. Select **WinPDM**.
   The handset is automatically synchronized and all data and parameter settings are transferred to the new handset. The synchronization can take a while if *Contacts* in the original handset contain a large number of entries.

4.7 Parameter Migration

The parameter migration feature allows parameters of a certain handset variant to be applied to any compatible handset. For example, Ascom d81 template can be used for Ascom d83 handsets. When migrating, the parameters must be first saved in a template.

The same template can be also used for different handset variants, for example for Talker and Protector.

Protector specific parameters are ignored by the Talker.

Though the same template can be also used for different handset variants, for example for Talker and Protector, there is no guarantee that all parameters will be configured as expected. Therefore it is recommended to use a template specifically for each device type. Otherwise, you need to check the handset after parameter migration and make sure that the configuration is correct.

The example below shows how to migrate parameters from Ascom d81 to Ascom d83 handset:

1. If WinPDM is used, place d83 handset into the DP1 Desktop Programmer.
2. In the **Templates** tab, select the template used for Ascom d81 handset that you want to use for parameter migration.
3. In the **Template** menu (or right-click the template), select **Apply to...**.
4. In the opened window, select the Ascom d83 handset that shall receive new parameters and click **OK**.
5. The handset receives the template and might restart.
6. To verify that the handset has received the template with the new parameters, in the **Numbers** tab, check the **Last run template** column.

4.8 DECT Frequency Band Configuration

The Frequency Band Configuration is normally done during the first deployment of the device. It can be changed only after a factory reset.

To change the operating frequency band, the following preconditions must be fulfilled:

- The frequency is set to *Not initiated*. This can be checked by entering the Admin menu, see 6 Administration, page 64, follow the path: **Admin menu → Device info → Hardware**. Scroll down to **Frequency band**.
- The handset must not have a DECT registration. If it already has, perform a Factory reset, see 4.3 Perform a Factory Reset, page 9.

To change the operating frequency band, perform the following procedure:

1. Enter the Admin Menu, see 6 Administration, page 64
2. Select **Frequency band** and select the desired band:
   - EU US (default)
   - LA (Latin America)
   - Brazil
   - 1900 - 1920 MHz
   - Multifrequency (see also 4.8.1 Multiple Frequency Support, page 13)
   - Taiwan
   - Thailand
3. Restart the handset.
4. Register the handset.

The frequency band option is no longer available.

4.8.1 Multiple Frequency Support

The handset can be used in a system that changes frequency by selecting **Multifrequency** as frequency band in the handset. See 4.8 DECT Frequency Band Configuration, page 13. This setting is applicable when handsets are used in different geographical locations. For example, users working on ships that visit different countries.

When the frequency band is set to Multifrequency and the handset is restarted, it adopts the frequency band used in that particular region.

The handset adopts the frequency band configured in the DECT system.

The recommended procedure when changing frequency band is as follows:

1. The site administrator transmits a broadcast message to all handsets informing them that they need to be restarted at a specific time.
2. The site administrator enters IP-DECT master and changes the frequency setting and carriers just before the specified time.
3. All handset users restart their handsets.

After restart, the handsets will have the applicable frequency band.

5 Handset Configuration

This chapter describes settings in parameter definition files (.def). These files are regularly updated and settings may change slightly. For example "On" to "Enable", or a parameter can be moved to another directory.

In order to meet GDPR requirements for unauthorized use, we recommend that the Phone lock feature is activated on the handsets. See 5.49 Handset Locks, page 62.

It is also recommended to clear message and call lists when put in a charger. See 5.16.3 Clear Lists when Inserted in Charger, page 27.

5.1 Configure a Handset Using a Template

A handset can be selected in the WinPDM and changes can be made directly to one or more configuration parameters. By using a template, the same configuration can easily be applied to many handsets simultaneously. Templates are also an efficient way to give good control over which changes are applied to each handset.

Templates enable the configuration of all aspects of a handset from sound volume to keypad shortcuts.

Your supplier can provide example templates for different PBXs. The handset has full functionality to the PBX even without such a template. However, by using a template, the handset is customized for that PBX with menu options for PBX specific functions such as Callback.

5.1.1 Create a Template

1. Open the WinPDM/Device Manager.
2. Select the Templates tab and open the menu **Template → New...**. The New template window opens.
3. Select the device and parameter version that matches the software version installed on the handset. Give the template a descriptive name.
   The parameters that are not part of the template are left unchanged on the handset.
   The parameter version of an installed handset is visible under the **Numbers** tab or the **Devices** tab.
4. Select the checkbox of each parameter that you want to be part of this template and enter the proper value.
5. Click **OK** to save your template.

5.1.2 Apply a Template

1. Open the WinPDM/Device Manager.
2. Open the **Numbers** tab and select the handsets you want to apply the template to.
3. Make a right-click and select **Apply template...**.
   Only templates with a parameter version matching the selected handsets are shown. Select the template you want to apply and click **OK**.
4. The template is applied. The number of parameters in the template affects the time it takes to apply the template to the selected handsets.
   Under the **Numbers** tab, the column “**Last run template**“ shows the name of the most recently applied template.

A template can be applied to several handsets of the same device type simultaneously using the Baseline function in the Device Manager.

5.1.3 Save a Handset Configuration as a Template

Handset settings can be saved as a template. Please note that this template does not include contacts and other personal data. The template only contains configuration data.

This template can be used as a backup to restore the configuration of the handset at a later stage or as a template that can be applied to a number of handsets.

1. Open the WinPDM/Device Manager.
2. Open the **Numbers** tab and select the handset you want to save as a template.
3. Make a right-click and select **Use as template...**.
4. The **Enter a template name** window opens. Enter a descriptive name for the template.
5. The **Edit template** window opens. By default, all parameters are selected and are saved when clicking **OK**.
   If one or more parameters should be excluded, remove them by clearing the checkbox next to the parameter.
   Some parameters are user specific. If it is decided to apply this type of template to several handsets, it is recommended to exclude the following parameters:
   - **Owner ID** - A text string displayed in idle mode. The parameter is located directly under **Settings**.
   - **Phone lock PIN code**- The security code used to unlock the keypad. The parameter is located under **Settings → Locks**.
6. Click **OK**.

5.1.4 Synchronizing a Handset with WinPDM/Device Manager

After installing and saving a handset, the handset is synchronized each time it is connected to the WinPDM/Device Manager. The synchronization transfers parameter changes between the handset and the WinPDM/Device Manager and vice versa as follows:

- If a parameter has been changed in the handset, it is transferred to the WinPDM/Device Manager.
- If a parameter has been changed in the WinPDM/Device Manager while the telephone was disconnected, it is transferred to the handset.
- If the same parameter has been changed in both the WinPDM/Device Manager and the handset, the value in WinPDM/Device Manager is transferred to the handset.

5.2 Voicemail

In some systems it is needed to assign the handset number of the Voicemail service. The parameter can be set specifically for each PBX subscription on the handset and is accessed from **Systems → System x → PBX Settings → Numbers**.

System x is replaced with the subscription (System A - System H) that is configured.

5.2.1 Wildcard Characters in Voicemail Number

When programming Voicemail dial strings in WinPDM/Device Manager, a wildcard character, N, can be used to represent the phone's extension number.

For example, a PBX uses Voicemail numbers that are a combination of a base Voicemail number and the phone's extension number. If the base Voicemail number is 2222 and the extension number is 4455, the Voicemail number is 22224455. Using the N wildcard character this can be written as: 2222N.

5.3 Central Phonebook

If the system is equipped with a messaging server with a phonebook service, the Central Phonebook on that server can be accessed from the handset. The number to be used is set to default 999999. It can be changed by editing parameters in a Number or a template.

If the system is not equipped with a Central Phonebook, this menu option can be removed from the handset by entering an empty value for the corresponding parameter.

The parameter can be set specifically for each PBX subscription on the handset and is accessed from **Systems → System x → PBX Settings → Numbers**.

System x is replaced with the subscription (System A - System H) that is configured.

5.4 Company Phonebook

A centrally administered phonebook can be created and uploaded to the handset from WinPDM/Device Manager. If this feature is used, entries from Contacts and Company Phonebook are merged. The Company Phonebook entries are locked and cannot be edited in the handset.

1. Create a Company phonebook file.
2. Import the Company phonebook file to WinPDM/Device Manager, refer to the corresponding installation and operation manual.
3. Upload the company phonebook file to the handset via WinPDM/Device Manager.

5.4.1 Create a Company Phonebook File

The phonebook file (“.cpb”) is normally created from an Excel file using a script to extract the information and create to the phonebook file (.cpb). The Excel file, “Company Phonebook.xls” is delivered from your supplier.

The handset supports a maximum length of 24 characters in each field, additional characters are truncated when the phonebook file is created. The following characters are accepted in the handset number field in the phonebook file, but are ignored when the phonebook file is created: "(", ")", "-" and " "(space).

5.4.2 Upload a Phonebook File

In WinPDM/Device Manager, go to the devices tab and select device(s). In the Device menu, select **Upload phonebook**.

5.4.3 Delete Company Phonebook Entries

Company phonebook entries in a handset can be deleted by downloading an empty company phonebook file to the handset.

5.5 Import Contacts

A centrally administered local phonebook of contacts can be created and uploaded to the handset from the WinPDM/Device Manager.

5.5.1 Create Local Phonebook File

The local phonebook file is created by an Excel file provided by the handset supplier.

5.5.2 Upload a Local Phonebook File

Important

When uploading a local phonebook file, local phonebook entries in the handset are replaced by the entries in the file.

1. In WinPDM/Device Manager, go to the Numbers tab and select handsets.
2. In the Number menu, select **Import contacts → From file**.
3. Select the file to be imported and click **Open**.

5.6 Call Services

Call services is a configurable menu in the handset. The purpose of the Call services menu is to provide a user friendly access to system dependent functionality such as absence handling and call diversion.

The menu is described in *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

In addition to the default Call services functions, up to 10 extra system specific call services can be defined by codes. The codes can be programmed in the following ways:

- with the digits 0-9
- with the special characters # and *
- With the following uppercase characters:
  - P – pause
  - H – hook, that is, auto disconnection
  - U – the handset prompts the user to enter numerical characters for making a procedure call

The programming of the menu is done with WinPDM/Device Manager.

Using the WinPDM/Device Manager and the “Edit template” feature, the parameter can be found at **Systems → System X → PBX Settings → In call functionality → General purpose X**.

The handset supplier may have a template example that configures the call services menu for the PBX.

5.6.1 Activate or Deactivate Call Services when Changing Profile

A Call service can be activated or deactivated when changing a profile in the handset. This feature can be used to send feature access codes, for example *21*, to the system when the handset changing profile.

1. If needed, configure the Call services to be used for the profiles, respectively. See 5.6 Call Services, page 17.
2. Select **User Profiles → User Profile X** (where X represents 1 - 4).
3. Select **Presence and diversion → Call services**.
4. In the **When activated** and **When deactivated** drop lists, select the Call services to be used when the profile is activated and deactivated.

A profile can be activated when placing a handset in a charger, see 5.16.1 In Charger Action when not in Call, page 26.

5.7 Call Diversion

User friendly call diversion menus can be configured in the handset using WinPDM/Device Manager. These menus can then be selected in the handset by selecting **Calls → Call services → Divert calls**.

Beside the default call diversion menus, up to ten system specific services codes can be defined, see 5.6 Call Services, page 17.

1. Select **Systems → System X** (where X represents A - H).
2. Select **PBX Settings → Diversion**.
3. Select **Internal**, **External**, **On No Reply**, **On Busy**, and/or **All Calls** and enter the following:
   - **Prefix** - the system specific prefix code to be used (if required by the PBX used)
   - **Suffix** - the system specific code required to activate the diversion (for example “*21*”)
   - **Cancel** - the system specific code required to deactivate the diversion (for example “#23#”).

The user can now enter the diversion number in the handset.

5.7.1 Call Diversion in Profiles

A handset can be configured to divert calls when a certain profile is activated.

The PBX settings for call diversion must also be configured, see 5.7 Call Diversion, page 18.

1. Select **User Profiles → User Profile X → Presence and diversion**.
2. Select which calls to be diverted (that is all call, internal calls etc.).
3. In the Divert calls to field, enter the phone number where the calls shall be diverted to when the profile is activated.
4. Select **User Profile X**.
5. In the Name field, enter an appropriate name of the profile.

Additional settings can be added for a profile, such as soft keys, sound and alert etc. See 5.45.1 User Profiles, page 56.

5.8 Absence Handling

User friendly absence menus can be configured in the handset using WinPDM/Device Manager. These menus can then be selected in the handset by selecting **Calls → Call services → Absence** to set the reason why a call cannot be answered, for example when the user is in a meeting. The calling party is notified about the absence reason when making the call.

In addition to the default absence menus, up to 10 extra system specific services codes can also be defined, see 5.6 Call Services, page 17.

1. Select **Systems → System X** (where X represents A - H).
2. Select **PBX Settings → Absence**.
3. Select **Common codes**, enter the following:
   - **Activation prefix** - the system specific activation prefix code required to activate the absence (for example *23*)
   - **Activation suffix** - the system specific activation suffix code required to activate the absence (for example #)

- **Deactivation code** - the system specific code required to deactivate the absence (for example “#23#”).
- **PBX date format for user input** - the PBX supported date format to be sent to the PBX when activating an absence reason containing a date (for example “Vacation”). The date in the handset is always entered in MMDD format. If the parameter is set to DDMM, the handset automatically converts to the correct date format.

4. Select **Lunch**, **Meeting**, **Trip**, **Vacation**, **Out** and/or **General absence X**. Enter the following:
   - **Activation code** - the system specific code for an absence reason, for example “0*”.
   - **Name** - enter name of absence reason (only for General absence). The name is visible in handset.
   - **User input** - specifies if time or date is required for the absence reason (only for General absence).

5.9 In Call Menu

The In Call menu let a user access a number of functions during a call. Some functions are:

- Always displayed
- Predefined but may be configured by the administrator
- Custom functions that may be configured by the administrator

5.9.1 Always Displayed

The following functions are always accessible during a call:

Function	Description
Messaging	Displays the "Messaging" menu and messaging functions available during a call.
Microphone	Turn the microphone on or off.

The Messaging function may be hidden from the In Call menu via the WinPDM/Device Manager in the following way:

1. Navigate to **Customization → Visibility → Messaging**.
2. Set the value of the Messaging parameter to **Hide**.

The Messaging parameter may also be set to **Read only**. This allows the user to access the messaging function during a call but does not allow the user to delete sent or received messages.

The Microphone function cannot be hidden or removed from the In Call menu.

5.9.2 Predefined and Configurable Functions

These functions are normally displayed during calls. The administrator can add or remove a function from the In Call menu by configuring the parameter associated with the function. The following functions can be configured by selecting **Edit parameters** in the WinPDM/Device Manager or by opening and editing the template file from the Templates tab.

Parameter	Description
New call	Start a new call during a conversation.
End current call	End a call.

Switch call	Switch between calls.
Transfer call	Transfer a call.
Conference call	Make a conference call.
Callback	May be requested if the called party is engaged. When the called party becomes available, the calling party receives a callback from the PBX.
Call waiting	May be requested if the called party is engaged. Notifies the called party that a call from the calling party is waiting.
Contacts	Open the handset contacts list.
DTMF	When requested, enables the handset to send DTMF.
Decline call waiting	Determines what is sent to PBX when user declines an incoming call if the user is already on another call. NOTE: The "Decline call waiting" function is not displayed in the handset In Call menu. Instead a new call screen is shown for the second call where the option to accept or decline the call is shown. If user accepts the call the parameter "Switch call" is used.
Transfer to new[1]	Performs an unattended transfer of the inbound call to another party.

1. This option is visible in the handset if the parameters "New call" and "Transfer a call" are set.

To locate the function and configure the associated parameter:

1. Navigate to **System ➔ System X ➔ PBX Settings ➔ In call functionality ➔ <parameter name> <value>**.
2. To remove the function from the In Call menu, delete the value of the parameter associated with the function. To add a function that is not displayed, set the parameter value associated with the function.

5.9.3 Advanced Functions

The administrator can configure the handset to allow access to the following advanced functions during a call. These are functions intended for an advanced user such as an installer using the handset to measure RF link and system parameters as part of a troubleshooting or site surveying procedure.

Function	Description
DECT Info	Shows link and DECT system information.
Location Info	Shows location IDs and RSSI values received from location devices if a DECT or LF or BLE or IR location service is running.

These functions can be added to the handset In Call menu by activating the Admin Menu as described in 6.1.1 Activating the Admin Menu, page 64.

5.9.4 Custom In Call Functions

Up to 10 extra system specific call services by codes can be defined. The codes can be programmed as follows:

- With digits 0-9

- The characters # and *
- P – Pause
- H – Hook (auto disconnection)
- U – The handset prompts for user input. Numerical characters may also be entered as input (procedure call).

To define a system specific call service:

1. Select **Systems → System X → PBX Settings → In call functionality → General purpose X**.
2. In the Name field, enter the name to be displayed in the In call menu.
3. In the Data field, enter the applicable code to be used for the function.
4. Click **OK** to save the settings.

The handset supplier may have a template example for configuring the In call functions menu for the PBX.

5.9.5 Creating and Hiding a Soft Key to an In Call Function

The left and right Soft keys can be configured as shortcuts to a certain In call functions, or completely hidden. By default, the left Soft key is configured as a loudspeaker key, and the right Soft key is configured as R-key.

Create a Soft Key to an In Call Function

1. If needed, configure the In Call functionality to be used. See 5.9 In Call Menu, page 19. This is not needed if the Loudspeaking function or R-key is used.
2. Select **Systems → System X → PBX Settings → In call functionality → Soft key X**.
3. In the Name field, enter a descriptive name of the Soft key. This is not needed if the Loudspeaking function or R-key is used.
4. In the Function drop-down list, select the function to be used:
   - R-key
   - Loudspeaking function
   - Start a new call during a conversation
   - End a call
   - Switch between calls
   - Transfer a call
   - Transfer to a new call
   - Make a conference call
   - Activate call back
   - Sending call waiting
   - General purpose 1 -10
5. Click **OK** to save the settings.

Hide a Soft Key to an In Call Function

1. Select **Systems → System X → PBX Settings → In call functionality → Soft key X**.
2. In the Function drop-down list, select **Not used**.
3. Click **OK** to save the settings. The Soft key is not visible during a call.

5.10 Own Line Settings

Use own line settings if the same phonebook is to be used in different systems and in different countries.

The own line settings enables:

- Calling numbers stored with a “+” sign for the international access code. The same local phonebook can be used in different countries.
- The recognition of incoming internal or external calls as numbers stored in international format in the local phonebook. The same phonebook can be used in different systems.

For this feature to work, numbers must be stored in the local phonebook in international format with a “+” sign for the international access code. Also, the Own Line parameters must be configured via the WinPDM/ Device Manager.

5.11 Configure DTMF

Some legacy systems and PBXs require that the handset sends DTMF tones when pressing or releasing the PTT button or when pressing the On-hook key to end a call.

This is only applicable for some handset variants, see 1.1 Functionality Matrix, page 1.

5.11.1 Send DTMF Tone when Pressing On-Hook key

1. Select **Settings → DTMF**.
2. In the On-hook DTMF tone drop-down list, select the DTMF tone to be sent when the On-hook key is pressed.

To disable the DTMF tone, select **Not used**.

5.11.2 Send DTMF Tones when Pressing or Releasing the PTT Button

1. Select **Settings → DTMF**.
2. In the Push to talk DTMF tones drop-down list, select **On**.
3. In the PTT DTMF ton on push drop-down list, select the DTMF tone to be sent when pressing the PTT button.
4. In the PTT DTMF ton on release drop-down list, select the DTMF tone to be sent when releasing the PTT button.

To disable the DTMF tones, select **Off** in the Push to talk DTMF tones drop-down list.

5.12 Uploadable Language

The handset can be loaded with one additional language. The language file is generated via an Excel file. Excel language files are available from the handset supplier.

If another language file is uploaded, the first additional language is overwritten.

Certain special characters are allowed when generating the language file, see information in the Excel file.

To upload an additional language, the WinPDM/Device Manager is used, go to the devices tab and select devices. In the Device menu, select **Upload language...**.

The parameter **Writing language** can be set to match the uploaded language. The parameter controls:

- The characters available for text input
- The sort order in the phonebook

This parameter is only used when an uploaded language is set. The Parameter can be found in the **Settings** folder.

A language can be uploaded on several handsets of the same device type simultaneously using the Baseline function in the Device Manager.

5.13 Customize the Menu

The handset menu can be customized by turning certain menus On or Off in the WinPDM/Device Manager.

The path to these settings in the template depends on the version of the parameter definition file (.def). In the current version the path is: **Customization → Visibility → X**, where “X” can be Messaging, Favourites, etc. The parameters are found under “X”.

The settings for the parameters may have three alternatives, such as:

- Show.
- Hide.
- Read only. All settings can be viewed but not modified by the handset user.

5.14 Hide Missed Call Window

A missed call is by default indicated by a Missed call window. It is possible to hide this window and is recommended if a user has, for example, both a DECT handset and a mobile.

Example:

If configured in the PBX, an incoming call to the DECT handset can either be answered using the DECT handset or mobile. If the user answer the call using the mobile, the Missed call window is not displayed in the DECT handset.

To hide the Missed call window, do the following in WinPDM/Device Manager:

1. Select **Settings → Answering**.
2. In the *Show missed calls dialog window* drop-down list, select **No** to hide the Missed call window.

5.15 Configure Handset Restrictions

5.15.1 Enable or Disable Mute Function

The user can be prevented from muting the handset by perform the following steps:

1. Select **Customization → Phone Restrictions**.
2. In the *Turn off sound* drop-down list, select one of the following:
   - No - The user cannot mute the handset or set the ring volume to **silent**.
   - Yes - The mute restriction is disabled.

When the option **No** is chosen for the *Turn off sound* drop-down list, it is possible to set up the *Minimum allowed volume* parameter from 1 to 7.

If the user tries to decrease the level lower than what is defined in *Minimum allowed volume*, the following pop-up appears: `Volume reset to the lowest level allowed`.

5.15.2 Enable or Disable Switch Off Function

A user can be prevented from turning off a handset by performing the following steps:

1. Select **Customization → Phone Restrictions**.
2. In the *Switch off handset* drop-down list, select one of the following:
   - No - The switch off restriction is disabled.
   - Yes - The user cannot switch off the handset by pressing the **On-hook** key.

5.15.3 Enable or Disable Call List

The handset can be prevented from storing outgoing calls and incoming calls in the Call list. This can be useful to prevent unauthorized persons from viewing call lists.

1. Select **Customization → Phone Restrictions**.
2. In the *Enable call list* drop-down list, select one of the following:
   - Yes - The handset stores the calls in the Call list.
   - No - The handset does not store any calls in the Call list.

Old incoming and outgoing calls are not deleted in the Call list when setting the parameter to **No**. Clearing all call lists is recommended to ensure that no old calls are stored.

5.15.4 Enable or Disable Handset Keys

The handset keys 0-9, * and # are enabled by default so that users can press keys to dial numbers, create messages, access soft keys and perform other supported system and handset functions. However, certain application areas may require that users are prevented from accessing all or some of the functions, so that when a user presses the key, nothing happens. To access the parameters associated with the keys, perform the following steps:

1. Select **Customization → Phone Restrictions**.
2. Select the required parameter:
   - Enable keys 0-9: Enable or disable numeric keys 0 through 9.
   - Enable key star (*): Enable or disable the * key.
   - Enable key hash (#): Enable or disable the # key.
3. From the drop-down menu associated with each parameter, select one of the following:
   - Yes - Retain the default, that is, the selected keys are enabled.
   - No - Disable the selected keys, thereby denying the user access to the handset or system functions associated with the keys.

5.15.5 Allow or Disallow Advanced Call Functions

The handset is enabled, by default, to let the user access the functions described in 5.9 In Call Menu, page 19 during a call. The user can be prevented from accessing these functions by not displaying the soft key during the call. To access and configure the parameter associated with the display of the call functions, perform the following steps:

1. Select **Customization → Phone Restrictions**.
2. Select the **Allow advanced call functionality** parameter.

3. From the drop-down menu associated with the parameter, select one of the following:
   - Yes - Retain the default and allow the user to access call functions.
   - No - Prevent the user from accessing call functions.

5.15.6 Allow or Disallow Incoming Messages

The handset is enabled, by default, to receive text messages unless explicitly configured not to do so. Whether or not incoming text message are allowed is determined by the value of the **Allow incoming messages** parameter, which is set in the following way:

1. Select **Customization → Phone Restrictions**.
2. Select the **Allow incoming messages** parameter.
3. From the drop-down menu associated with the parameter, select one of the following:
   - Yes - Retain the default and allow incoming text messages to be received
   - No - Disallow incoming text messages from being received.

5.15.7 Allow or Disallow Showing Number on Idle Screen

The handset is enabled, by default, to show the extension number on the idle screen unless explicitly configured not to do so. Whether or not the extension number is shown is determined by the value of the Show number on idle screen parameter, which is set in the following way:

1. Select **Customization → Phone Restrictions**.
2. Select the **Show number on idle screen** parameter.
3. From the drop-down menu associated with the parameter, select one of the following:
   - Yes - Retain the default and show extension number on the idle screen.
   - No - Disallow showing the extension number on the idle screen.

5.15.8 Allow or Disallow Connection to WinPDM

The handset is enabled, by default, to establish connection to WinPDM to update device settings unless explicitly configured not to do so. If connection to WinPDM is restricted, handset settings can be updated from Device manager. Whether or not connection to WinPDM is allowed is determined by the value of the **Allow connection to WinPDM parameter**, which is set in the following way:

1. Select **Customization → Phone Restrictions**.
2. Select the **Allow connection to WinPDM** parameter.
3. From the drop-down menu associated with the parameter, select one of the following:
   - Yes - Retain the default and allow connection to WinPDM.
   - No - Disallow connection to WinPDM. If this setting is configured using WinPDM, it will be applied after the handset disconnects from the WinPDM application.

5.15.9 Enable or Disable LED blinking in idle mode

The handset can be prevented from blinking in idle mode.

1. Select **Customization → Phone Restrictions**.
2. In the *Allow LED to blink in idle mode* drop-down list, select one of the following:
   - No - The function is disabled.
   - Yes - The LED will blink in idle mode every 3.5 seconds with green color.

5.16 Action when Handset is Placed In Charger

5.16.1 In Charger Action when not in Call

The handset can be configured to perform an action when it is placed in a charger. The selected action is only performed when no call is established. When the handset is removed from the charger, it returns to previous settings.

If the Logout action is enabled, the handset needs to be logged on manually when it is removed from the charger.

1. Select **Connections → In charger**.
2. In the *In charger action* drop-down list, select one of the following:
   - **No action**- no action is performed when handset is placed in charger.
   - **Switch off** - the handset is switched off when placed in charger.
   - **Redirect** - the handset redirects all calls and messages (only available for some handset variants, see 1.1 Functionality Matrix, page 1) when placed in charger. Redirect can only be set in WinPDM/ Device Manager.

     The destination number must be programmed in the PBX to be able to redirect calls and messages.
   - **Sound off**[1] - the handset is silenced when placed in charger.

     Messages with breakthrough, for example, messages with a high or alarm priority, are not muted. To mute all messages, regardless of priority, also set the **Show and indicate incoming messages** parameter.
   - **Logout** - the handset is logged off when placed in charger. This option is only visible if the **Shared Phone** feature is enabled.
   - **Message absence** - if a message is sent from a system, it is notified that the handset is absence.
   - **Change profile** - the handset changes profile when placed in charger.
     In the *Change to profile* drop-down list, select the profile to be used. By default, only the profile **Normal** is selectable. If configured, additional profiles are visible, see 5.45.1 User Profiles, page 56.
   - **Show and indicate incoming messages and PTT calls**
     Determines how incoming messages are displayed or indicated when the handset is placed in charger. If this parameter is set to No, the message alert, if any, is muted and only the **New message** icon is displayed. The messages are stored as unread messages in the **Messaging Inbox**.

     All incoming messages are affected by this setting; that is PTT invitation received as message, and all other messages regardless of priority (even messages with breakthrough such as high/alarm priority). To only silence messages without breakthrough (low/normal priority), set the **Sound off** parameter instead.

5.16.2 In Charger Action when in Call

The handset can be configured to end a call, or turn on the loudspeaker when it is placed in a charger during a call. If the handset is removed from the charger during the call, it does not revert to the previous settings.

1. Select **Connections → In charger**.

1. If the parameter "Turn off sound" is set to "No", the handset is not muted when placed in charger.

2. In the *Call behaviour* drop-down list, select one of the following:
   - **No action** - no action is performed when handset is placed in charger.
   - **End** - the handset disconnects calls when placed in charger.

     Some systems/PBXs require that the handset sends a DTMF tone to end a call, See 5.11.1 Send DTMF Tone when Pressing On-Hook key, page 22 for configuration.
   - **Put on Loudspeaker** - the handset activates the loudspeaker mode when placed in charger.

5.16.3 Clear Lists when Inserted in Charger

The handset can be configured to clear lists when placed in a charger. The following message and call lists are then cleared:

- Inbox
- Unsent
- Sent
- Call list
- Missed calls

To configure automatic clearing of lists when placed in a charger:

1. Select **Connections → In charger**.
2. In the *Clear lists in charger* drop-down list, select **On**.

5.17 Disable Homebase GAP Registration

When the feature is enabled, it is not possible to register to a home base. To disable homebase GAP registration:

1. Select **Systems**.
2. In the *Can the handset subscribe to a home base* drop-down list, select **No**.

5.18 Early Encryption

Early encryption is used when DECT security is activated in the base station. This means that the radio link is encrypted early before data is transmitted.

To enable early encryption in the handset, the **Use Early Encryption** parameter is set via the WinPDM/ Device Manager in the following way:

1. From the *WinPDM/Device Manager*, select **Systems → System x**.
2. Select **Yes** from the *Use Early Encryption* drop-down list.

If users experience connection problems when early encryption is turned on, the function may be turned off in the handset by reconfiguring the handset through the WinPDM/Device Manager and setting the value of the parameter to **No**. This can occur, for example, when the handset is being used in an environment where highly reflected metallic surfaces are used in the construction of the locale.

5.19 Base Station Positioning

The approximate location of a handset can be sent with an alarm. The handset evaluates the field strength ratio of the individual radio Base Stations and sends the best-rated Base Station ID to indicate the approximate location of the handset.

In addition, a system can also request the Base Station ID regardless if an alarm is sent or not. See 5.26 Poll Location, page 37.

In a template or Number in WinPDM/Device Manager, the parameter for activation is found at: **Location → DECT location → Base station positioning**.

The standby time for the handset is lower when Base station positioning is activated.

5.20 BLE Location

Applicable to Messenger and Protector only.

Bluetooth Low Energy (BLE) is a form of wireless communication designed specifically for short-range communication. The BLE technology uses BLE beacons that are strategically mounted throughout locations, to broadcast BLE signals in a given range. BLE infrastructure works indoors and outdoors. When this parameter is enabled the identification of the four latest detected BLE Locators is included in an alarm or location request.

To configure **BLE location**, perform the following steps:

1. Select **BLE location → On** to enable the location service.
2. Configure the following parameters:
   - **BLE idle duration** defines the idle time (in seconds) between BLE scans. If the idle duration is zero, the handset scans continuously.
   - **BLE scan duration** defines (in seconds and milliseconds) for how long the handset should scan.
   - **BLE RSSI threshold** defines (in dBm) the RSSI threshold for a BLE location. The handset filters out any BLE location below the set RSSI.
   - **BLE RSSI hysteresis** defines (in dBm) how much stronger the signal of the new BLE beacon shall be compared to the current signal strength of the last detected beacon, before the new beacon becomes the current location. This is done to prevent fast toggling between neighboring locations causing the information about movement direction to be compromised or erased.
   - **BLE special location bit** defines which bit of the major or minor iBeacon value should be set to 1 for a special location. For example, if **BLE special location bit** is set to **Major bit 15**, iBeacon where the highest bit of the Major value is 1 will be handled as special locations. This parameter is visible only if *Special location* parameter is set to **On** in **Location → Common → Special location** and *BLE UUID Type* is set to *Custom*. If *Special location* parameter is set to **On** and *BLE special location bit* parameter is set to **Off**, all beacons are considered as non-special location beacons.
   - **BLE UUID filter** defines the UUID that the handset should scan for.
   - **BLE UUID type** defines whether BLE beacons have been configured with **Ascom** UUID or **Custom** UUID. If a custom UUID is used, this UUID must be entered in the *BLE UUID filter* parameter, and the *BLE special location bit* parameter can optionally also be set.

When planning a BLE location system, the following aspects need to be taken into consideration:

- Only iBeacon protocol is supported
- BLE technology does not offer a precise location, instead it can give you relative values to determine in which part of a building a person is located.

- BLE beacons normally do not transmit the location data all the time, and the interval between transmissions is usually a configuration parameter in the beacon itself. Note that the longer intervals between transmissions increase the beacon battery life time, but the accuracy of beacon detection can degrade.
- To decrease the risk of not detecting a beacon, it is recommended to set up **BLE scan duration** time in the handset at least five times longer than beacons transmission period time. It is also recommended to set the **BLE idle duration** time in the handset to 0. For details refer to the *Function Description, Ascom BLE Location System, TD 93492EN*.
- Depending on how precise the location shall be, the BLE beacon transmission (Tx) power might need to be adjusted. The lower the Tx power value, the smaller the beacon cell size will be and hence the more precise information can be obtained about the actual handset location.
- BLE beacons regularly transmit data containing *proximity UUID* which uniquely identifies the group of the beacons. By default, beacons with UUID set to “d87b32bd-cc0e-437a-81b3-383833bc5ff8” (Ascom UUID) will be detected by d83 handsets when **BLE UUID type** is set to **Ascom**. If your installation is using another UUID, the parameter **BLE UUID type** should be set to **Custom** and the parameter **BLE UUID filter** in the WinPDM/Device Manager needs to be set accordingly.
- For a more accurate location detection in the installations with relatively small cell sizes, it is recommended to set the value for **BLE idle duration** parameter not more than 1 second.

More frequent scanning will drain the battery quickly.

BLE Beacon Scan

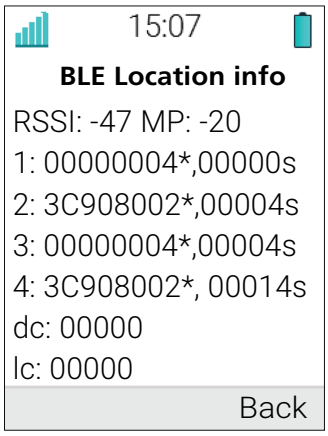
When BLE beacon scan is performed, the four latest detected BLE beacon locators are displayed on the handset as shown in Figure 4. *BLE Location Information*, page 30. In addition, detect counter (dc) and loss counter (lc) define how many scan rounds have been made since the beacon has been detected and lost. Each scan round is formed as a combination of idle and scan duration values. For example, if *BLE idle duration* is set to 1s and *BLE scan duration* is set to 1s, then your scan cycle will be once every two seconds.

When you are in the zone and the beacon is detected, the detect counter (dc) will continue to increment. If you have left the zone and no new beacon has been detected, the detect counter (dc) will pause while the loss counter (lc) will increment. As far as you get back to the zone and the same beacon is detected, the loss counter (lc) will pause while the detect counter (dc) will continue to increment.

If you have left the zone and a new beacon has been detected, both the detect counter (dc) and loss counter (lc) will be first set to zero and then the detect counter (dc) will start to increment.

In the Admin menu of the handset, select **Location info → BLE location info**.

Figure 4. BLE Location Information



The information on the screen is updated every second.

BLE Location Indications

When the BLE Location info screen is opened, the handset can be configured to provide additional indications to the support engineer as the handset is carried into a valid location. A beep/LED indication can be activated to indicate when valid locations are received. The activation parameters that can be configured via the WinPDM/Device Manager are as follows:

Location → Common → Indicate location with beep.

- Off - The beep indication is turned off.
- Beep on new - The handset beeps when it receives a new valid location. A location is considered as “new” when the location ID is changed for the current location.
- Beep always - The handset beeps when it is receives a valid location.

Location → Common → Indicate location with LED.

- Off - The LED indication is turned off.
- Blink always - The LED blinks when the handset receives a valid location.

Location Information during Call

When the Admin menu is activated and BLE location is enabled, the BLE location information screen can be accessed during a call by pressing the soft key **More** and select **Location info**.

5.21 DECT Location

The DECT location feature is used to keep track and report the location of DECT handsets. It is implemented through DECT location devices, which transmit location information continuously. The location information consists of a location ID and a Received Signal Strength Indication (RSSI) threshold value. Location information is stored by handsets when the handset RSSI is stronger than the location device RSSI threshold. The handset stores the four last received location IDs and the time that has elapsed since the location IDs were received.

All locations are stored in the same list. If different location devices are in range, the priority order is as follows:

- IR
- DECT
- LF
- BLE

5.21.1 Handset Users

For handset users, DECT location is used to indicate the location of the handset in critical situations when the handset alarm button is pressed. DECT location is configured via the WinPDM/Device Manager where the parameter for activation is found at:

- **Location → DECT location → DECT location**.

5.21.2 System Administrators and Installers

For system administrators and location installers, the handset can be configured and used to provide important RF information when provisioning, commissioning and analyzing a network of location devices:

- DECT location data
- DECT location indications

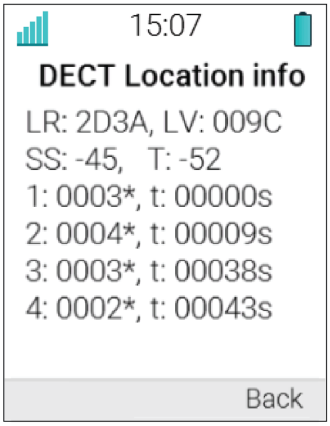
DECT Location Data

To configure the handset to provide DECT location data, perform the following procedure:

1. Press the **Menu** soft key.
2. Select Calls.
3. Select **Admin menu**.

   The **Admin menu** is only visible if the Admin menu is activated. To activate the Admin menu, see 6.1.1 Activating the Admin Menu, page 64.
4. From the *Admin menu*, select **Location info**.
5. Select **DECT Location info**. DECT information is displayed in the handset display as shown in Figure 5. *DECT Location Information*, page 31.

Figure 5. DECT Location Information



DECT Location Indications

When the DECT Location info screen is opened, the handset can be configured to provide additional indications to the support engineer as the handset is carried into a valid location. A beep indication can be activated to indicate when valid locations are received. The activation parameters that can be configured via the WinPDM/Device Manager are as follows:

Location → Common → Indicate location with beep

- Off - The beep indication is turned off
- Beep on new - The handset beeps when it receives a new valid location. A location is considered as “new” when the location ID is changed for the current location.
- Beep always - The handset beeps when it is receives a valid location.

Location → Common → Indicate location with LED

- Off - The LED indication is turned off.
- Blink always - The LED blinks when the handset receives a valid location.

Location Information during Call

When the Admin menu is activated and DECT location is enabled, the DECT location information screen can be accessed during a call by pressing the soft key **More** and select **Location info**.

5.22 IR Location

The IR location feature is used to keep track and report the location of handsets. It is implemented through IR location devices, which transmit location information continuously. The location information consists of a location ID. The handset stores the four last received location IDs and the time that has elapsed since the location IDs were received.

All locations are stored in the same list. If different location devices are in range, the priority order is as follows:

- IR
- DECT
- LF
- BLE

5.22.1 Handset Users

For handset users, IR location is used to indicate the location of the handset in critical situations when the handset alarm button is pressed. IR location is configured via the WinPDM/Device Manager where the parameter for activation is found at: **Location → IR location → IR location**.

IR reception may be disrupted by incandescent light or sunshine. Enable IR short range mode in the WinPDM/Device Manager to compensate for interference caused by changes in light levels (**Location → IR location range mode**). Short range mode reduces the impact that sunshine or incandescent light has on the IR coverage area, and is typically used when large glass areas are present at a site. If short range mode is not used at these sites, the coverage area will differ between day and night.

5.22.2 System Administrators and Installers

For system administrators and location installers, the handset can be configured and used to provide important information when provisioning, commissioning and analysing a network of location devices:

- IR location data

- IR location indications

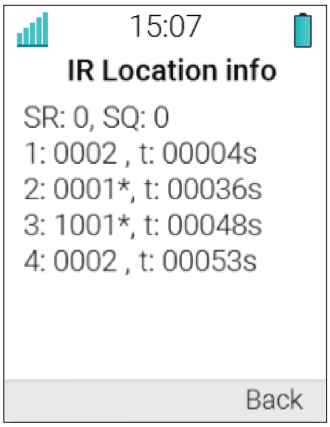
IR Location Data

To configure the handset to provide IR location data, perform the following procedure:

1. Press the **Menu** soft key.
2. Select **Calls**.
3. Select **Admin menu**.

   The **Admin menu** is only visible if the Admin menu is activated. To activate the Admin menu, see 6.1.1 Activating the Admin Menu, page 64.
4. From the *Admin menu*, select **Location info**.
5. Select **IR Location info**. IR location information is displayed in the handset display as shown in Figure 6. *IR Location Information*, page 33.

Figure 6. IR Location Information



IR Location Indications

When the IR Location info screen is opened, the handset can be configured to provide additional indications to the support engineer as the handset is carried into a valid location. A beep /LED indication can be activated to indicate when valid locations are received. The activation parameters that can be configured via the WinPDM/Device Manager are as follows:

Location → Common → Indicate location with beep.

- Off - The beep indication is turned off.
- Beep on new - The handset beeps when it receives a new valid location. A location is considered as “new” when the location ID is changed for the current location.
- Beep always - The handset beeps when it is receives a valid location.

Location → Common → Indicate location with LED.

- Off - The LED indication is turned off.
- Blink always - The LED blinks when the handset receives a valid location.

Location Information during Call

When the Admin menu is activated and DECT location is enabled, the DECT location information screen can be accessed during a call by pressing the soft key **More** and select **Location info**.

Zone Presence Configuration

The Zone presence feature tracks handset location with IR beacons making zones. When entering a zone, the handset sends a message with location history to the system. If Zone presence is enabled, the location message is sent at handset startup even if the handset is not in the range of any zone.

The handset is considered to have left the zone if the handset has not detected any IR beacon used for Zone presence for a certain period configured with the **Out of zone time (seconds)** parameter.

The handset sends location update if:

- The handset has detected another IR beacon used for Zone presence.
- The handset has not left the zone, but the period configured with the **Zone update time (minutes)** parameter has expired.

Two Zone presence setups are possible:

1. All IR beacons are used for Zone presence. The Zone presence behavior is always applied.
2. A group of IR beacons used for Zone presence is making a zone range. If the handset detects an IR beacon related to the zone range, the Zone presence behavior is applied. If the handset detects an IR beacon that is not related to the zone range, the default IR location behavior is applied.

To enable and configure Zone presence, perform the following steps:

1. In Device Manager, navigate to **Location**.
2. For **IR Location** select **On**.
3. Navigate to **Location → IR Location → Enable zone presence**.
4. For **Enable zone presence** select **Enabled**.
5. In the *Out of zone time (seconds)* field enter the period after which the system will consider that the handset has left the zone if it is not detecting an IR beacon anymore.
6. In the *Zone update time (minutes)* field configure the recurrent period when the handset sends location update.
7. If the *Zone Range* option is disabled, each IR beacon is considered as an individual zone. To limit the number of IR beacons that should be used for Zone presence, select **Enabled** for "Zone range". The Zone range feature requires a filter that will help to mark the beacons as making the zone:
   - In the *Zone filter* field enter the starting value for IR beacon IDs in the zone range, for example, A200. The possible value range for the *Zone filter* field is 0000-FFFF (hexadecimal), the default value is 0000.
   - In the *Zone filter mask* field enter a 4–digit value using F for significant bits in an IR beacon ID and 0 for other bits. For example, enter `FF00` to determine a zone range between A200 and A2FF — all beacons ID starting with A2 will be included. The possible value range for the *Zone filter mask* field is 0000-FFFF (hexadecimal), the default value is 0000.

   The zone filter mask is calculated in a similar way as a subnet mask is defined in an IP network. The system performs the following check to define if the beacon belongs to the zone range:
   - Performs the logical bitwise AND operation on each pair of the corresponding bits of the IR beacon ID and "Zone filter mask". if a bit in the mask is equal to 0, the result is 0, for example: `0x1204&0xFF00=0x1200`
   - Compares the result of the operation with the "Zone filter" value. If the values are equal, the IR beacon is related to the zone range and is used for Zone presence.

   Example: For zone range 0x0000-0x0FFF (4096 different zones are possible), the Zone filter is 0x0000 and the Zone filter mask is 0xF000
   - IR beacon ID 0x1204 does not belong to the zone range: 0x1204 & 0xF000 = 0x1000.

- IR beacon ID 0x0030 belongs to the zone range: 0x0030 & 0xF000 = 0x0000.
- IR beacon ID 0x0F40 belongs to the zone range: 0x0F40 & 0xF000 = 0x0000.

5.23 LF Location

The LF location feature is used to keep track and report the location of DECT handsets. It is implemented through LF location devices, which transmit location information continuously. The location information consists of a location ID. The handset stores the four last received location IDs and the time that has elapsed since the location IDs were received.

All locations are stored in the same list. If different location devices are in range, the priority order is as follows:

- IR
- DECT
- LF
- BLE

5.23.1 Handset Users

For handset users, LF location is used to indicate the location of the handset in critical situations when the handset alarm button is pressed. LF location is configured via the WinPDM/Device Manager where the parameter for activation is found at:

- **Location → LF location → LF location**.

5.23.2 System Administrators and Installers

The LF magnetic field propagates through the ceiling, floor, and walls. Therefore it needs careful planning.

For system administrators and location installers, the handset can be configured and used to provide important RF information when provisioning, commissioning and analyzing a network of location devices:

- LF location data
- LF location indications

LF Location Data

To configure the handset to provide LF location data, perform the following procedure:

1. Press the **Menu** soft key.
2. Select **Calls**.
3. Select **Admin menu**.

   The **Admin menu** is only visible if the Admin menu is activated. To activate the Admin menu, see 6.1.1 Activating the Admin Menu, page 64.

4. From the *Admin menu*, select **Location info**.
5. Select **LF Location info**. LF information is displayed in the handset display.

A handset configured to display LF location data shows the following:

- *L1- L4*: The four last valid location IDs. If the handset is in the range of several LF location devices, the location ID with highest difference between the measured signal strength and threshold value is regarded as the current location (L1). This means that only one current location exists, even if several valid locations have been received.
- *t1 - t4*:The elapsed time in seconds since the locations L1 -L4 were received, respectively. It stops counting when it reach its maximum value of 9999 seconds.

LF Location Indications

When the LF Location info screen is opened, the handset can be configured to provide additional indications to the support engineer as the handset is carried into a valid location. A beep indication can be activated to indicate when valid locations are received. The activation parameters that can be configured via the WinPDM/Device Manager are as follows: **Location → Common → Indicate location with beep**.

- Off - The beep indication is turned off
- Beep on new - The handset beeps when it receives a new valid location. A location is considered as “new” when the location ID is changed for the current location.
- Beep always - The handset beeps when it is receives a valid location.

Location → Common → Indicate location with LED.

- Off - The LED indication is turned off.
- Blink always - The LED blinks when the handset receives a valid location.

Location Information during Call

When the Admin menu is activated and LF location is enabled, the LF location information screen can be accessed during a call by pressing the soft key **More** and select **Location info**.

5.24 Special Location

A special location is a valid location received from a location device that triggers the handset to automatically send the location information list to the system. A special location is marked with an asterisk (*) next to location ID in the location info list. To prevent the system from being overloaded, a special location that has already been received in the last three seconds will not be sent to the system again. The special location feature is managed from the WinPDM/Device Manager in the following way:

1. Select **Location → Common → Special location**.
2. In the *Special location* drop-down list, select one of the following:
   - **On**- Turns the special location feature on.
   - **Off** - Turns the special location feature off.

5.25 All Location Data

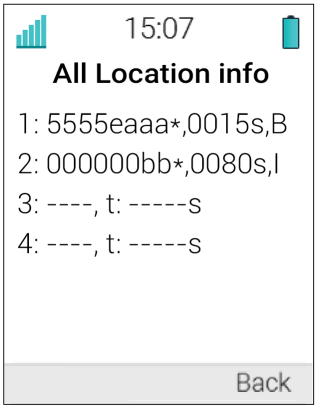
All location data is shown in the All Location info screen in the handset. The handset stores the four last received location IDs and the time that has elapsed since the location IDs were received. DECT locations are marked with D, BLE locations are marked with B, LF locations are marked with L, while IR locations are marked with I. To configure the handset to provide all location data, perform the following procedure:

1. Press the **Menu** soft key.
2. Select **Calls**.
3. Select **Admin menu**.

The **Admin menu** is only visible if the Admin menu is activated. To activate the Admin menu, see 6.1.1 Activating the Admin Menu, page 64.

4. From the *Admin menu*, select **Location info**.
5. Select **All Location info**. All location information is displayed in the handset display as shown in Figure 7. *All Location Information*, page 37.

Figure 7. All Location Information



5.26 Poll Location

A system or application can request a location of a handset. When location of the handset is requested, the handset sends its exact location (DECT or LF or BLE or IR location enabled), or an approximate location (Base Station positioning enabled) depending on the set parameters in the handset.

If DECT or LF or BLE or IR location is enabled, the handset sends the four last received location IDs together with the time since they were received. See also 5.21 DECT Location, page 30 or 5.22 IR Location, page 32.

If Base Station positioning is enabled, the handset sends the best-rated Base Station ID together with the time since it was received. See also 5.19 Base Station Positioning, page 27.

5.27 Common Alarm Settings

The support for this feature is dependent on that model of handset that is used. For more information, see 1.1 Functionality Matrix, page 1.

In a template or Number in WinPDM/Device Manager, the parameters for activation are found at: **Alarm → Common**.

Parameters in the current version are:

- Stored alarm data
  Information that is sent with an alarm (for example a handset's location)
- Indicate triggered alarm with vibrator

If the parameter "Silent alarm" is set, no indication is shown when an alarm has been sent or received.

- Indicate triggered alarm with LED

  If the parameter “Silent alarm” is set, no indication is shown when an alarm has been sent or received.

- Indicate triggered alarm with beeper signal

  If the parameter “Silent alarm” is set, no indication is shown when an alarm has been sent or received.

- Password protect ALS
  Determines if a password is required to turn off the ALS
- Number for automatic call after alarm
  Determines which number the handset automatically calls after an alarm is sent. This number can also be dialed without sending an alarm, see 5.28.1 Call Predefined Number without Sending Alarm, page 39.
- Volume for warning phase alert
  Determines the volume of the warning phase tone for Man-down and No-movement.
- Sound for warning phase alert
  Determines the melody of the warning phase tone for Man-down and No-movement.

See also 5.28 Push Button Alarm, page 38 for additional parameter settings.

5.28 Push Button Alarm

This feature is only applicable for some handset variants, see 1.1 Functionality Matrix, page 1.

The way in which alarms are managed in a system can be configured. A user can activate an alarm by:

1. A single long press
2. Multiple presses

The following alarm types are handled:

- Push-button alarm
- Test alarm

In a template or Number in WinPDM/Device Manager, the parameters for activation are found at:

Alarm → Alarm on long press

Alarm → Alarm on multiple press

Parameters in the current version are:

- Alarm type for long press
  Test alarm, Push-button Alarm 1, or Push-button Alarm 2, or Not used. If Not used is selected, the call can still be dialed after alarm number without sending an alarm, see 5.28.1 Call Predefined Number without Sending Alarm, page 39.
- Text indication for alarm on long press
- Duration for long press
- Alarm type for multiple press
  Test alarm, Push-button Alarm 1, or Push-button Alarm 2, or Not used. If Not used is selected, the call can still be dialed after alarm number without sending an alarm, see 5.28.1 Call Predefined Number without Sending Alarm, page 39.

- Text indication for alarm on multiple press
- Define multiple press
- ALS

  If the parameters “ALS” and “Silent alarm” are set, no ALS is triggered after an alarm has been sent. The ALS is not activated if an automatic call is established after an alarm has been sent.

- Silent alarm
  If enabled, the indication of an alarm has been sent and received is disabled.

  If the parameters “ALS” and “Silent alarm” are set, no ALS is triggered after an alarm has been sent.

- Mode for automatic call after alarm

  Any ongoing call is disconnected if this option is enabled and an alarm is triggered.

  The call can be established in the following modes:

  - **Normal**: the call is established as an ordinary call.
  - **Loudspeaking**: the loudspeaker on the backside of the handset is turned on.
  - **Monitoring**: a one-way speech channel is established, that is, the called part can only listen to an conversation.

See also 5.27 Common Alarm Settings, page 37 for additional parameter settings.

Information about the handset location can also be sent along with an alarm, see 5.19 Base Station Positioning, page 27, 5.20 BLE Location, page 28, 5.21 DECT Location, page 30, 5.22 IR Location, page 32 and 5.23 LF Location, page 35.

5.28.1 Call Predefined Number without Sending Alarm

The push-button can be configured to dial the automatic call after alarm number without sending an alarm. The following example describes how to configure the push-button (alarm on long press). The corresponding settings can also be configured for the push-button when it is pressed twice or more (alarm on multiple press).

Example of configuration:

1. Select **Alarm → Common**.
2. In the *Number for automatic call after alarm* field, enter the number to be dialed.
3. Select **Alarm → Alarm on long press**.
4. In the *Alarm type for long press* drop-down list, select **Not used**.
5. In the *Mode for automatic call after alarm* drop-down list, select one of the following:
   - **Normal**: the call is established as an ordinary call.
   - **Loudspeaking**: the loudspeaker on the backside of the handset is turned on.
   - **Monitoring**: a one-way speech channel is established, that is, the called part can only listen to an conversation.

This configuration lets the user long press the push-button to dial the number without sending an alarm. However, the push-button can be configured to send an alarm by pressing it twice (see Alarm type for multiple press in chapter 5.27 Common Alarm Settings, page 37).

Information about the handset location can also be sent along with an alarm, see 5.19 Base Station Positioning, page 27, 5.20 BLE Location, page 28, 5.21 DECT Location, page 30, 5.22 IR Location, page 32 and 5.23 LF Location, page 35.

5.29 Pull-Cord Alarm

The handset can be configured to send an alarm when the pull-cord is pulled off the handset.

In a template or Number in PDM/Device Manager, the parameters for activation are found at:

Alarm → Pull-cord alarm

The alarm can also be activated in the handset, refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

Parameters in the current version are:

- Pull-cord alarm
- Warning sound when detached
- ALS
- Mode for automatic call after alarm

See also 5.27 Common Alarm Settings, page 37 for additional parameter settings.

Information about the handset location can also be sent along with an alarm, see 5.20 BLE Location, page 28, 5.21 DECT Location, page 30, 5.22 IR Location, page 32 and 5.23 LF Location, page 35.

5.30 Man-Down Alarm and No-Movement Alarm

Man-down alarm: If the handset is tilted 45 degrees1 (default) or more for a preset time (default 7 seconds), the Man-down alarm is triggered.

No-movement alarm: If no movement is detected during a preset time (default 30 seconds), the No-movement alarm is triggered.

The parameters for activation are found at:

Alarm → Man-down and No-movement alarm

The alarms can also be activated in the handset, refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

Parameters in the current version are:

- Man-down alarm
  Determines if the Man-down alarm is enabled or disabled.
- Man-down detection time
  Determines when the warning phase starts after man-down is triggered.
- Man-down warning angle
  Determines the angle the handset must be tilted to trigger the Man-down alarm.
- Reset man-down warning automatically
  Determines if the Man-down warning is reset when putting the phone in a vertical position.
- No-movement alarm
  Determines if the No-movement alarm is enabled or disabled.

- No-movement detection time
  Determines when the warning phase starts after No-movement alarm is triggered.
- Warning phase duration
  Determines the time before the warning phase is ended and the alarm is sent.
- Delay of no-movement and man-down alarm enabled
  Determines if detection time for man-down and no-movement alarms are extended.
- Time of user delay of no-movement and man-down
  Determines how long time the extended detection time is for man-down and no-movement alarms.
- ALS
- Mode for automatic call after alarm
  The call can be established in the following modes:
  - **Off**: No automatic call after alarm.
  - **Normal**: the call is established as an ordinary call.
  - **Loudspeaking**: the loudspeaker on the backside of the handset is turned on.
  - **Monitoring**: a one-way speech channel is established, that is, the called part can only listen to an conversation.
- Turn off NM-MD during call
  Determines if the Man-down alarm and No-movement alarm is disabled during a call.

See also 5.27 Common Alarm Settings, page 37 for additional parameter settings.

Information about the handset location can also be sent along with an alarm, see 5.20 BLE Location, page 28, 5.21 DECT Location, page 30, 5.22 IR Location, page 32 and 5.23 LF Location, page 35.

5.31 Use Multifunction Button as PTT Button

Ascom d83 Handset has two multifunction buttons called Multifunction Button 1, located on the left side, and Multifunction Button 2, located on the right side when looking at the screen.

This feature can only be configured in Messenger and Protector handsets only for Multifunction Button 2.

If the Multifunction Button 2 is enabled for PTT, it can no longer be configured in the handset menu to provide shortcuts to handset functions. Any existing shortcuts that have been configured are disabled, both for long and multiple presses of the multifunction button. Shortcuts are also disabled when the handset is in idle mode.

The handset Multifunction Button 1 can be used by default to switch to talk mode during a PTT call. However, the Multifunction Button 2 may also be configured to do this, and in doing so, provide the user with an additional way to switch to talk mode.

To configure the Multifunction Button 2 as a PTT button, perform the following steps:

1. In the WinPDM, select the parameter **Push to Talk → Use multifunction button for PTT**.
2. Set the value of the parameter to **On**.

5.32 Answering Settings

Automatic answer is disabled when the device is PIN-locked.

The way incoming calls are answered can be configured. The parameters can be found at: **Settings → Answering**.

- Answer automatically
  Determines if the incoming call is answered automatically.
- Answer automatically template
  If **Answer automatically** is enabled, automatic answering can be applied to specific numbers using templates. The templates can be defined as follows:
  - The symbols denoting arbitrary digit must be either ‘x’ or ‘X’.
  - Multiple templates must be separated using a comma or a space.
  - The maximum length is 100 symbols including separators.
    An example of templates that can be defined: `94xx,63xxx,xx44xx,777`
    Which means that automatic answering will be enabled for incoming calls:
  - With four-digit numbers starting with 94.
  - With five-digit numbers starting with 63.
  - With six-digit numbers which have digit 4 on the third and fourth position.
  - With exactly number 777.

  If **Answer automatically template** is left blank, automatic answering will be enabled for all incoming calls.
- Answer loudspeaking
  Determines if the loudspeaker is switched on automatically after answering an incoming call.
- Answer loudspeaking template
  If **Answer loudspeaking** is enabled, the loudspeaker can be configured to switch on automatically for specific numbers using a template like in the previous example. If **Answer loudspeaking template** is left blank, the loudspeaker will be switched on for all incoming calls.

  Both options **Answer automatically** and **Answer loudspeaking** can be configured independently.
- Answer mode
  Determines how incoming calls are answered:
  - **Normal**: Incoming calls are answered with the microphone switched on and normal speaker enabled.
  - **Push to Talk**: Incoming calls are answered with the microphone switched off and loudspeaker enabled. The mute button needs to be pushed while speaking.

5.33 Messaging Settings

This feature is only applicable for some handset variants, see 1.1 Functionality Matrix, page 1.

The way incoming messages are indicated and displayed in handset can be configured. The parameters can be found at:

Settings → Sound and Alerts

- Vibrating alert
  Determines if the handset vibrates when receiving incoming calls and messages.

- Message alert
  Determines the message sound for incoming messages. A predefined melody (Message 1 - Message 7) or a beep code that represents a certain sound can be selected. For more information about how to configure sounds with beep codes, see 5.33.1 Configure Message Alerts with Beep Codes, page 45.
- Message alert during call
  Determines if a message alert should be played when receiving a message during a call.
- Message volume
  Determines the message volume for incoming messages. By default, the message volume is the same as the volume of the ring signal. A different message volume can be set with this parameter. The parameter may also be set to **Silent** to mute the message volume completely.
- Vibrator for call waiting
  Determines whether or not the handset vibrates when another call is received before the user has finished an ongoing call. If set to **Yes**, the handset vibrates during the ongoing call.

  To enable the **Vibrator for call waiting** function the **Vibrating alert** parameter must be enabled, and both **Switch call** and **Call waiting** must be configured. For more information about how to configure Switch call and Call waiting, see 5.9 In Call Menu, page 19.
- Vibrator for message during call
  Determines if the handset vibrates when receiving messages during an ongoing call.
  The following options are available:
  - **Never activated**: vibration is disabled for all incoming messages during a call.
  - **Only for urgent messages**: the handset vibrates only when the received message is urgent.
  - **For messages with priority higher than low**: vibration is disabled for all low priority messages during a call.
  - **Always activated**: the handset vibrates when receiving messages during a call.

  To enable the Vibrator for message during call function the Vibrating alert parameter must be enabled.

  Vibrator for message during call is overridden by the settings of **Vibrating alert** setting. Regardless of the **Vibrator for message during call** configuration, the handset does not vibrate to indicate new messages during a call when **Vibrating alert** is set to one of the following options:

  — **On if silent**

  — **Off**

Settings → Messaging

- Text size
  Size of the message text when viewing and writing messages.
- Time to Read (TTR)
  Determines if the user needs to close a message manually, or if the message closes automatically when TTR expires. Regardless how a message is closed, it is removed from the message queue and stored in the Messaging Inbox. TTR starts when a message is displayed and keep running also when the message is placed in the messaging queue. If a user presses any key when a message is displayed, the TTR is reset. See also 5.33.3 Broadcast and Multicast Messaging, page 50.

- Time to Prioritize (TTP)
  Determines how long messages keep their priority status. The TTP starts when a message is displayed. If a user presses any key when a message is displayed, the TTP is reset. If receiving a message with higher priority than the displayed message, the message with lower priority is placed in queue and its TTP is paused. When the TTP elapsed for a message, it is put last in the queue. See also 5.33.3 Broadcast and Multicast Messaging, page 50.
- Message list representation
  Can be set to text or a number or name.
- Repeat message indication
  This parameter enables or disables message indications. It determines whether a message indication is repeated until confirmed by the user or not. The current repetition rate is 7 seconds. If the message itself contains a repetition, it overrides this setting.
- IM (Interactive Messaging) option mode
  This parameter is used for older applications and sets that three soft keys shall be placed automatically, i. e. on soft keys or in an option menu (list).
- Call priority
  This parameter is used to set the importance of calls compared to messaging services:
  - whether information about an incoming call shall be suppressed while viewing an IM message
  - whether an ongoing call shall be disconnected when receiving a PTT/Call setup invitation with Answer mode property set to **Automatically**.

0 = Call indication will be shown on top of any currently displayed IM message and ongoing call is never disconnected automatically (default).

1-9 = Comparison with priority of displayed IM message; highest priority is shown and PTT/Call setup invitation with higher or equal priority causes disconnection of ongoing call.

10 = Call indication on the display will always be suppressed and ongoing call will always be disconnected by a PTT/Call setup invitation.

If the IM message priority and the phone call priority are equal, the message is displayed.

A standard (non-IM) message will always be displayed on top of an ongoing call. An incoming call will always be displayed on top of a standard (non-IM) message.

The tables below show examples of priority settings and how they affect the handset behavior.

Table 1 Call priority vs PTT/Call setup priority

Call priority	PTT/Call setup invitation priority[1]	Disconnection of ongoing call?
0	1	No, since this call priority setting overrides all PTT invitations regardless of priority.
6	6	No, an ongoing call is not be disconnected when the priority is equal.
2	1	Yes, immediately since the PTT priority is set to 1 and also is higher than Call priority.
3	2	Yes, after 10 seconds since the PTT priority is higher than Call priority.

Table 1 Call priority vs PTT/Call setup priority (continued)

10	1	Yes, immediately since the PTT priority is set to 1 and also is higher than Call priority.
10	2	Yes, after 10 seconds since the PTT priority is higher than Call priority.

1. PTT invitation received as incoming call has always priority 6, while PTT invitation received as message can have priority 1 - 9 depending on configuration.

Table 2 Call priority vs Message priority

Call priority	Displayed Message priority	Call information suppressed?
0	1	No, since this call priority setting overrides all messages regardless of priority.
7	6	Yes, since the priority of the displayed message is higher than the incoming call.
6	6	Yes, since the message is considered as most important when the priority is equal.
1	3	No, since the priority of the incoming call is higher than the displayed message.
10	1	Yes, the call information is always suppressed regardless of the message priority.

Settings → Display

- Rotate display text
  Determines if incoming messages shall be displayed upside down. This can be useful if you wear the handset in a belt and want to read the message without rotating the handset. When pressing any key, the messages are displayed in the normal way.

This setting also affects how incoming calls shall be displayed.

5.33.1 Configure Message Alerts with Beep Codes

The handset can map beep codes sent from a system or an application to different message alerts. There are several ways to threat the beep codes:

Table 3 Beeps according to beep code

Beep code sent from a system/application	The handset plays
Beep code 0	No message alert is played
Beep codes 1- 6	1 - 5, and 10 beeps
Beep code 7	Siren

The handset plays the original message alerts that are mapped to the beep codes.

1. Select **Settings → Sound and Alert**.
2. In the *Message alert* drop-down list, select **Beeps according to beep code**.

Table 4 High beeps according to beep code

Beep code sent from a system/application	The handset plays
Beep code 0	No message alert is played
Beep codes 1- 6	1 - 5, and 10 beeps
Beep code 7	Siren

The handset plays the message alerts that are mapped to beep codes but with a higher tone.

1. Select **Settings → Sound and Alert**.
2. In the *Message alert* drop-down list, select **High beeps according to beep code**.

Table 5 Enhanced beeps according to beep code

Beep code sent from a system/application	The handset plays
Beep code 0	No message alert is played
Beep codes 1 -3	1 - 3 beeps
Beep code 4	3 tones chime
Beep code 5	10 beeps
Beep code 6	Alarm sweep
Beep code 7	Siren

The handset plays extended message alerts that are mapped to the beep codes.

1. Select **Settings → Sound and Alert**.
2. In the *Message alert* drop-down list, select **Enhanced beeps according to beep code**.

Table 6 Custom sounds according to beep code

Beep code sent from a system/application	The handset plays
Beep code 0	No message alert is played
Beep codes 1- 7	Corresponding customized sound

The handset can play customized message alerts that are mapped to beep codes. The message alerts must first be customized and then mapped to the beep codes.

Customized sounds may also be mapped to enhanced beep codes, as described in A.1 Customize the Default Handset Beeps, page 72.

It is recommended to use this feature to create a message alert that sounds like an item of equipment, such as a respirator, that generates an alarm.

1. Select **Settings → Custom Sounds → Custom Sound X** (where X represent 1 - 10).
2. Set the following parameters:
   - Label - The name of the custom sound (required). The name is visible when mapping the custom sound to a beep code later on.
   - Melody - The text string represents a non-polyphonic sound. By default, example of melodies are set for Custom Sound 1 - 7. See also Appendix A Configure Custom Sounds, page 70.
   - Beat - The tempo in beats per minute to be used when playing the sound.
   - Style - The ratio of note to rest period to be used when playing the sound.
   - Instrument - The instrument to be used when playing the sound.

Map Beep Codes to Customized Sounds

1. Select **Sound and Alerts → Custom Message Alert**.
2. In the *Beep code* drop-down lists, select the customized sounds to be used for respectively beep codes.

Enable **Customized Sound**.

1. Select **Settings → Sound and Alert**.
2. In the *Message alert* drop-down list, select **Custom sounds according to beep code**.

5.33.2 Examples of TTR and TTP Settings

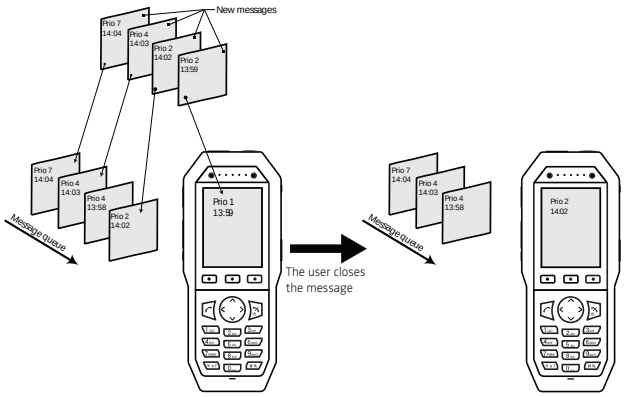
Example 1

This example describes the message handling with the following message settings:

- TTP – Prioritize forever
- TTR – Close manually

It is recommended to use these settings if messages with the highest priority are always displayed until the user closes the current message.

Figure 8. Queuing and Prioritizing for Messages with Equal Priorities



In Figure 8. *Queuing and Prioritizing for Messages with Equal Priorities*, page 47, a message with priority 2 is received at 13:59 and is displayed in the handset. Another message with equal priority is received at 14:02 and is placed in the queue. If no messages with higher priority are received, the user needs to close the currently displayed message to show the next message in the queue, in this case, the message received at 14:02. The closed message is indicated as a read message in the Inbox.

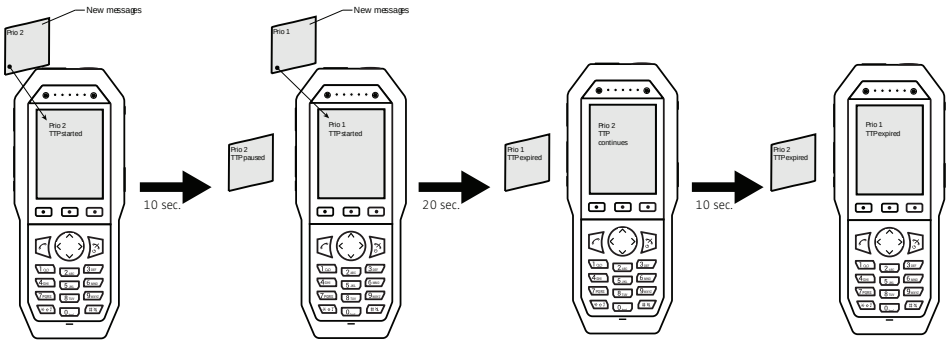
Example 2

This example describes the message handling with the following message settings:

- TTP – 20 seconds
- TTR – Close manually

It is recommended to use these settings in case the user needs not to be interrupted for 20 seconds while reading a message, unless a message with a higher priority is received. After the user has read a message, its priority is no longer important, and the TTP expires.

Figure 9. Queuing and Prioritizing for Messages with Different Priorities



In Figure 9. *Queuing and Prioritizing for Messages with Different Priorities*, page 48, a message with priority 2 is received and displayed in the handset, and the TTP for the message is started.

After 10 seconds, a second message with priority 1 is received and displayed while the message with priority 2 is put in the queue. TTP for the message with priority 2 is paused, and TTP for the message with priority 1 is started.

After 20 seconds, TTP expires for the message with prio 1 and the message is placed in the queue. The message with priority 2 is shown again and its TTP continues.

TTP expires after 10 seconds for the message with priority 2. In this case, all messages have been shown for 20 seconds each, and the oldest shown message with the highest priority is displayed, in this case, the message with priority 1. The handset does not indicate when it shows the message again, since it already has been shown and indicated once. The message with priority 2 is placed in the queue.

Example 3

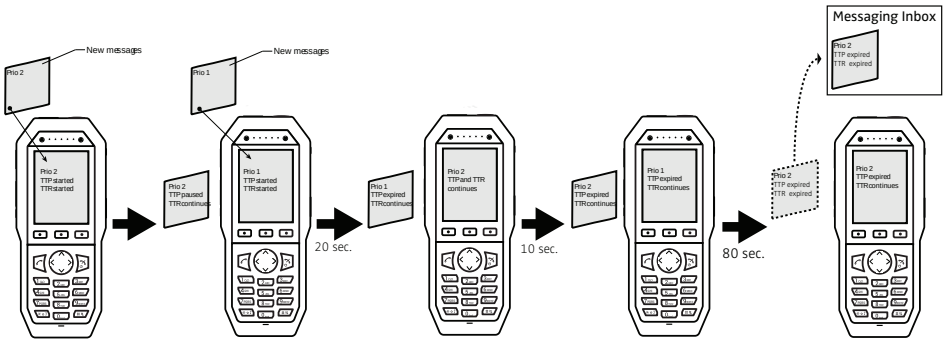
This example describes the message handling with the following message settings:

- TTP – 20 seconds
- TTR – 2 minutes

It is recommended to use these settings in case the user needs not to be interrupted for 20 seconds while reading a message, unless a message with a higher priority is received. After the user has read a message, its priority is no longer important, and the TTP expires.

In addition, if a message is not shown again within the TTR interval, it is considered as not important and is removed from the queue.

Figure 10. Message Handling without Manually Closing a Message



In Figure 10. *Message Handling without Manually Closing a Message*, page 49, a message with priority 2 is received and displayed in the handset. TTP and TTR for the message is started.

After 10 seconds, a second message with priority 1 is received and displayed while the message with priority 2 is put in the queue. TTP for the message with priority 2 is paused, but TTR continues. TTP and TTR for the message with priority 1 is started.

After 20 seconds, TTP expires but TTR continues for the message with prio 1 and the message is placed in the queue. The message with priority 2 is shown again and its TTP continues.

TTP expires after 10 seconds but TTR continues for the message with priority 2. In this case, all messages have been shown 20 seconds each, and the oldest shown message with the highest priority is displayed, in this case, the message with priority 1. The handset does not indicate when it shows the message again, since it already has been shown and indicated once. The message with priority 2 is placed in the queue.

After 80 seconds, the TTR expires for the message with priority 2, and it is removed from the queue and is indicated as an unread message in the Inbox. When TTR expires for the message with priority 1, it is also indicated as an unread message in the Inbox.

If no messages have been read/closed manually and TTP expires for each message, the `New message(s): [number of messages]. View now?` dialog window is displayed. All messages are indicated as unread messages in the Inbox.

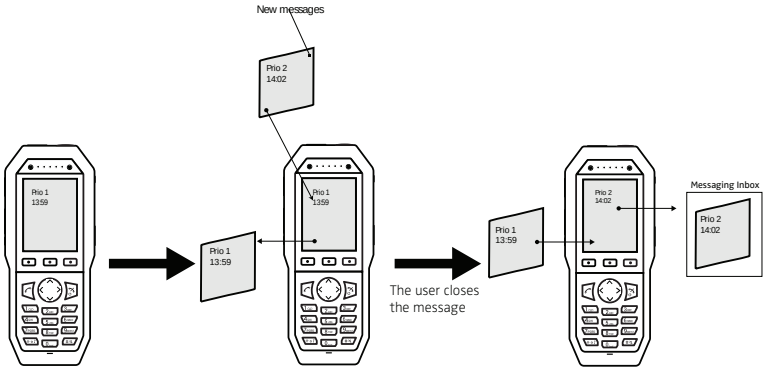
Example 4

This example describes the message handling with the following message settings:

- TTP – No prioritization
- TTR – Close manually

It is recommended to use these settings if messages regardless of priority are read in chronological order, that is, the newest message is displayed first.

Figure 11. Messages Displayed in Chronological Order Regardless of Priority



In Figure 11. *Messages Displayed in Chronological Order Regardless of Priority*, page 50, a message with priority 1 is received at 13:59. Another message with priority 2 is received at 14:02 and is displayed. The message with priority 1 is put in the message queue. The user needs to close the current message with priority 2 to show the message with priority 1 in the queue. When closing the message with priority 2 it is indicated as a read message in the Inbox.

5.33.3 Broadcast and Multicast Messaging

This feature is supported by the handset, but no parameter settings are required.

5.34 Message Templates

Handsets can be configured with predefined messages using the message template function. Provided that both parties are connected via an IP-DECT system, a predefined message can be used in the following ways:

- The user can decline the call but still acknowledge the receipt of the call by selecting a predefined message and sending it to the caller.
- The user replies to an incoming text message by selecting a predefined message and sending it to the message sender.
- The user can construct a text message from a predefined message.

5.34.1 Configure the Handset for Message Templates

To activate the message template function in the handset so that a user can decline a call with a predefined message, perform the following steps using the WinPDM/Device Manager:

1. Open the **Edit parameters** dialog
2. Select **Settings → Answering**.
3. Locate the parameter **Can reply with a message template when rejecting a call** and set the value to **On**.

5.34.2 Create Message Template Texts

A handset can be configured with up to five predefined messages. A message cannot exceed 50 characters. To create a message, performing the following steps in the WinPDM/Device Manager:

1. Open the **Edit parameters** dialog.
2. Select **Settings → Messaging → Templates → Template <n>** where **n** refers to the five message templates numbered 1 to 5.

3. Click on a **Template <n>**.
4. Position the cursor in Value column and click the mouse button. An editable text field opens.
5. Type a message of maximum 50 characters in the text field.
6. Click the **OK** button.

If a system uses a character set other than UTF-8 for SMS, care must be taken to ensure that the characters entered into the message strings are compatible with the character set used by the system. Entering characters that cannot be encoded by the system may cause a type conversion error, the failure of the message to arrive at the intended recipient, and a `Message failed` popup being displayed in the sender handset.

5.35 Name Presentation

The caller name is displayed in the user handset when the phone is ringing and when in call. The PBX usually sends information to the handset to resolve details about the calling party. If no such information is received, CLIP or CNIP can be used as described in the next section. Where no information is provided by the PBX and both CLIP and CNIP are not provided, an `Unknown` message is displayed in the handset.

5.35.1 Name Resolution Priorities

How the caller's name and other information such as the caller's number is presented in the handset display depends on how the PBX sends calling party information to the handset. The PBX may or may not be set to pass display management text. The handset always looks for this information according to the following priorities:

1. If the PBX sends display management text then this is used before any other source of caller identification such as CLIP, the local phone book, or CNIP. The handset displays the display management text as it is.
2. If the PBX is not configured to send display management text, but is configured to send CLIP, CLIP is used to look up and resolve the calling party name from the local phonebook. The handset can then display the name.
3. If no entry is found in the local phonebook and the PBX is configured to send the calling party name in CNIP, the name is taken directly from CNIP. The handset can then display the name.
4. If the PBX is configured only for CLIP and no name resolution was possible because the local phonebook had no entry corresponding to the calling party number, only the calling party extension number can be displayed in the handset.

Caller name or number received as display management text will not be stored in the Call list and cannot be used for local phone book queries. Only information received as CLIP or CNIP can be used for these functions.

5.35.2 Display Management Parameters

If information about a caller exists in the local phonebook, display management parameters can be configured to show information in addition to the what is provided by the display manager. The additional information is displayed as additional lines of text in the handset display. The parameters are accessed through the WinPDM/Device Manager by selecting:

Systems → System X → Display Management and Local Phonebook Name

The parameter can be set to one of the following values:

- **Normal**: The handset shows only the display management text.

- **Add name internal and external call**: Additional detail about the caller is displayed if there is information about the caller in the local phonebook. If there is no entry for the caller in the phonebook, only the display management text is displayed. This option applies when both internal and external calls are received.
- **Add name external call**: Displays additional caller detail as described above, but only when external calls are received.

Systems → System X → Display calling party number together with name

The parameter can be set to one of the following values:

- **Yes**: The handset shows the calling party number together with name.
- **No**: The parameter is disabled. This is the default value.

5.36 Services

This feature is only applicable for some handset variants, see 1.1 Functionality Matrix, page 1.

From WinPDM/Device Manager, up to 10 services can be configured that can be accessed from the Services menu. Soft keys can also be configured to access services quickly. A list of predefined functions are available such as Phone call, Send message and Send data.

5.36.1 Add Service

1. Select Services.
2. Select the service (1 - 10) to be configured.
3. In the *Name* field, enter the name of the service. The service name is displayed in the handset.
4. In the *Type* drop-down list, select the function (**Send Message**, **Phone Call** or **Send data**) to be used.
5. If needed, in the *Number* field, enter the destination number for the message/call/data. The following values can be entered in the Number field: Digits 0-9, #, *, P – pause, H – hook.
   If the Phone call function was selected, an additional character U can be entered in the *Number* field. The handset prompts the user to enter numerical characters before establishing a call (procedure call).
6. If needed, in the *Prefix* field, enter the prefix to be used.

5.36.2 Delete Service

1. Select Services.
2. Select the service (1 - 10) to be deleted.
3. In the *Name* field, delete the name of the service.

5.37 Protect Registration from User Deletion

A registration can be protected from deletion via the handset menu by altering the parameter **Protected flag**. In a template or from the *Number* tab in WinPDM/Device Manager, the parameter is found at:

Systems → System X → Registration data

5.38 Emergency Call Numbers

Up to five different phone numbers may be reserved for emergency calls. These numbers can always be called even when the phone or key locks are active.

If emergency numbers of varying length are used, care must be taken to ensure that longer numbers do not begin with the same digits and ordering used by a shorter number. For example, if 124 and 1245 define two emergency numbers, the number 1245 cannot be used because 124 is always be evaluated and called before the longer number can be entered. However, 5421 and 1256 would be allowed.

Emergency numbers are configured using the WinPDM/Device Manager and setting the value of the parameter: **Settings → Emergency Call Numbers**.

5.39 Audio Adjustment

Microphone gain, noise cancelling and side tone can be configured to achieve optimal audio quality for each working environment through the parameters:

Audio → Normal

- Normal side tone adjustment - Determines how much of the speakers voice that is fed back to the speaker.
- Normal mic adjustment - Determines the microphone sensitivity, that is, how much sound the microphone gains.
- Normal speaker adjustment - Determines how much the speaker volume will be increased/decreased. A higher value increases the speaker gain.
- Two microphones noise cancelling - Determines how many microphones are used for noise cancellation.
  - **Yes**: The noise cancellation is done using two microphones. This is the default value.
  - **No**: The noise cancellation is done using one microphone.

Audio → Loudspeaker

- Loudspeaker mic adjustment - Determines the microphone sensitivity, that is, how much sound the microphone gains when the loudspeaker is on.
  The parameter settings affect the “normal” mode, that is, the wired headset. Bluetooth headset, handsfree and loudspeaking modes are unaffected.
- Loudspeaker speaker adjustment - Determines how much the loudspeaker volume will be increased/decreased. A higher value increases the speaker gain.

For configuration of headset audio see 5.40 Headset Configuration, page 53. Changing these parameters may result in lower sound quality and high sound level. Evaluate carefully before applying.

5.40 Headset Configuration

A headset is recommended if the handset is used frequently or if the user wants to have both hands free. The headset comes in two versions, that is, microphone on boom and microphone on cable.

5.40.1 Selection of Corded Headset Type

To achieve optimal audio quality with the different headset types, it is recommended to set the corresponding headset type. The default setting is “microphone on a boom”, which means that the audio is optimized for using a headset with microphone on a boom. The headset type can be changed as follows:

1. Select **Connections → Headset**.

2. In the *Headset type* drop-down list, select the corresponding headset type to be used.

If **User headset profile** is selected, see User headset profile, page 54.

User headset profile

If the preconfigured headset profiles does not match the headset or the audio performance is unsatisfactory, a headset profile can be configured in the following way:

1. Select **Connections → Headset → User headset profile**.
2. In the *Name of user headset profile* field, enter an appropriate name. The name is visible and selectable in the handset menu.
3. In the *Headset mic adjustment* drop-down list, select the microphone gain to be used.
4. In the *Headset speaker adjustment* drop-down list, select the speaker gain to be used.

Changing these parameters may result in a very high sound level which can cause hearing damage. In addition, these parameters may result in lower sound quality such as noise and echo. If the audio problems occur, it is noticable for the person listening on the conversation. Evaluate carefully before applying.

5.40.2 Configuration of Headset Button

The headset answer button can be configured with a predefined function.

Configure a corded headset button

1. Select **Connections → Headset**.
2. In *Headset type* drop-down list, select the headset to be used.
3. In the *Call with headset button* drop-down list, select one of the following:
   - **Not activated** - a call can only be answered or ended.
   - **Last called number** - the last called number is dialled.
   - **Predefined number** - a predefined number is called (if selected, continue with step 4) .
   - **Hook off** - activates the post-dial function, that is, a dial tone is heard and the user can enter the number to be called.
4. If required, enter the number to be dialled when the headset button is pressed in the *Predefined number* field.

Configure a Bluetooth headset button

Refer to the user manual for the Bluetooth headset for more information about how to connect it and use its answer button.

1. Select **Connections → Bluetooth headset**.
2. In the *Call with headset button* drop-down list, select one of the following:
   - **Not activated** - a call can only be answered or ended.
   - **Last called number** - the last called number is dialled.
   - **Predefined number** - a predefined number is called (if selected, continue with step 3).
   - **Hook off** - activates the post-dial function, that is, a dial tone is heard and the user can enter the number to be called.
3. If needed, in *Predefined number* field, enter the number to be dialled when headset button is pressed.

5.41 Display New Messages and Call Information Upside Down

New messages and call information can be displayed upside down. This can be useful if the handset is worn in a belt and messages or call information need to be read without rotating the handset. When pressing any key, the messages are displayed in the normal way.

1. Select **Settings → Display**.
2. In the *Rotate display* text drop-down list, select one of the following:
   - **On** - New messages and call information are rotated 180 degrees.
   - **Off** - Disables the rotation function.

5.42 Display Management Layout

In the Active area of the display, the first 2 rows can show 12 characters each by default. The number of rows and characters to be displayed in idle mode or during a call up can be extended to 3 rows with 16 characters each. When extending the rows or characters, the **System name** or **Owner ID** is hidden to provide space for system dependent information instead.

1. Select **System X**.
2. In the *Display Management Layout* drop-down list, select one of the following:
   - 2x12 characters
   - 2x16 characters
   - 3x16 characters, remove Owner ID
   - 3x16 characters, remove system name

5.43 Owner identification in the Idle Display

Owner identification can be added while the handset is in standby mode. In a template or Number in WinPDM/Device Manager, the parameter is found at: **Settings → Owner ID**.

The Owner ID might not be displayed depending on the setting in 5.42 Display Management Layout, page 55.

The Owner ID can also be configured via the handset menu. Refer to *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

5.44 Screen Saver

The handset screen saver can be configured to display information or turn off the backlight so that no information is shown. To configure the screen saver:

1. In the *WinPDM/Device Manager*, select **Device → Settings → Display**
2. In the *Screen saver* drop-down list, select one of the following:
   - **Information**: Dims the backlight but keeps sufficient light to display time and status information, such as message indications.
   - **Black**: The screen goes black and the backlight is turned off.
   - **Black also in call**: The screen goes black and the backlight is turned off, as for the “Black” option. In addition, the backlight is turned off when the handset is in call. This helps extend battery life especially when the user is on an extended call.

5.45 Profiles

5.45.1 User Profiles

An own profile can be setup for incoming calls, message alerts, message volume, vibrating alerts, key sound etc. This can be useful when there are many users on the same handset who want different sound profiles. It can also be used for temporarily settings, for example while in a meeting, incoming calls should be silent.

1. Select **User Profiles → User Profile X** (where X represents 1 - 4).
2. In the *Name* text field, enter the name of the profile.
   The name is visible in the handset and becomes a selectable option in **User Profiles → Active Profile**.
3. Select the settings to be edited. For example Sound and alerts, Soft keys etc.
4. If required, select the profile to be activated in the handset by selecting **User Profiles → Active Profile**.

Profiles can also be configured via the handset menu. Refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

5.45.2 System Profiles

This feature is only applicable for some handset variants, see 1.1 Functionality Matrix, page 1.

A system profile can be setup to force a handset to use certain settings that the user is unable to modify. The system profile is set up in two steps:

1. Create sub groups.
2. Create system profile using the predefined sub groups.

5.45.2.1 Configure Presence settings group (sub group)

1. Select **System Profiles → System Profiles Sub Groups → Presence groups → Presence group X**.
2. In the *Message absence* drop-down list, select one of the following:
   - **On** - When a handset receives a message, it indicates that it is absent. The message can be redirected to another destination and is system dependent.
   - **Off** - The message absence is disabled.
3. In the *Name of group* field, enter a descriptive name.

5.45.2.2 Configure Alarm Settings Group (sub group)

1. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X**.
2. In the *Name of group* field, enter a descriptive name.
3. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X → Common**.
   - Stored alarm data - Information that shall be sent along an alarm (for example a handset's location).
   - Indicate triggered alarm with vibrator.
   - Indicate triggered alarm with LED.
   - Indicate triggered alarm with beeper signal.

   If any of the alarm triggers are set to **No**, no indication is shown for that trigger when an alarm is sent or received.

4. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X → Alarm on long press**.
   - Alarm type for long press - Determines the alarm type to be sent when long pressing the alarm button. If Not used is selected, the call can still be dialed after alarm number (if any, see 5.27 Common Alarm Settings, page 37) without sending an alarm.
   - ALS - Determines if a ramped up signal shall sound after an alarm is sent

   If the handset is configured to call a predefined number when an alarm is sent (see 5.27 Common Alarm Settings, page 37), the ALS is not triggered.

5. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X → Alarm on multiple press**.
   - Alarm type for long press - Determines the alarm type to be sent when long pressing the alarm button. If Not used is selected, the call can still be dialed after alarm number (if any, see 5.27 Common Alarm Settings, page 37) without sending an alarm.
   - ALS - Determines if a ramped up signal shall sound after an alarm is sent

   If the handset is configured to call a predefined number when an alarm is sent (see 5.27 Common Alarm Settings, page 37), the ALS is not triggered.

6. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X → No-movement and Man-down**.
   - Man-down alarm - Determines if the Man-down alarm is enabled or disabled.
   - Man-down detection time - Determines when the warning phase starts after man-down is triggered.
   - No-movement alarm - Determines if the No-movement alarm is enabled or disabled.
   - No-movement detection time - Determines when the warning phase starts after No-movement alarm is triggered.
   - Warning phase duration - Determines the time before the warning phase is ended and the alarm is sent.
   - ALS - Determines if a ramped up signal shall sound after an alarm is sent

   If the handset is configured to call a predefined number when an alarm is sent (see 5.27 Common Alarm Settings, page 37), the ALS is not triggered.

7. Select **System Profiles → System Profiles Sub Groups → Alarm settings group → Alarm settings X → Pull-cord**.
   - Used pull-cord alarm - Determines if the pull-cord alarm is enabled or disabled.
   - ALS - Determines if a ramped up signal shall sound after an alarm is sent

   If the handset is configured to call a predefined number when an alarm is sent (see 5.27 Common Alarm Settings, page 37), the ALS is not triggered.

5.45.2.3 Configure Sound and Alerts Sub Group

These parameters let the system administrator define up to five different system profile sub groups of sounds and alerts. To configure a sub group:

1. Select **System Profiles → System Profiles Sub Groups → Sound and alerts group → Sound and alerts X**
2. In the *Name of group* field, either accept the default name Group X or enter a description appropriate to this particular sub group of sounds and alerts.

3. From the pull down menus associated with each parameter, select the required values for:
   - **Ring volume**: Select “Silent” or one of the volume levels between 1, the lowest, and 8, the highest.
   - **Vibrating alert**: Select “On” or “Off”.
   - **Internal call**: A ringtone to indicate an internal call.
   - **External call**: A ringtone to indicate an external calls.
   - **Callback**: A ringtone to indicate a callback.
   - **PTT Call**: A ringtone to indicate a Push-to-talk call.
   - **Key sound**: Select “Silent” or associate the key press with a “Click” or “Tone”.
   - **Message alert**: Indicate an incoming message by a melody, beeps or a customized sound.
   - **Message volume**: For an incoming message, set the alert to the same volume level as for Ring volume or set a higher or lower volume.

5.45.2.4 Configure Soft key groups (sub group)

Select **System Profiles → System Profiles Sub Groups → Soft key groups → Soft key group X → Soft key X**.

- Soft key label - Determines the name to be displayed on the soft key
- Function - Determines the function to be connected to the soft key.
- Value - Determines a value (for example, phone number) to a function. The value is only needed for some functions.
- Control question - Determines if a Proceed? dialogue shall appear when pressing a soft key.

5.45.2.5 Configure Idle display groups (sub group)

By default, the name of a system profile is displayed in the handset. It is only needed to configure an idle display group if a system name is not to be displayed in the handset.

Select **System Profiles → System Profiles Sub Groups → Idle display groups → Idle display group 1**.

- Show name of system profile - Determines if the name of the system profile shall be displayed in the handset idle screen.
- Name of group - Determines the name of the group

5.45.2.6 Create System Profile using Predefined Sub Group

To create a system profile, it must be connected to the predefined sub groups.

Select **System Profiles → System Profile X**.

- Soft keys group - Determines if a soft group shall be used.
- Alarm settings group - Determines if a alarm settings group shall be used.
- Presence group - Determines if a presence group shall be used.
- Idle display group - Determines if an idle display group shall be used.
- Sound and alerts group - Determines sound and alerts shall be used.

5.45.2.7 Activate and Deactivate System Profile

When a system profile is created, it can be activated on the handset using the WinPDM/Device Manager. For example, the application could be triggered by a positioning beacon. However, this section describes how to activate the system profile using WinPDM.

By default, when the system profile is activated, its name is displayed in the handset idle screen. The system profile name replaces the system name (that is, the DECT system the handset is subscribed to). If a certain system profile always shall be active on a handset, it is recommended to hide the settings and menus the user cannot change. If the user changes any settings that are specified in the system profile, the settings are not applied.

Example

In the system profile Alarm has the alarm settings been configured. In this case, the user cannot change any alarm settings via the handset, despite that the Alarm menu is visible. It is recommended to hide the Alarm menu to avoid misunderstanding.

1. Select **System profiles**.
2. In the *Active system profile on phone* drop-down list, select one of the following:
   - **Normal** - no system profile is used.
   - [**System profile**]

5.45.2.8 System Profile Activation and Deactivation Audible Alert

The administrator may configure the handset to play a sound if the system profile is activated or deactivated. This provides the user with an audible alert when the system profile changes from inactive to active or vice versa. The feature can be triggered by several kinds of event, such as moving between different parts of a buildings where a system profile might be appropriate in one location but not required in another.

To configure the handset to play a sound when a system profile is activated or deactivated, perform the following steps:

1. Select **System profiles**.
2. From the *System Profile X* list select the system profile where the audible alert is to be applied.
3. Set the **Activation and deactivation sound** parameter to the required customized sound.

5.46 Shortcuts

One click access to predefined functions can be configured for the Soft keys, Hot keys, Navigation keys, and the Multifunction buttons. For example a soft key can be configured to make a call.

Shortcuts are configured via parameters in the **Shortcuts** folder.

When programming Soft keys both name and function must be set.

A hot key configured to the Data Send service is also available during the call.

Shortcuts can also be configured via the handset menu. Refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

5.46.1 Restricting Access to Shortcuts

For some application areas, it may be a requirement that the user is prevented from defining shortcuts to predefined functions via the handset Shortcuts menu. Setting a shortcut to **Read only** via the WinPDM/ Device Manager enforces this restriction. To access the parameters associated with shortcuts, perform the following steps:

1. Select **Shortcuts**.
2. Select the required shortcut parameter:
   - Hot keys 2 through 9 and “Hook Off”
   - Soft Keys “Left”, “Middle” and “Right”
   - Navigation keys “Up”, “Down”, “Left” and “Right”
   - Multifunction buttons
3. Select the **Read Only** attribute for the selected parameter and from the drop-down menu select:
   - **False** - Retain the default, that is, the selected shortcut remains configurable from the Handset Shortcuts menu
   - **True** - The shortcut is set read only. The end user is able to select the shortcuts menu and individual shortcut keys from that menu but is unable to assign a function to the selected key.

5.47 Shared Phone

This feature is applicable for IP-DECT systems only.

The feature Shared phone allows more than one user to use a handset. When a handset is configured as a shared phone, it can be used by any shared phone user in the system.

Extension and messages are user unique. Messages and call lists are deleted when a user logs off a handset. Contacts, settings, and Bluetooth devices are common for all shared phone users of the same handset.

Set Default Master ID

The parameter Default Master ID determines which IP-DECT Master the handset logs on to. In a small IP-DECT system where a single IP-DECT Master is used, the parameter is not changed (default ID is “0”).

In a large IP-DECT system where several IP-DECT Masters are used, the parameter may be changed depending on which IP-DECT Master to be used.

1. Select **Systems → Common → Shared Phone**.
2. In the *Default Master ID* field, change the master ID if needed.

If a user and a shared handset belong to different IP-DECT Masters, the user must override the default master ID of the shared handset when logging in. Enter the user’s Master ID followed by the User ID in the following format: `*` `<Master ID>` `*` `<User ID>`

Enable and Disable Shared Phones

The handset will restart after changing the phone mode.

Enabling Shared Phone must be done before assigning an extension to the handset. Either before subscribing the handset to the IP-DECT system, or before assigning the extension to an anonymously subscribed handset.

In the WinPDM do the following to enable or disable Shared Phone:

1. Select **Systems → Common → Shared Phone**.
2. In the *Phone mode* drop-down list, select one of the following:

- **Personal** - Select this if the handset is intended to be used by one user only. Shared Phone will be disabled for this handset.
- **Shared - Personal extension** - Select this if the handset is intended to be shared between several users. Each user can log on to the handset to obtain their personal extension number. Shared Phone will be enabled for this handset.

  When registering a handset for the first time in the WinPDM, the Number (User ID) is equal to the handset extension number. If another user logs on the same handset, the Number is unchanged. It is recommended to rename Number to, for example, Shared X (where X is a number) to prevent number conflict if assigning several shared phone handsets the same extension when subscribing towards the IP-DECT system. Renaming the handset in WinPDM also makes it easier to find and manage the handset in WinPDM.
- **Shared - Device extension** - Select this if the handset is intended to be shared between several users. The dial number is associated with a particular device.
  The user logs in to a shared phone and can be called by the extension number configured for the device. Shared Phone will be enabled for this handset.

  The administrator performs the number login on IP-DECT system for the first time. The number login status in IP-DECT remains the same whether the user logs in or out. Users are created in Unite Platform Server. For more information, refer to Configuration Manual, Unite Platform Server, TD 93280EN. After the setup is done by the administrator, the user can log in to enable the handset functionality. In Shared - device ext. mode the user authentication is done through Unite system.

For more information about how to log on a handset, refer to the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

A handset can be logged off when it is placed in a charger, see 5.16.1 In Charger Action when not in Call, page 26.

5.47.1 Shared Phone Takeover

A user is prompted to enter a User code when logging on to a system.

If a device is configured to operate as shared phone with *personal extension*:

The user code is the handset extension number. An additional level of authorization may be enforced by an Authorization Code, which is a parameter that may be set when a handset is first registered with an IP-DECT master. If the parameter is set, the handset user must enter the authorization code as a Password in addition to the User code when logging on to the system. The authorization code is uniquely associated with the handset extension number.

A user who has a shared phone configured with an authorization code and who is logged on to the system can have his or her handset taken over by a second user, even if the first user has not logged off from the system. The user initiating the takeover must, however, know the first user's extension and the authorization code for the takeover to be possible. The second user logs on from his or her handset using the first users extension number and authorization code. If the login is successful, the profile, name, system ID and extension number of the first user is displayed on the second users handset. The first user may receive an audible warning if such a takeover occurs, but this depends on the configuration of the handset.

Authorization codes should be carefully guarded to prevent careless and unauthorized takeovers that can render the shared phone unusable for a user who has had his or her handset taken over.

If a device is configured to operate as shared phone with *device extension*:

The user code is a personal user ID which a system administrator defines in the Unite PS. The user password is also defined in the Unite PS system, is uniquely associated with the user ID, and is always required to be entered when user performs log in.

A user who has a shared phone configured with device extension and who is logged on to the system can have his or her account taken over by a second user, even if the first user has not logged off from the system. The user initiating the takeover needs to know the credentials of the first user for the takeover to be possible. The user initiating the takeover will also receive a dialogue window indicating that another user will be forcefully logged out, with a possibility to confirm or decline the takeover. The first user will be notified with a dialogue window that the account has been taken by another user, and may also receive an audible warning if such a takeover occurs, but this depends on the configuration of the handset.

5.48 Push-to-Talk (PTT) Group Call

Messaging groups must be defined in the Device Manager.

To be able to call a PTT group, its properties must also be set accordingly:

1. Select **Push to Talk**.
2. Select **PTT X** (where X represents the groups 1 to 10).
3. The following parameters can be set:
   - **Group number** - The Messaging group number that is defined in Device Manager.
   - **Display text** - This text appears in the display when the PTT group call is connected.
   - **Indication** - Depending on the handsets in a PTT group, they may receive the PTT invitation as a message.
   - **Conference number** - The phone number to the conference bridge (PTT server) that is provided by the system administrator.
   - **Answer mode** - Determines if the PTT call shall be automatically or manually answered.
   - **Speaker mode** - Determines if the PTT call shall be answered in loudspeaker mode.
   - **Prefix** - Feature access code to be added prior to the conference number.
   - **Suffix** - Feature access code to be added after the conference number.

5.49 Handset Locks

The WinPDM/Device Manager can be used to configure the following handset locks:

- Automatic keypad lock
- Phone lock

Configuring the Keypad Lock

Handsets can be configured in the WinPDM/Device Manager with a keypad lock to minimize the risk of accidentally pressing keys or buttons while the handset is not in use. The key lock is applied after the handset has been out of use for a specified time defined by the **Automatic lock time** parameter.

The locking and unlocking characteristics of the keypad can be defined by configuring following parameters in the WinPDM/Device Manager and navigating to **Settings → Locks**:

- Automatic key lock. One of the following options may be configured:
  - **On**: the keypad is automatically locked if it is not used before the specified lock time elapses.
  - **On, except calls**: the keypad is automatically locked if it is not used for the specified lock time. If the user is on a call when the lock time elapses, the keypad remains unlocked until the user has completed the call.
  - **Off**: the keypad is never automatically locked.
- Automatic lock time: specifies the time that elapses before the keypad is automatically locked. The shortest time that may be specified before the key lock is applied is 5 seconds and the longest time is 3 minutes.
- Automatic key unlock: the keypad is automatically unlocked when a call or message is received. When the user has serviced the call or message, the key lock is reapplied after the specified automatic lock time expires.

Configuring the Phone Lock

The handset can be protected for unauthorized use by activating the phone lock. If this function is activated a PIN code has to be entered at power on, or when the handset is removed from the charger.

The locking and unlocking characteristics of the handset can be defined by configuring following parameters in the WinPDM/Device Manager and navigating to **Settings → Locks**:

- Automatic phone lock: The parameter may be set accordingly:
  - **On**: the handset is automatically locked if not used for the specified automatic lock time.
  - **On in charger**: the handset locks immediately when placed in the charger. When removed from the charger and unlocked by the PIN, the handset remains unlocked.
  - **Off**: The handset is never locked.
- Automatic lock time: specifies the time that elapses before the handset is automatically locked. The shortest time that may be specified before the phone lock is applied is 5 seconds and the longest time is 3 minutes.

6 Administration

6.1 Admin Menu Tree

The handset has a hidden menu for system administrators. The Admin menu contains:

- Software and hardware information, IPEI/IPDI, and User ID
- DECT link and system information
- Location information
- Centralized Management status
- Site survey tool
- Fault logging
- Enhanced system menu with ability to alter protection
- Factory reset option

The Admin menu disappears if the handset is restarted.

6.1.1 Activating the Admin Menu

To activate the Admin Menu:

1. From the handset menu, select **Calls**.
2. Select **Call time** from the *Calls* menu.
3. While the *Call time* screen is displayed, press the following sequence from the navigation and * keys: **>** ***** **<** **<** ***** **<**
   The Admin menu is displayed.

Other menus are described in the *User Manual, Ascom d83 DECT Handset, TD 93434EN*.

6.2 Quick Access to the Handset Device Information

For quick access to device information, short codes can be used in idle mode. To display this information, enter the following codes in the handset.

Information	**Code**
Software version	*#34#
Hardware version	*#34#
IPEI	*#34# or *#06#
IPDI	*#34# or *#06#
User ID	*#34#

7 Troubleshooting

This section contains information about how to solve common operational problems and information about warnings you may receive.

Go through the following lists to troubleshoot problems. If this checklist does not solve the problem, contact the system administrator.

If other users have similar problems, there may be a system error.

7.1 Fault Symptoms

If any of the following Fault Symptoms occur, follow the instructions below:

Fault	**Probable cause**	**Action or comment**
The display stays dark	Low battery level or faulty handset.	Charge the battery. If the handset does not work after charging, contact the system administrator.
There is no ring signal	The handset is muted, or ringer volume is set to silent, or faulty handset.	Press and hold the Mute key, or increase volume **Settings → Sound & Alerts → Volume** or contact the system administrator.
Handset cannot be muted by long pressing **Sound off key/ Mute button**. Ring volume cannot be set to **Silent**. Handset, with **In Charger → Other actions → Sound off enabled**, is not muted when placed in charger.	A handset restriction preventing the user to silence the handset.	Disable the parameter **Disable permanent mute**.
Handset cannot be switched off by long pressing the **On-hook** key. Handset, with **In Charger → Other actions → Sound off enabled**, is not switched off when placed in charger.	A handset restriction preventing the user to switch off the handset.	Disable the parameter **Prevent switch off**.

7.2 Display Information

The following error messages can be shown in the handset display:

Fault	Probable cause	Action or comment
No access	The handset is in range, but has no access rights.	Switch off the handset and then switch it on again. If this does not work, contact the system administrator.
No System The handset beeps once every 3.5 seconds with a low tone followed by a high tone (during max 30 minutes). If the vibrator is enabled, it vibrates after the last beep.	The handset is out of coverage, or faulty handset.	The beeps can be stopped with the mute button. Then go into range. **NOTE**: When re-entering the coverage area it can take a couple of minutes before the handset has automatically registered with the system. If this does not work, contact the system administrator.
SERVICE NEEDED Parameters corrupt **NOTE**: This display message is only shown in English.	Faulty handset.	Select the reset option on the middle soft key and upgrade the handset software. If this is not available or the problem persists send the handset for service.
SERVICE NEEDED Invalid IPDI **NOTE**: This display message is only shown in English.	Easy replacement procedure not followed correctly or failure during easy replacement procedure.	Send the handset for service.
Enter PIN code	Phone lock is activated.	Enter the required PIN code. If the PIN code has been lost, enter a new PIN code via the WinPDM/ Device Manager or do a factory reset via the WinPDM/Device Manager.
Battery low, charge now	The battery level is low.	Charge the handset, or replace battery.
Phonebook is not available at the moment	The phonebook is not activated or does not respond.	Try again later or if the fault persists do a factory reset via the admin menu or via the WinPDM/ Device Manager. Note that it may take several minutes for the phonebook to be available if there are many entries in Contacts and/or company phonebook.

Voicemail number not defined	There is no Voicemail number defined in the handset.	Define a Voicemail number via the WinPDM/Device Manager.
Could not encrypt connection	The parameter **Encryption Required** is enabled in the handset in combination with: 1) Unencrypted base station(s); and/or, 2) Unsupported base station(s).	1) Disable the **Encryption Required** parameter in handset; and/or, 2) Enable the encryption in the base station(s); and/or, 3) Use supported base station(s). Ask your supplier.
Not allowed	1) The user cannot logout from the handset due to incorrect password (AC code).	1) Enter #11*<AC code># on the keypad and press the off-hook key to logout from the shared phone.
	2) The extension (User) does not exists.	2) Make sure that you entered correct extension. If needed, contact the system administrator.
	3) The password is not correct.	3) Make sure that you have entered correct password. Ask the system administrator if you have forgot the password.

7.3 Error Messages in WinPDM

The following error messages can be shown in the WinPDM. Refer to the *Installation and Operation Manual, Portable Device Manager (WinPDM), Windows Version, TD 92325EN*.

Error message	**Probable cause**	**Action or comment**
Aborted	The handset hardware does not support the software version you are trying to downgrade to.	Use another software version. Ask you supplier.

8 Related Documents

Data Sheet, Ascom d83 DECT Handset, TD 93418EN, TD 93419EN, TD 93420EN

User Manual, Ascom d83 DECT Handset, TD 93434EN

Quick Reference Guide, Ascom d83 DECT Handset, TD 93447EN

Installation and Operation Manual, Portable Device Manager (WinPDM), Windows Version, TD 92325EN

Function Description, Ascom BLE Location System, TD 93492EN

Function Description, Ascom IR Location System, TD 92179EN

Function Description, LF Location System, TD 92180GB

9 Document History

Version	Date	Description
C	28 January 2022	Added information about “Two microphones noise cancelling” parameter in 5.39 Audio Adjustment, page 53. Updated information about BLE parameters and Beacon scan in 5.20 BLE Location, page 28.
B	01 December 2021	Added information related to d83 Protector Lite. Added information about “Display calling party number together with name” parameter in 5.35.2 Display Management Parameters, page 51.
A	11 October 2021	First released version.

Appendix A Configure Custom Sounds

Before configuring custom sounds, it is recommended to have a basic knowledge on notes.

For the details, refer to the table below:

Table 7 Elements, Melody strings, and parameters for melodies

Element		Sub-element	Values
Note	>	Octave-prefix	*0 (A=55 Hz) *1 (A=110 Hz) *2 *3 *4 (default) *5 *6 *7 *8 (A=14080 Hz) **NOTE:** If no octave prefix is added, the prefix *4 will be used.
		Basic notes	c d e f g a b
		Ess notes (flat notes)	&d &e &g &a &b
		Iss notes (sharp notes)	#c #d #f #g #a

Table 8 Elements, Melody strings, and parameters for melodies

Element		Sub-element	Values
Note	>	Iss notes (sharp notes)	#c #d #f #g #a
		Duration	0 (Full-note) 1 (1/2-note) 2 (1/4-note) 3 (1/8-note) 4 (1/16-note) 5 (1/32-note)
Silence	>	Rest	r
		Duration	1 to 5 (1 = long pause, 5= short pause)
		Duration specifier	. (Dotted note) : (Double dotted note) ; (2/3 length)
Vibration	>	N/A	Vibeon Vibeoff
Repeat	>	N/A	@0 (repeat forever) @<number of repetitions>, for example: "@2" repeats the melody string 2 times.

Figure 12. *Example of a Melody string*, page 71 and Table 9 Explanation of the Melody string example, page 71 illustrate how to program a melody.

Figure 12. Example of a Melody string

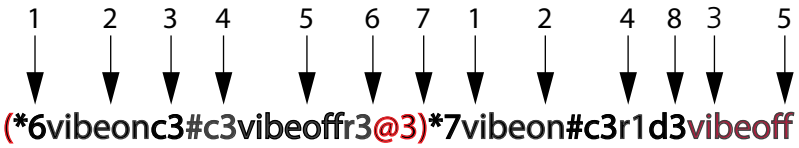


Table 9 Explanation of the Melody string example

1	Octave-prefix
2	Vibration is turned on. The handset vibrates continuously.
3	Basic note with 1/8 duration
4	Iss note with 1/8 duration
5	Vibration is turned off

Table 9 Explanation of the Melody string example (continued)

6	Short pause
7	The melody within brackets is repeated 3 times before the handset plays the rest of the melody.
8	Long pause

A.1 Customize the Default Handset Beeps

If it is required to create a custom sound out of any of the default handset beeps (and Enhanced beeps 1–7), the default definition of each beep can be used as a starting point for further customizing the sound.

The default definitions are described below.

Appendix B Handset Message Handling Capacity

The handset has a received message capacity for the different types of messages described in the following table. The indicated capacities are based on typical message type lengths. If handsets regularly receive longer messages, the resulting indicated capacities must be reduced. However, if the regular message volume consists of shorter messages, the capacities will probably be greater than those indicated.

Message Type	**Messages received per minute**	**Additional information**
Basic SMS	50	SMS based on an average message content of 50 bytes and a header of 21 bytes.
Mobile Monitoring Gateway (MMG): Interactive Messaging (IM) with Waveform images	22	Based on an average IM and Waveform URL length totalling about 450 bytes.
MMG: IM without Waveform images	22	Based on an IM length of about 400 bytes.

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