

# **X5 User Reference Manual**

**102-1050M**

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# Introduction

## 1.1 Scope

The new X5 pager from Infostream is especially designed with Emergency Services workers in mind.

The X5 pager has a simple, six button control panel, which enables users to organise their messages and configure the pager with ease. The screens have been designed in conjunction with Emergency Service Organisations so that they are easy to read and use in critical situations. The pager alerting options are such that the pager can provide a different alert for each type of message.

An expanded memory allows retention of a large number of messages on the pager itself, so users are able to refer to an extended history of messages.

## 1.2 Audience

This manual is intended as a detailed user reference guide for the X5 pager. It is aimed at supervisors or group leaders. It can, however, be used by the general end-user of the pager in conjunction with the X5 Getting Started Guide.

## 1.3 Important Information

The X5-I device complies with the regulation of the R&TTE European Directive (99/05/EU).

For explosive prevention reasons, no anti-scratch plastic film may be placed on the display.

**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The X5-I has been certified to Ex II 2 G Ex ib IIC T4. (QAN Certificate number: ITS08ATEXQ5900)



**II 2 G Ex ib IIC T4**

**Note:** *The battery in this pager CANNOT be replaced by the user.  
Do not open the device.  
Do not use the product if it is faulty.  
Do not charge in a hazardous area.  
Only use Infostream-issued power plug and cables to charge the pager.*

## 1.4 Maintenance

This product must be returned to Infostream or your distributor for any servicing.

Infostream Address:
Infostream Pty Ltd 7 Narabang Way Belrose, Sydney NSW 2085 Australia

Distributor Details:

**Note:** Do not open device or remove labels!

## 1.5 Deliverables - What's in the Box?

The pager is delivered with a charging unit, a USB cable for the charging unit, an AC-Adaptor with an appropriate AC connector for the country of shipment, a holster, the X5 Getting Started Guide and the X5 pager. The programming software can be accessed through the following link:

<http://login.infostream.com.au>

The on-board lithium-ion re-chargeable battery has a memory back-up shelf life span of approximately 125 days if the pager is turned off. After this period the pager may lose any stored messages unless the pager is re-charged.

It is therefore recommended that the pager not be stored for long periods of time without use.

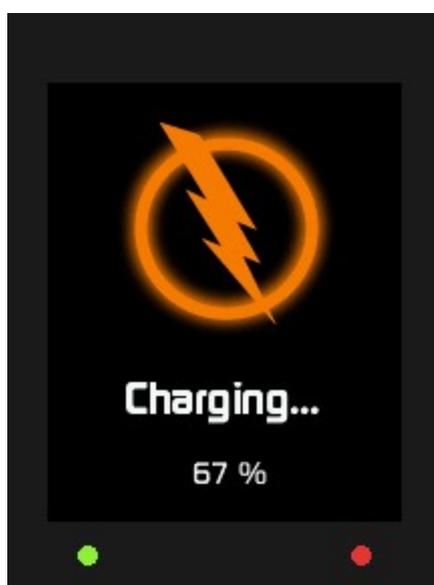


*Figure 1: X5 Deliverables*

## Charging the Pager

The pager requires recharging after several days of continuous operation. Ideally, place the pager on the charger during the periods when the pager is not in use. This will ensure the pager remains fully charged at all times. The pager's battery is of the Lithium-Ion type and has no noticeable memory effect. Over time, however, the capacity of the battery will gradually reduce as the battery ages.

When the pager is first placed on the powered charger it will display the charger screen showing the current battery capacity. If the pager was turned on before it was placed on the charger and a button is pressed, the screen will show the Home Page. If the pager was turned off before it was placed on the charger, it will display the charging screen when a button is pressed. If the pager is turned off while charging and the green button is held for more than 2 seconds, the pager will turn on.



*Figure 2: Charging screen*

If the pager is turned on, placed on the charger and no button activity or alert activity occurs, and after the screen time-out period, the X5 will display the charging screen for two minutes before turning its display off. If any button is pressed or a new message arrives while the pager's screen is turned off, the X5 will turn the screen on and display the charging screen. To activate the home page press any button while the charger screen is shown. After the screen time-out has expired the charging screen will again be displayed and the screen turned off after an additional two minutes.

When the pager is on the charger the red LED on the top left side of the pager flashes to indicate the charging state of the pager. The flashes indicate:

- once every second - the battery is recharging
- once every 2 seconds - the battery is fully charged
- twice per second - the battery is <2% capacity, the unit will operate until the battery has more charge

If the Wall Charger option has been ticked in the Screen Settings menu, the screen will be inverted and the navigation buttons reversed while the pager is on the wall charger. Note that the *Wall Charger* option is only available when the *Screen Orientation Feature* is enabled. The pager can still be operated in a normal way, just upside down. The screen will revert to the normal orientation when the pager is removed from the charger.



Figure 3: Wall charging

When charged via the AC-Adaptor the pager should fully re-charge (from a completely discharged state) in approximately 3 - 4 hours. When charging via the USB interface from an average computer it will take 4 - 6 hours for a full re-charge. If the battery is fully discharged it may take some minutes for the pager to start up after being placed on the charger.

**Note:** *If an alarm time or auto-on time has been set and the pager is turned off and placed on the charger, the pager will automatically turn on when the alarm time or auto-on time is due.*

## 1.6 Charger Clip

The charger can operate horizontally on a flat surface or vertically mounted on the wall. When the charger is wall mounted the lock switch in the centre of the charger should be set to locked. The pager will click into the charger and be locked, thus preventing it from falling out. The charger has been designed to be wall-mountable with the power cable connected to the bottom of the unit and with the cable hanging down. Affix the charger to the wall by sliding it down onto 2 screws (not supplied) 65mm apart.

If the charger is operated on a horizontal surface the lock switch should be set to unlocked so that the pager easily lifts off the unit.

## Buttons and Turning Pager On / Off

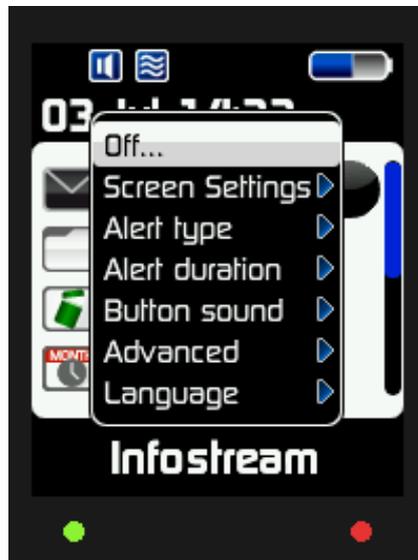
There are a total of six buttons on the X5 pager. The directional buttons are located at the bottom of the pager. The MENU / SELECT button is located to the left above the directional buttons and there is a raised green dot above the button. It is in future thus referred to as the “green button”. The CANCEL button is located to the right above the directional buttons and there is a raised red dot above the button. It shall be referred to as the “red button” henceforth.



Figure 4: The Buttons on the X5

### 1.7 MENU Button (Green)

The MENU button is used in any situation where more information is required on a selected object or an action is performed. For example, pressing the MENU button in the Inbox, Folder or Trash view shows a pop-up menu with specific menu items for the menu item that is currently selected. Pressing the MENU button whilst in the main menu view will make the System Menu pop-up appear.



*Figure 5: System Menu*

## 1.8 CANCEL Button (Red)

The CANCEL button will abort the current function and will close an open pop-up menu without selecting the currently highlighted option. It will take you back to the main menu view if pressed repeatedly.

## 1.9 DIRECTIONAL Buttons

The directional buttons UP, DOWN, LEFT or RIGHT will navigate the menus. The UP or DOWN button will move the menu selector bar to the requested option, the RIGHT button will select the menu while the LEFT button will exit the selected menu or sub-menu.

When a directional button is held down in one direction for more than one second, the button auto-repeats at a rate of approximately one press every  $\frac{1}{4}$  second to enable quick scrolling through lists and options.

All subsequent references to the use of the directional buttons are referred to as the UP, DOWN, LEFT or RIGHT buttons.

## 1.10 Turning the Pager On

The green MENU button is used to turn the pager on. Hold down the green MENU button for 3 seconds to turn the pager on.

### 1.10.1 Pin lock security (optional)

The X5 pager has a 4 digit Personal Identification Number (PIN) lock security option. If this option is enabled, a 4 digit code must first be entered before the pager turns on and can be used. This prevents unauthorised persons from accessing messages on the X5 pager.

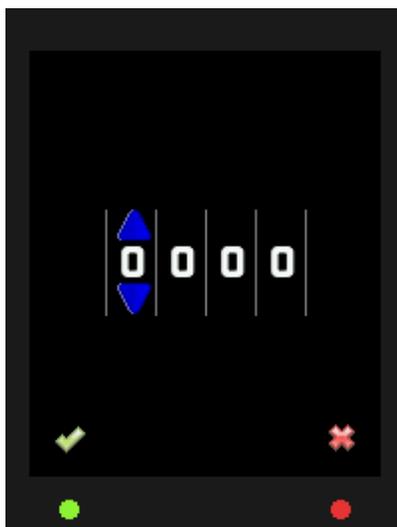


Figure 6: PIN lock login

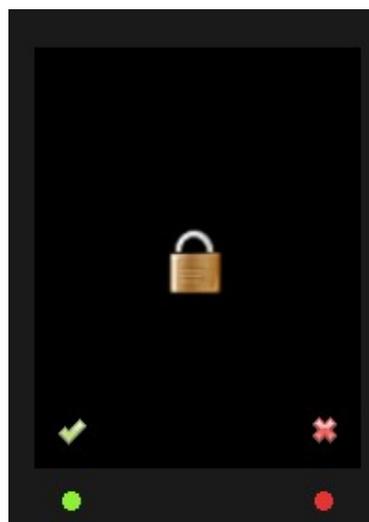


Figure 7: Pager permanently locked.

To enter the 4 digit PIN use the directional keys to select the digit in between the blue arrow cursor and scroll through the digits 0...9 using the up or down keys. Use the left and right keys to select the digit to change. Once the correct PIN is “dialed in”, press the MENU button to accept the PIN. If the PIN was entered correctly, the pager turns on. If the PIN was entered incorrectly, the pager will turn off and the PIN-Lock error count will be incremented. If a PIN has been entered incorrectly for 10 times, the pager will permanently lock and can only be unlocked by reprogramming the pager using the programming software. Press the MENU button to put the pager into reprogramming mode. A successful login will reset the PIN lock counter.

The PIN login process is omitted, if a PIN has not been set during programming the pager with the programming software. A PIN value of 0 will bypass the login process.

**Note:** Pressing the CANCEL button during the login process will turn the pager off without incrementing the login error counter.

**Note:** If an alarm time or auto-on time has been set and the pager is configured with a PIN, the login process is bypassed when the pager automatically turns on at the set time.

### 1.10.2 Starting the X5 pager application

You will see the display light up with a “Starting...” message. The pager will then sound the turn-on alert and the home screen will be displayed.



Figure 8: Home Page View

### 1.11 Turning the Pager Off

While in the main menu view press the green MENU button to pop-up the system menu. Select the Off... menu function by moving the selection bar with the UP or DOWN button until the word “Off...” is highlighted and then press the RIGHT button. You have the option to either turn the pager off or place the pager into “Flight mode”. Select “Turn off” and press the RIGHT button. The “Turn off”

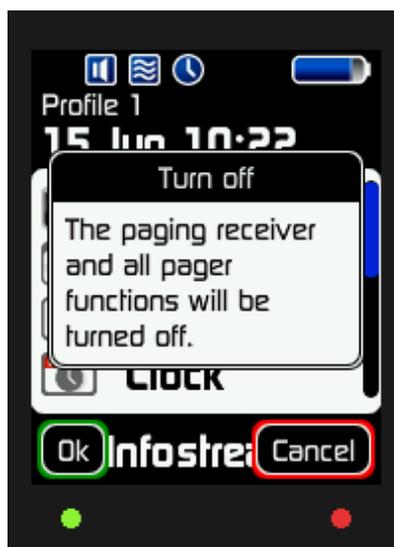


Figure 9: Turn-Off Dialogue

warning dialogue will pop up. Pressing the green MENU button will confirm the dialogue and the pager will be turned off.

**Note:** When the pager is turned off the pager will no longer receive any messages!  
Placing the pager on the powered charging unit will display the charging screen but the pager will remain turned off.

**Note:** The pager cannot be turned off whilst the Key Lock is on. If the pager is set to Holster Key Lock Enabled, then the pager cannot be turned off whilst in the holster.  
For more information on Key Lock see 6.6 Holster Lock.

### 1.11.1 Activating Flight mode

The X5 pager has a special mode where the receiver circuitry is completely turned off but all other functionality remains on. This is useful when using the pager on a plane to read or organise stored messages or use the pager's clock or alarm functionality or simply to play one of the games available on the pager if made accessible. The battery live of the pager is also extended in Flight mode, however, the pager will not receive any messages while set to Flight mode. So make sure to deactivate Flight mode when disembarking the plane.

From the main page press the MENU button to pop-up the system menu. Select the Off... menu function by moving the selection bar with the UP or DOWN button until the word "Off..." is highlighted and then press the RIGHT button. Select Flight mode and press the RIGHT button.

A little plane icon will be shown instead of the aerial icon to indicate that the pager is now in flight mode. The pager will remain in flight mode until it is taken out of flight mode by pressing the MENU button, selecting Off... and then Cancel flight mode.



Figure 10: Flight mode

**Warning:** The pager will not receive any messages while in Flight mode!

## Understanding the Home Screen

When the pager is turned on, the first screen that appears is the “Home” screen.



Figure 11: Home Page in Detail

### 1.12 Elements of the Home Screen

The Home Screen is divided into three sections, the status icon display and battery level indicator, the date and time display and the main menu with scrollbar and selector.

#### 1.12.1 Status Icons and Battery Level Indicator

The status icons show the current state of the receiver status, alerting setup, alarm clock or charger status. The battery level shows the remaining capacity of the re-chargeable battery.

-  POCSAG/FLEX-Signal present indicator
-  Sound Alert enabled
-  Vibrating Alert enabled
-  Alarm clock enabled
-  Pager is placed on charger
-  Flight mode active (pager receiver permanently switched off)

A battery icon with 6 discrete levels, ranging from almost empty to full, indicates the battery level. The pager alerts you when the battery drops to a level (<15%) where message reception is compromised, and prompts you to re-charge the battery. For optimum message reliability, re-charge the battery as soon as the low battery alert is received.

### **1.12.2 Date and Time Display**

The date and time display shows the current date and time of the real-time clock of the pager. Its format can be changed to display the time in 12-hour or 24-hour format in the Clock menu.

### **1.12.3 Home Page Navigation List**

The home page navigation list consists of the following options:

Inbox (special message folder), Folders, Trash (special message folder), the Clock menu and the About menu.

A list item is selected by using the UP and DOWN buttons of the pager. The selected item is activated by pressing the RIGHT button.

## **1.13 Inbox Page**

Entering the Inbox view by selecting the Inbox item and pressing the RIGHT button will enter the message view of the Inbox folder. The Inbox folder is a special folder and all messages that have not been assigned a specific folder by their capcode will appear here by default. The received messages in the Inbox are shown with the latest message at the top of the screen. Using the DOWN button the message can be paged down or if the message was displayed entirely on the screen the DOWN button will jump to the next message. The currently selected message is shown in black on a white background while other messages are shown light grey. The UP button will scroll the message view to the next newer message.

Pressing the green MENU button will open the Inbox pop-up menu.

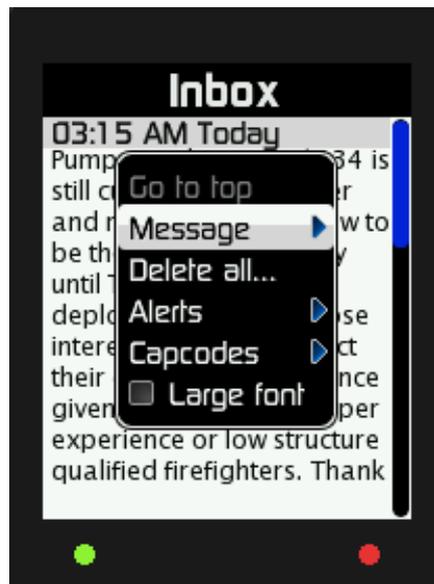


Figure 12: Inbox Pop-up Menu

- The Inbox pop-up menu provides functionality to organise the messages in the Inbox folder. *Go to top* will scroll to the very top of the display and display the most recently received message of the Inbox folder.
- Message menu will open a sub-menu to organise the currently highlighted message.

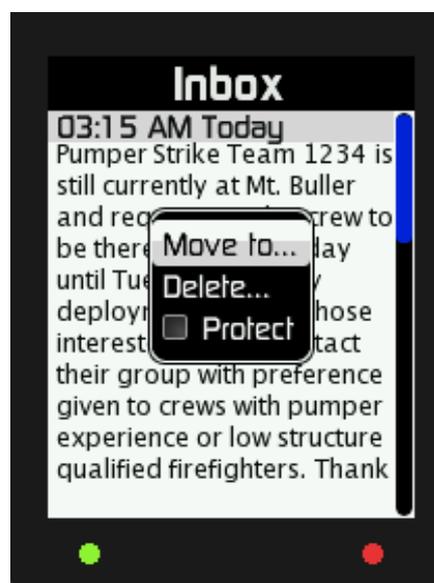


Figure 13: Message Sub-menu

- *Move to* will move the currently selected message to a different folder
- *Delete* will move the currently selected message to the Trash folder
- *Protect*. This option will protect the current message from accidental deletion. A protected message cannot be deleted or moved to another folder. A tick in the Protect box will show that the current message is protected. Furthermore a protected message shows the word SAFE in the right corner of the message heading.

- Delete all... will move all messages except the protected messages to the Trash folder.
- Alerts menu will open the Alert sub-menu for the Inbox folder.

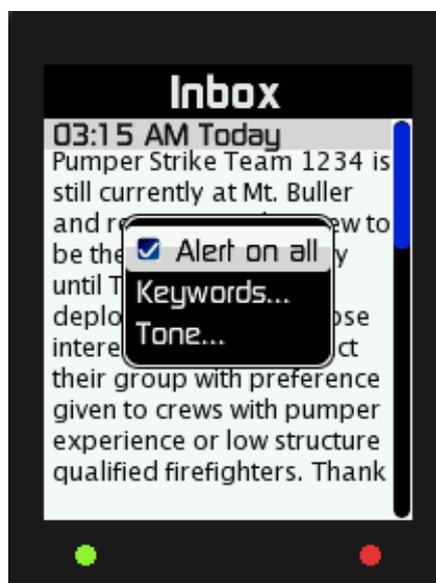


Figure 14: Alerts Menu

- *Alert on all*. If this option is ticked the pager will generate an alert on every received message that is destined for the Inbox folder.
- *Keywords...* menu. With this menu a list of keywords can be created and the pager will only alert if a message is received that contains one of the keywords in the Keywords list.

**Note:** The *Alert on all* option must be disabled (unticked) for this.

For details on how to enter keywords with the X5 On-Screen keyboard see 1.13.1 *Using the X5 On-Screen Keyboard*

- *Tone...* menu. The *Tone...* menu selects the alert tune that is played when a message for the Inbox folder is received. To select a tune, highlight the requested tune using the UP and DOWN buttons, then press the RIGHT button to select the tune. Pressing the LEFT or red CANCEL button will abandon selection of the alert tune and will leave the currently selected alert tune unchanged.

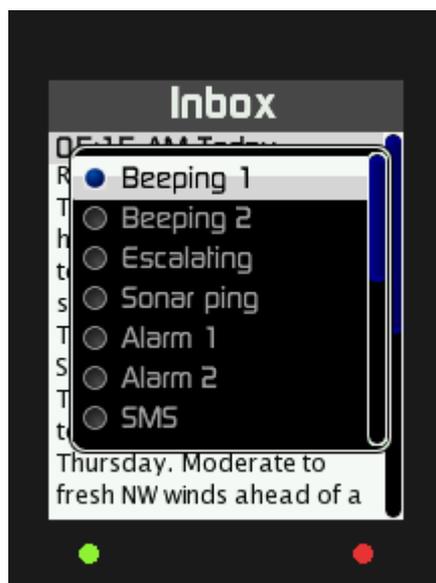


Figure 15: Alert Tune Selection

- The *Capcodes* menu allows the user to enable or disable a capcode, provided it has not been programmed as locked. If a capcode can be enabled or disabled it is shown with a small selector box in front of the capcode. To toggle the state of the capcode, select the capcode with the UP or DOWN button and then press the RIGHT button to change its state. A disabled (unticked) capcode will not receive any messages! Only unlocked capcodes can be modified via OTA capcode programming. A locked capcode can not be disabled or deleted via OTA capcode programming or by the user.
- *Large font* will select a larger (15-point) font for the message display than the standard (12-point) font.

**Note:** This setting affects message text font size in all folders.

### 1.13.1 Using the X5 On-Screen Keyboard

The X5 incorporate a powerful On-Screen Keyboard to enter text into the pager. This keyboard is used to edit folder names, keywords, etc. The top line of the display shows the created word with a red cursor. Using the UP, DOWN, LEFT and RIGHT buttons select the character to be entered, then press the green MENU/SELECT button to enter the desired character. The *Shift* key  will toggle between upper and lower case characters. The keyboard will automatically revert back to lower case characters once an upper case character has been entered, unless the keyboard has been locked in the current shift state with the *Lock* button.

Select the *Alt* button to access special keys. The keyboard will change to display punctuation and special characters, for example with umlauts. The set of characters will depend on the language version of the pager software).

Once the word had been completely entered, select the  *Enter* key and confirm with the green MENU/SELECT button.

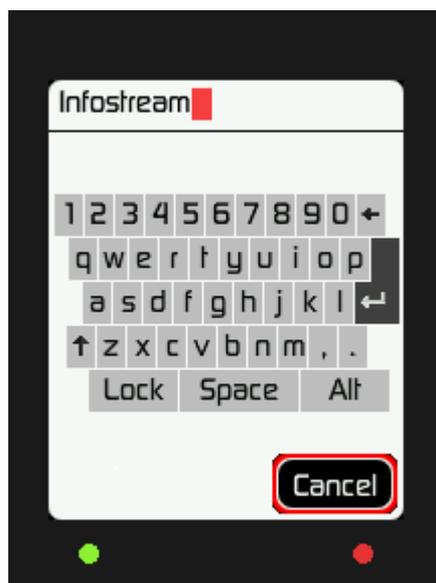


Figure 16: On-Screen Keyboard

## 1.14 Folders Page

Messages can be organised into specific folders on the X5. Each folder can have its distinct alert tune and alert settings to distinguish between received messages. The X5 allows capcodes to be assigned to specific folders. Messages sent to this capcode will be automatically moved to the specified folder and alert with the folder specific alert tune or alert settings (Keywords, Alert on all, etc). Messages can also manually be moved between folders by the user, even though the message was originally received on a different capcode.

The folders menu is structured into a tree-like hierarchy. First the desired folder must be selected from the list of folders if the Flat folders feature is not enabled.

Folders can also be placed into the home page by enabling the Flat Folders feature in the feature settings when programming a pager. A folder appears then in the same way the Inbox or Trash folder do in the home page and can be selected accordingly.



Figure 17: Folder Selection Menu

The folder selection menu shows the amount of messages contained in each folder in brackets after the folder name. The selected folder is entered by pushing the RIGHT button. The folder message menu is activated by pressing the green MENU button while in the folder message view.

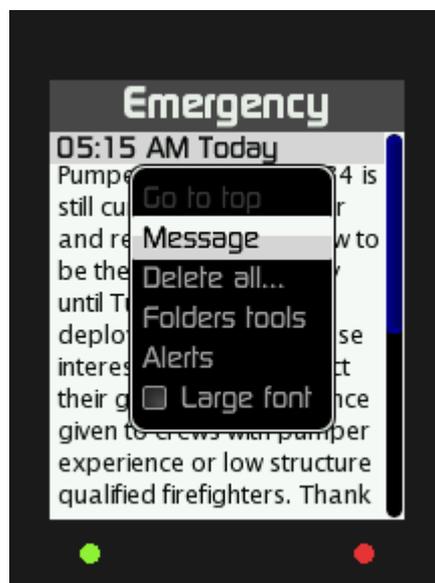


Figure 18: Folder Message Menu

The folder message menu has the same options and functionality as the Inbox message menu except for an additional Folder tools menu option (see 1.13 Inbox Page for details).

### 1.14.1 Folder Tools Menu

The folder tools menu allows you to create new folders, rename an existing folder or delete an existing folder. The folder list can be alphabetically sorted by enabling the Sort A...Z option. If this is not enabled the folders appear in the order they were created.

To create a new folder, select the *New...* option from the *Folder tools* menu and enter the new folder name using the X5 On-Screen Keyboard (see 1.13.1 Using the X5 On-Screen Keyboard for details). If the name editing is cancelled with the red CANCEL button, a new folder named *Untitled* will be created. It is possible to create multiple folders with identical names.

Renaming a folder works similar to creating a new folder, the currently selected folder name will appear in the X5 On-Screen Keyboard control and can be edited.

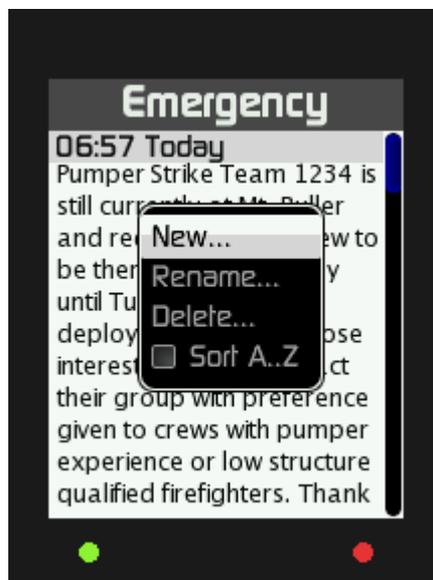


Figure 19: Folder Tools

Folders can be pre-programmed on the pager. These folders are locked and cannot be deleted or renamed.

## 1.15 Trash View

The Trash view contains all previously deleted messages. Accidentally deleted messages can be recovered to the Inbox folder or, if desired, the deleted messages can be purged from the Trash view to be irreversible lost.

The X5 can accommodate up to 128 messages at up to 512 characters in length. If the message buffer is full, the oldest message in the Trash view will be deleted to make space for new messages. If there are no more messages to delete in the Trash view, the oldest unprotected message in any of the folders will then be deleted to make space for newly arriving messages.

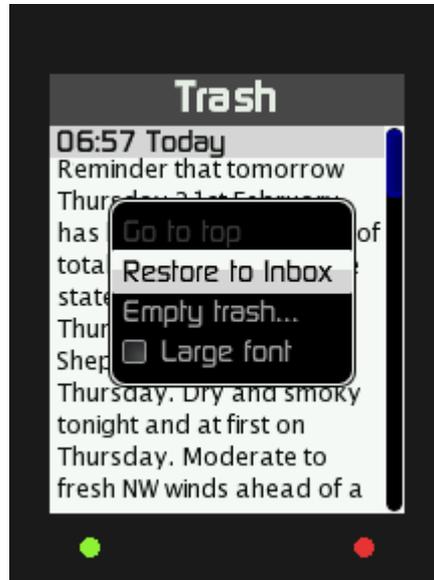


Figure 20: Trash pop-up menu

## 1.16 Clock Page

The Clock page shows the current time in either 24h or 12h format and a calendar of the current month in which the current day is highlighted.



Figure 21: Clock page

The Clock page pop-up menu allows you to set the pagers date and time . Also, to set an alarm time to use the pager as an alarm clock and set an automatic turn-on/turn-off time when the pager is turned on or off automatically every day. The time display format of either 24h-display or 12h AM/PM display can also be selected from here.

### 1.16.1 Setting Alarm Time



Figure 22: Setting Alarm Time Dialogue

From the Clock page press the green MENU button to show the clock pop-up menu, select the *Set alarm...* function and press the RIGHT button. From the *Set Alarm* menu select *Alarm time...* and press the RIGHT button. Using the RIGHT or LEFT button scroll between the hour, minutes and On or Off items. Change the selected item with the UP or DOWN buttons. Once the alarm time is set, make sure the alarm clock is turned on by setting the On/Off item to On. Press the green MENU button to accept the settings or the red CANCEL button to discard the settings. If the alarm time is set to a value less than the current time, the alarm will occur the next day. The alarm will repeat every day until the Alarm is reset. The alarm will sound even if the pager is turned off.

Choosing *Tone...* from the Set Alarm menu allows to select assign a specific alert tune to the alarm clock.

**Note:** The pager will automatically turn itself on at the specified time if an alarm time has been set and the pager is turned off.

### 1.16.2 Setting Date & Time

From the Clock page press the green MENU button to show the clock pop-up menu, select the *Set clock...* function and press the RIGHT button. Using the RIGHT or LEFT button scroll between the hour, minutes, weekday, day, month and year items and change the selected item with the UP or DOWN buttons. Once the selections are made press the green MENU button to accept the settings or the red CANCEL button to discard the settings. The clock time will start counting from the set time at 00 seconds once the green MENU button is pressed.

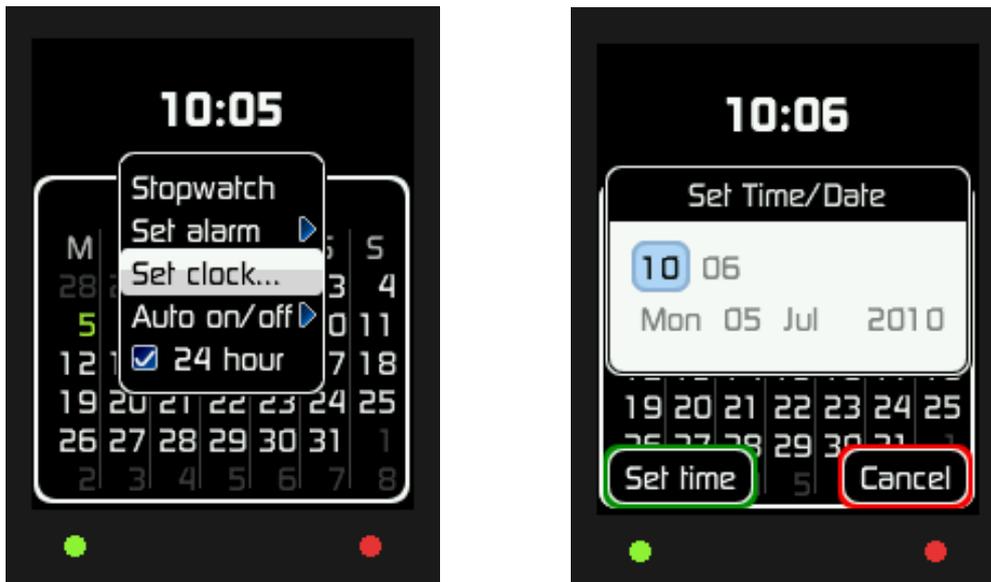


Figure 23: Setting the Clock

### 1.16.3 Turning the Pager On or Off at a Specified Time

The pager can be automatically turned on or off at a specific time to be operational only during certain hours of the day, this is useful for shift workers. From the Clock page press the green MENU button to show the clock pop-up menu, select the *Auto on/off* function, select *Auto on* and proceed similarly to setting an alarm for both off and on times. If the Auto-Off time is chosen to be prior to the current time, the pager will turn off at the Auto-Off time the following day. If the Auto-On time is chosen within the same minute of the current time and the pager is then manually turned off the pager will turn on the following day at the set Auto-On time.

### 1.16.4 Stopwatch tool

The pager contains a handy stop watch with up to 8 lap times and a time measurement resolution of 200ms. To activate the stopwatch function, enter the Clock page and press the MENU button to show the clock pop-up menu. Select the *Stopwatch* function. Press the CANCEL button to start or stop the stopwatch. To get a lap time while the stopwatch is running, press the UP button. Up to 8 lap times can be taken and are shown with the fastest time first. Press the MENU button and select from the pop-up menu to reset either lap times only, or lap times and the current stop watch counter.

**Note:** The stop watch will continue to run if the stop watch page is left by pressing the LEFT button, until the stop watch is manually stopped. This is useful to deal with incoming messages or exit and re-enter the stop watch page without interfering with the measured time.

## 1.17 About Page

The About menu shows a customisable graphic.



Figure 24: About Page

The About page incorporates a special menu for more technical oriented status displays or tasks of the X5. These include Database management, General Status, Battery Status, Battery chart, Watchdog history and Hardware tests. The *Advanced* menu can optionally be moved from the main menu of the home page to the About menu.

**Note:** Some of the About menu options may be disabled and thus not be visible in the menu.



Figure 25: About Page Menu

The *Databases...* menu option allows to specifically initialise the X5 databases, these include Messages, Watchdog, etc.

**WARNING:** After a database is initialised, all its data content will be irreversibly lost!

**Note:** The Databases... menu option may be disabled and thus not be visible in the menu.

- The *General Status* page shows general information about the pager. This includes the pagers electronic serial number, the protocol, baud rate and frequency used by the receiver, the receive band (VHF or UHF) and the repeat message time-out (see 1.32 Repeat Messages for details). If repeat messages have been disabled (set to 0) the status will not appear. The holster status and the firmware version number complete the General Status page.

**Note:** The *General Status* page may be restricted to show only the ESN and Firmware version, depending on pager configuration.

- The *Battery Status* page shows the current remaining capacity of the battery, its voltage, the remaining capacity of the battery and the percentage the battery was at as well as how many hours and minutes ago the pager was taken off the charger and finally the current battery temperature.

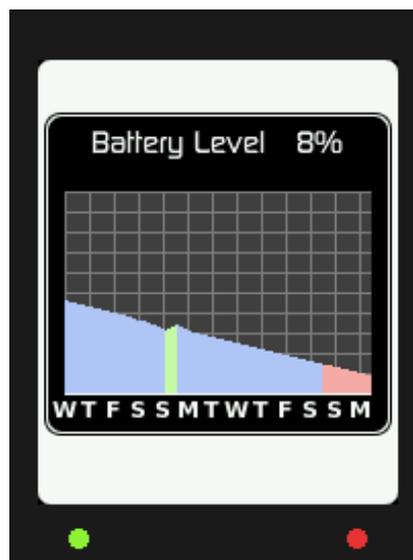


Figure 26: Battery Chart

- The *Battery Chart...* page will show the battery level over the last 12.5 days. The chart curve will be displayed green to indicate when the battery was being charged. The chart curve will be red when the battery level was below 15%, otherwise it will be displayed in blue.
- The *Watchdog activity...* page will show a log of when the pager was restarted. This could be due to completely discharged battery or the user turning the pager off and on, or the pager being programmed. The *Hardware tests...* menu will activate several hardware test functions to test individual hardware components of the pager.

**Note:** The *Watchdog activity...* and *Hardware tests...* menu options are usually disabled and are used only by Service personnel. They are thus not visible in the menu.

## 1.18 User Profiles

The X5 pager supports up to 16 individual user profiles. User profiles contain information about alert settings, display settings, certain network specific parameters and a list of capcodes that are active when the profile is selected. If the X5 is fitted with a synthesised receiver, it is possible to use the pager as multi-channel/multi-protocol receiver by specifying different network frequencies or baud rates in each profile. Please refer to the X3 and X5 Programming user guide (Document number: 148-1001) for further information.

The profile can be switched by the user manually from the system menu depending on the configuration of the pager firmware. Profiles are always switch-able by a specific OTA message (see Chapter 1.33 OTA/OAP (Over-The-Air/Over-Air-Programming) Messages).



Figure 27: X5 home page with Profiles enabled and shown.

**Note:** The display of the currently active profile can be suppressed by disabling the Show Profile feature in the feature settings.

To change the currently selected profile, activate the main menu from the home page by pressing the MENU button. Select *Profiles* from the menu and press the right button, select the desired profile from the list of profiles shown. The profile name and settings are determined at time of programming of the pager. To see the currently active settings, select the profile and go through the menu options and settings to see the currently active configuration of the selected profile. These settings can be changed by the user but are not persistent. If the profile is switched all the settings will revert to the settings of the originally programmed profile.

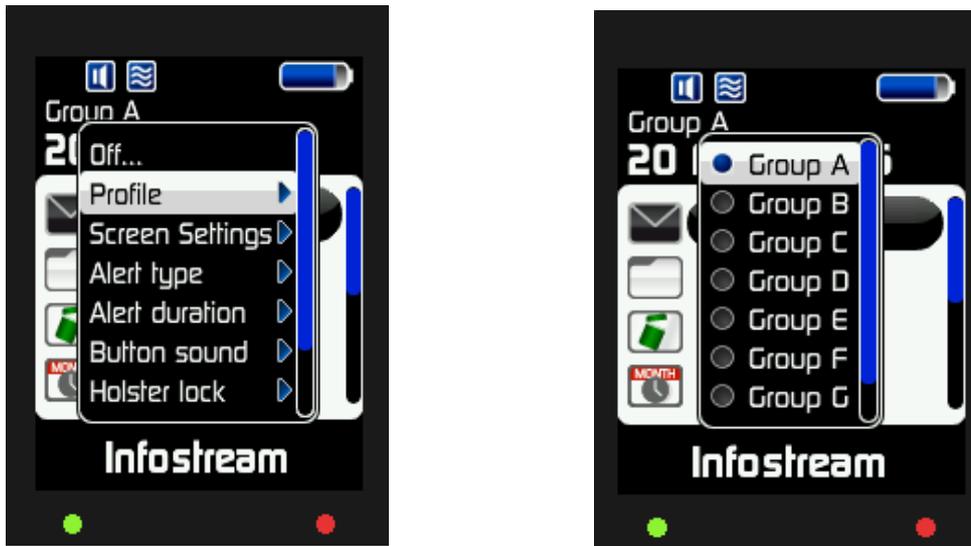


Figure 28: Profile selection menu on the pager.

## 1.19 Service functions

- The Signal strength option will show the current Received Signal Strength Index (RSSI) value of the receiver.

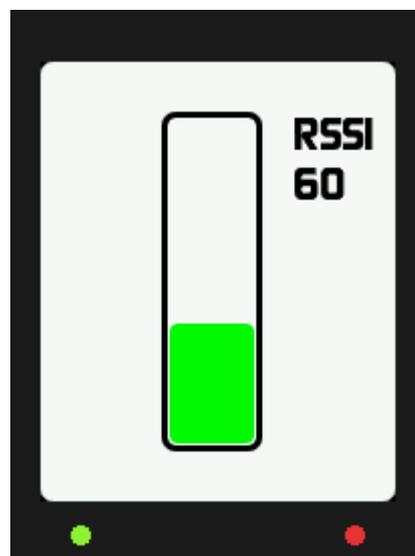


Figure 29: Signal Strength indicator (RSSI)

- The *Oscilloscope* display shows the currently received signal as an oscillograph. The scaling of the graph can be adjusted with the left or right buttons. The sample rate is adjustable from POCSAG 512, POCSAG 1200, POCSAG 2400 and FLEX with the right and left buttons.

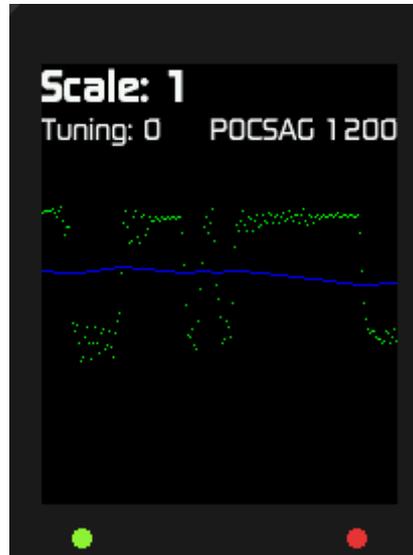


Figure 30: Oscilloscope

- The *Receiver status...* page shows the current receiver status utilising several LEDs to indicate receiver activity and receiving protocol state.

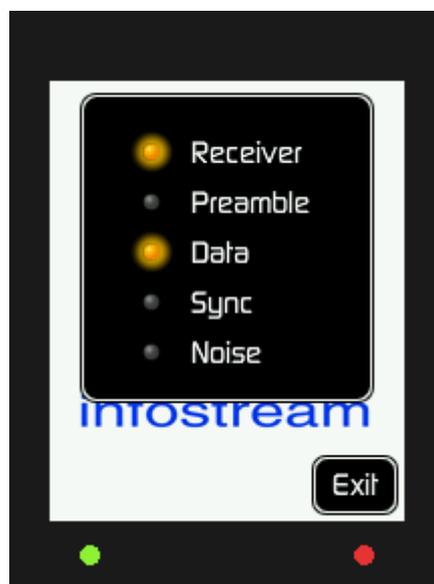


Figure 31: Receiver Status Page

- FLEX diagnostics – FLEX block information (on FLEX enabled pagers only). This display shows some status information for FLEX diagnostics.

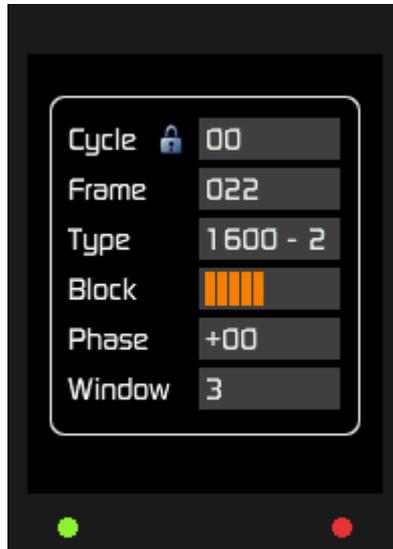


Figure 32: Flex block info

- FLEX diagnostics – FLEX error information (on FLEX enabled pagers only). The FLEX error information display shows the bit errors received in a FLEX block in red and correctly received code words in white.

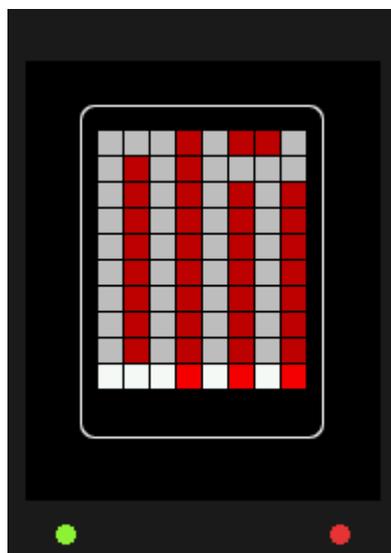


Figure 33: Flex error display

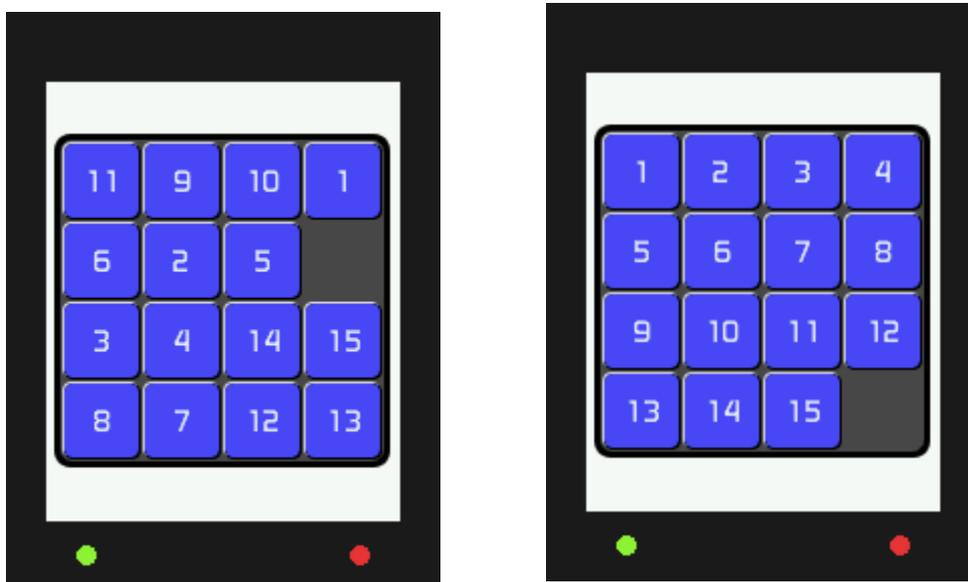
## Games

The X5 incorporates three games for the users pleasure. These games are:

- Puzzle
- Quadris
- Serpents

### 1.20 Puzzle

The aim of Puzzle is to arrange the tiles in numerical correct order. Only one tile at a time can be moved into the empty slot using the UP, DOWN, LEFT or RIGHT buttons.



*Figure 34: New and Solved Puzzle Games*

Press the green MENU button to display the Puzzle pop-up menu. The only two options available are: New game and Solve.

### 1.21 Quadris

The objective of Quadris is to keep the blocks falling from above from building up to the bottom of the screen by aligning each block such that it builds a closed row of blocks at the bottom of the screen. If a row is entirely closed the row of blocks disappears and the remaining blocks drop down giving more space at the top.

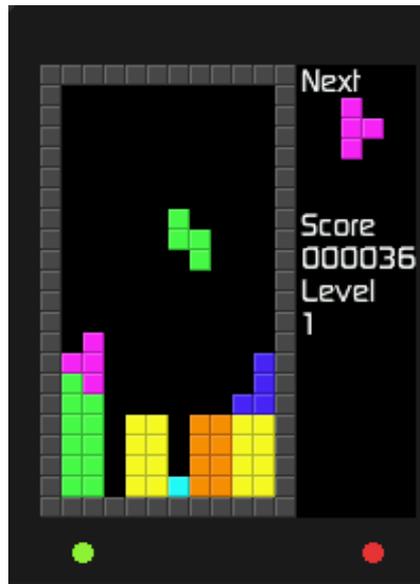


Figure 35: Quadris

## 1.22 Serpents

Serpents is a Labyrinth game in which the objective is to keep the blue snake, controlled by the user from being eaten by the red snakes. Try to “eat” frogs or the red snakes from behind on the way.



Figure 36: Serpents

## Main Menu

The Main Menu can be accessed from the Home Screen by pressing the green MENU button. Use the UP and DOWN buttons to move between menu items. Use the RIGHT button to select an item. To exit the Main Menu and return to the Home Screen press the red CANCEL Button.

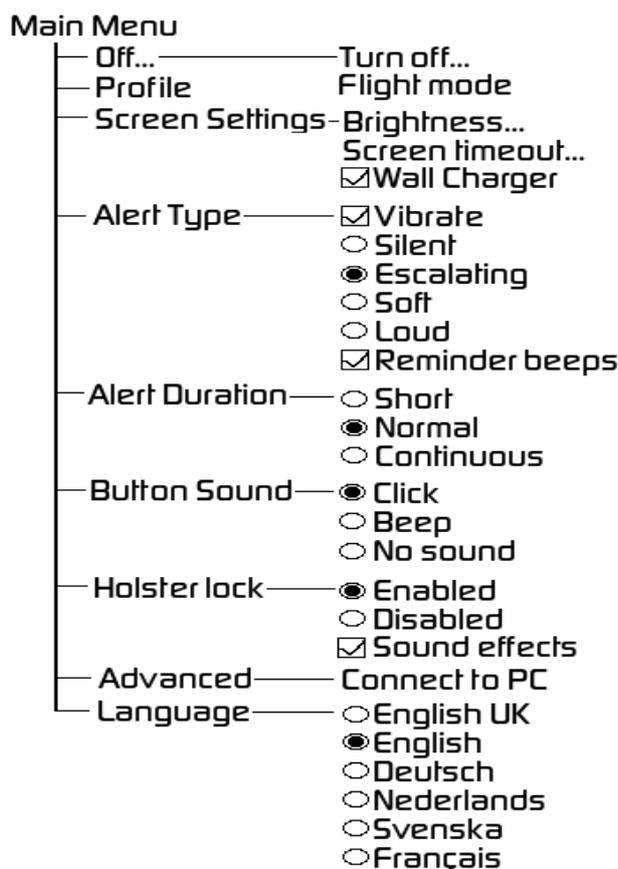


Figure 37: Main Menu Structure

### 1.23 Off...

Use this option to turn the pager off or put the pager into *Flight mode* (see chapter 1.11 for details).

When you press RIGHT button while the Turn off... menu item is selected a confirmation pop-up will appear asking you to confirm that you want to turn the pager off. Use the green MENU button to select OK and turn the pager off. Select the red CANCEL button to cancel and return to the Home Screen.

When you press RIGHT button while the Flight mode menu item is selected, only the receiver is turned off. The pager remains otherwise on.

When the pager is off or in *Flight mode*, it will not receive messages. The 'Alarm Clock' and 'Auto On' functions continue to operate.

## 1.24 Screen Settings

This option provides control on how the screen display operates. You can control the brightness of the screen with three options, Maximum (Bright), Normal and Minimum (Dim).

Screen time-out determines how long the pager screen is displayed before going blank. It has the following values: 30 secs, 45 secs, 60 secs, 75 secs and 90 Secs. The default setting is 30 seconds. The shorter the screen time-out setting, the less drain there is on the battery.

Holstering the pager has no effect on the screen time-out unless Holster Key Lock is ON, in which case the screen blanks 10 seconds after holstering.

Wall Charger controls how the pager operates when it is placed in the charger. If the charger is attached vertically to a wall the pager is upside down as it re-charges. If this option is selected then whenever the pager is being charged it inverts the display so that it appears the correct way up while in the charger. The 4 navigation buttons are also reversed so they operate correctly in this position. The Red and Green buttons are not reversed.

When the pager is removed from the charger the display and buttons automatically revert to their normal orientation.

The Wall Charger option toggles from on or off. To change it, navigate to the option and press the RIGHT button.

## 1.25 Alert Type

Alert Type controls volume or vibration options when the pager issues an alert. There are 3 items that can be controlled: pager vibrate; level of the audible alert; and whether a reminder alert should sound.

Vibrate controls whether the pager vibrates with every alert. Toggle between vibrate ON and OFF by navigating to the item and pressing RIGHT. The default is ON.

To control the audible alert you can select one of the 4 options: Silent, Escalating, Soft, Loud. Navigate to the option you want and press RIGHT. Only one of the 4 options can be selected.

The escalating option causes the pager volume to increase while the alert is sounding. If the 'Vibrate' option is turned off and the 'Silent' audible setting is selected the pager will not issue any notification for any alerts. The loud option plays a single loud tone while the alert is sounding. The default setting is loud.

Reminder Beep controls whether the pager continues to issue an audible and/or vibrate notification until the alert is unacknowledged. An alert will last for the Duration specified or until the alert is acknowledged. If the alert remains unacknowledged the signal will be repeated every 2 minutes for the specified duration. If the Alert Duration is set to continuous then Beep Reminder has no effect.

The Alert settings apply for all types of alerts, including low battery alerts.

## 1.26 Alert Duration

Alert Duration controls the duration of the audible alarm and/or vibration for all alerts. There are 3 options:

- Short – 15 seconds
- Normal – 30 seconds
- Continuous - alarm will continue until the alert is acknowledged.

## 1.27 Button Sound

Button sound is a global setting that determines what noise is made when the pager buttons are pressed. It has three options: Beep, Click, and No Sound. The default setting is Beep.

## 1.28 Holster Lock

The Holster Lock menu controls the behaviour of the pager when it is in the holster. The pager automatically detects when it is placed in the supplied holster and can automatically deactivate all keys while it is in the holster. Navigate to 'Enable' and press RIGHT to turn Auto Holster lock on and deactivate all keys while in the Holster. To turn the Auto Holster Lock off and leave the keys active while the pager is in the holster, navigate to 'Disable' and press RIGHT. The default value is 'Enable'. When in Key Lock mode, the pager displays the logo screen (which covers the whole screen) to indicate that no user interface is available.

**Note:** *The pager is automatically released from Key Lock mode whenever there is an incoming message or alert of any kind.*

'Sound effects' controls whether the pager beeps as the pager is placed into or removed from the holster and the keys are locked or unlocked. The setting is ignored if Holster Key Lock is set to Disabled.

## 1.29 Advanced

The Advanced menu may contain additional options depending on the pager configuration. The standard set of options are defined here.

**Note:** *The Advanced menu may have been moved to the About page menu, depending on pager configuration. It is then only accessible from the About page.*

### 1.29.1 Connect to PC

Turns the Infra Red (IrDA) connection on and attempts to connect to a PC. A screen will appear showing the attempted connection (*See:* Figure 6-3: Bootloader mode). Place the pager in front of the IrDA window of your PC/IrDA dongle so that the pager's left side is facing the IrDA window of the PC/IrDA dongle. If connection is successful the IrDA symbol will turn first orange when establishing an IrDA connection followed by green during data transfer. If no connection is established within 30 seconds, the display returns to the Home Screen.

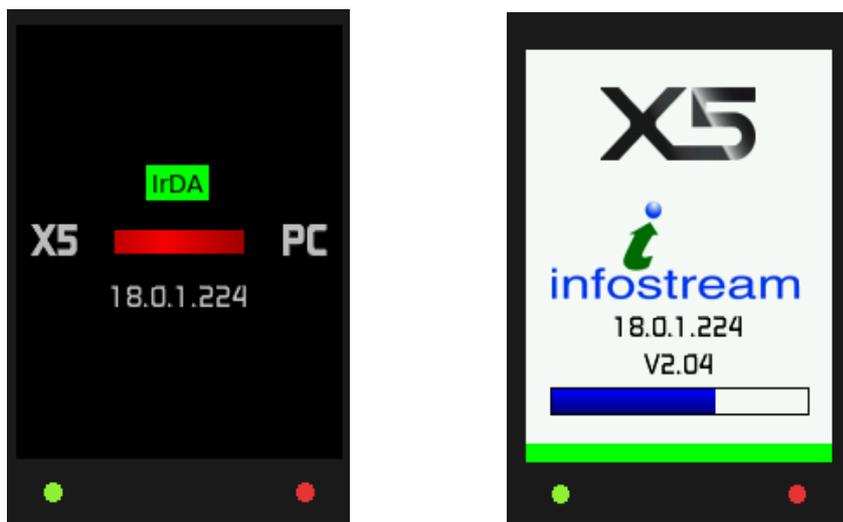


Figure 38: PC connection

The pager may switch from PC link mode during programming to a special mode called Bootloader mode (See: Figure 6-2: PC Link mode) to upgrade the pager's firmware (the software that runs inside the pager) or store configuration data, such as capcodes, folders, etc, in the pager's FLASH ROM. If the connection and download are successful the pager will reboot into the newly downloaded application. On upgrades of the application the databases of the pager (message memory) is retained.

**Note:** Only use this option when instructed by your support engineer to do so.  
 Do not move the pager away from the IrDA window of your PC or press any buttons on the pager!  
 The pager will not receive messages while in PC link mode!

During the update, which may take several minutes, there may be moments when it appears as if nothing is happening. Do not move the pager or press any buttons on the pager.

When the upgrade is successful the Pager will restart automatically and return to the Home Screen. If the Update fails you should contact your support engineer. The pager may not work correctly.

## Incoming Messages

The X5 pager receives 3 types of incoming messages: Alphanumeric, Numeric or Tone only messages. Alphanumeric and numeric messages may be up to 512 characters or digits in length. A message is always filed in the corresponding folder assigned to its capcode address. Tone only messages will create an alert window similar to Alphanumeric messages with the fixed message text **\*\*\* TONE ONLY \*\*\*** being displayed. If a fixed message text is assigned to the TONE ONLY capcode, the fixed message text will be displayed instead. If a fixed message text is assigned to a normal capcode, the fixed message text will be displayed in front of the received message text, I.e. the received message will be appended to the fixed message text.

Messages are further divided into 3 types of messages, these are normal messages, repeat messages and OTA (over the air) pager configuration messages.

### 1.30 Normal Messages

Normal messages are filed in the folder corresponding to the capcode address of the message. If the capcode is not assigned to a folder it is the message is placed in the Inbox. Depending on the message type either the 7-bit alpha numeric character set or the numeric character set is used to decode and display the message. A tone only message will show **\*\*\* TONE ONLY \*\*\*** as message text.

### 1.31 Fixed Messages

Capcodes can have a fixed message text of up to 64 characters in length assigned. This text will always appear before the received message text or in case of TONE ONLY capcodes, will replace the standard **\*\*\* TONE ONLY \*\*\*** text. The received message text may be truncated if the length of the received message text plus the length of the fixed message text exceeds 512 characters. A useful feature for fixed message texts could be a text of 'Please call ' for numeric capcodes.

### 1.32 Repeat Messages

The X5 pager has a special feature to cater for repeat message reception. Some paging networks transmit each message multiple times within a set time period to ensure that the message is received by the recipient. The X5 employs a special technique to improve reception sensitivity and accuracy by using the redundant message information to improve the received message. However, the user does not want to end up with the same message multiple times in the message folder and have to acknowledge each repeated message. When the first occurrence of the message is received the pager alerts the user in the usual way. The X5 will treat repeated messages as copies as long as they have been sent within the Repeat Message Time-out interval. A repeat message received outside the Repeat Message Time-out interval will be treated as a new message, even if a copy of the message already exists on the pager. Repeat messages that have been received within the Repeat Message Time-out interval will be used to correct an already received copy if the original message was received with errors.

The Repeat Message Time-out interval should be set to a value of 75 seconds if three repeat messages are sent at 30 second intervals. The Repeat Message Time-out value can be set in increments of 15 seconds. A value of 0 will disable the Repeat Message reception feature. The X5 can keep up to 12 copies of a repeat message in its internal temporary message buffer to match existing messages to

repeat message copies. If the internal buffer overflows, a message repeat will be treated as a new message.

### **1.33 OTA/OAP (Over-The-Air/Over-Air-Programming) Messages**

OTA/OAP messages are used to configure the pager remotely. These messages are silently received by the X5 pager and are currently used to add or remove capcodes or enable or disable existing capcodes on the pager by the network provider. The pager can also be locked or unlocked by an OTA/OAP message, the profile can be switched and the pager's real time clock can be set via OTA/OAP messages.

OTA messages are encoded in a special way and can be either alphanumeric or numeric. They do not alert and should not normally be seen by the user. If they do appear an alpha numeric OTA message may look like this: YXfedPoEVI and a numeric OTA message would appear like: 545364636243752851341

For further information on OTA programming refer to the OTA Programming guide or the document *OAP Specification Version 7, Rev. 2.1, 28/02/02*.

### **1.34 Reading Messages**

When a message arrives and an alert appears, you have the option of immediately reading the message or dismissing it for later reading.

To read the message, press the green MENU button. Once the green MENU button is pressed, you are taken to the full message view of the respective folder of the message. For more information on the full message view please see 1.13 Inbox Page.

Alternatively, to dismiss the alert, press the red CANCEL button. Pressing any of the buttons once during an alert the alert sound and the vibrator will stop if enabled. The message can now be read in the alert window by scrolling it up or down line by line with the UP or DOWN buttons.



Figure 41: Message Alert

**Note:** If a pager alert is still occurring (audibly and/or by vibrating) it can be cancelled by pressing the directional buttons. The alert message remains displayed until you either press the green MENU or the red CANCEL button to decide what to do with the message.

### 1.35 Multiple Alerts

Normally, a pager receives a message and you read it before another message arrives. However, if a new message arrives before a message has been acknowledged the new message alert is displayed on the screen and the older message is pushed into the background. Similarly if the pager issues an alert, for example for a flat battery, it is displayed on the screen and the message alert placed into background. Multiple messages / alerts are structured in a queue arrangement: when more alerts arrive, the existing queue of alerts gets pushed further in to the background.

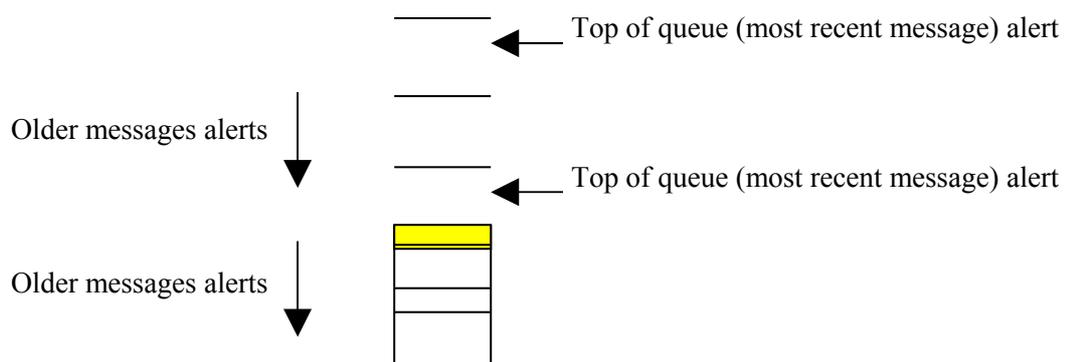


Figure 42: The Alert Queue

Press either the green MENU or the red CANCEL button to move through a queue of alerts, proceeding from the most recent message / alert to the next most recent message / alert. If you press the green MENU button to read a message you must exit that message before the next alert is displayed. You can exit the message by pressing the red CANCEL button or by deleting / moving the message.

The Alert Queue can hold up to 32 alerts after which alerts are dropped from the bottom of the queue, thus the most recent alerts always remain available.

## 1.36 Other Alerts

### 1.36.1 Low Battery Alert

When the battery in the pager reaches a level where it can no longer receive messages reliably, the alert shown in Figure 7-3: Low battery alert is displayed.



Figure 43: Low Battery Alert

The *Low Battery* alert has a unique tone that cannot be altered. The alert is repeated after 4 hours if the battery has still not been replaced, and again after 2 hours, then every hour until either the battery is recharged or dead.

When the battery is dead the *Low battery* messages will no longer be received and the display will turn off. The pager will cease to respond to key presses until it is placed on the charger and charged to at least 2% remaining battery capacity.

**Note:** there is no alert additional to the one above to indicate that messages may not be received. Re-charge the pager at the earliest opportunity.

### **1.36.2 In-Holster Alerts**

If the pager is in the holster and an incoming message occurs, the message is displayed to allow you to read the message without removing it from the holster. This is only true for incoming message alerts and not for other alerts like Low Battery.

The alert for a new message **is** turned off as soon as the pager is removed from the holster or the pager. If the pager is in the holster when a message is received, taking it out of the holster stops the alert sound, vibration, backlight flash and LED flash. The pager still shows the Message Alert on the screen and you may then dismiss the alert or read the message.

## Other Features

### 1.37 Managing Capcodes

Capcodes are used to address messages when they are transmitted to pagers. Capcodes are programmed into the pager and these control which messages the pager should receive. Usually the capcodes are pre-set in the pager and the user is not even aware of them. Capcodes appear as a 7 digit number followed by a single character (a function code): A-D eg: 1233219A

#### 1.37.1 Managing Capcodes

The capcodes in the X5 can be managed in two ways:

- **Pre-programmed (or Locked) capcodes**

These capcodes are programmed into the pager before it is sold or distributed. They are locked and cannot be controlled by the user. They can only be changed by returning the pager to an administrator with the appropriate resources to manage them.

- **Dynamic Capcodes**

Dynamic capcodes can be managed and configured once the pager is in use. The pager can have additional capcodes added by an administrator and the changes are transmitted to the pager using special OTA messages (*See: 1.33 OTA/OAP (Over-The-Air/Over-Air-Programming) Messages*). Dynamic capcodes can be removed or modified by the central administrator. Dynamic capcodes can be turned on and off by the user via the Administration menu (see Capcodes). They cannot be created or deleted by the user.

- **Express Alarm (EA) Capcodes**

Express alarm capcodes are specific EA-TONE-Only capcodes combined with EA-Alpha or numeric capcodes. These capcodes are used to implement a group call feature. Please refer to document *Express Alarm Spezifikation Version 4.0, Rev.2.0 22/12/00* for further details on Express Alarm.

#### 1.37.2 Enabling and Disabling Capcodes

The user can enable or disable dynamic capcodes on the Capcode screen from each respective folder (*See: 1.13 Inbox PageError: Reference source not found or 1.14 Folders Page*). If a capcode is dynamic it is shown with a small selector box in front of the capcode. To toggle the capcode on and off, select the capcode with the UP or DOWN button and then press the RIGHT button to change its state.



Figure 44: Capcodes with Check Boxes

**Note:** A disabled (unticked) capcode will not receive any of the messages addressed to that capcode!

### 1.37.3 Linking Capcodes to Folders

Capcodes can be configured so that all messages addressed to a specific capcode are automatically placed into a specific folder. Using this feature and the ability to configure different alerts to different folders it is possible to control the audible alerts associated with messages sent to different capcodes. The linking of capcodes to folders is controlled by an administrator and cannot be changed by the user.

By default all capcodes are linked to the Inbox and this is represented by the character “m” in the list of capcodes. If the capcode is linked to a different folder a different character will appear in front of the capcode.

### 1.37.4 Linking Capcodes to fixed messages

Capcodes may have a fixed message text of up to 64 characters associated. This is done with the programming software at the time of programming the pager. The fixed message text will always be displayed in front of the received message text.

## 1.38 Blocked Actions

Under some circumstances some actions are irrelevant or impossible. When this occurs, a menu item may still be accessible but the heading text is **greyed out** to indicate that the action is blocked. For example, as shown below in Figure 45: Blocked Menu Items, you cannot delete a locked message and therefore the menu item appears greyed out.



*Figure 45: Blocked Menu Items*

Below is a list of blocked actions.

**Delete is blocked when:**

- the current folder is empty.
- a locked message has been selected.

**Delete all is blocked when:**

- there are no unlocked messages in the current folder.

## 1.39 Features, Settings and Options

The X5 pager has several configuration features, settings and options. Most of these configuration settings are controlled at the time of programming the pager. However, some of these settings can be changed from the menus on the pager.

### 1.39.1 Features

Features can be distinguished in two categories. The X5 pager uses a feature mask that defines which features are enabled or disabled, this is defined in the feature mask category. The feature mask configuration cannot be changed on the pager unless the Expert mode option has been enabled.

The other category are feature values of the pager (generally menu tick box defaults) can be preset to default values by the programming software and can later be changed by the user via the user interface on the pager.

### 1.39.1.1 Feature mask settings

Feature	Description
Expert mode	if enabled gives extended control of the pager features by allowing access to the feature mask menu on the pager and several extended menu features in the Advanced menu (Direct access to Bootloader, Factory Reset NV-RAM, Feature mask).
Show inbox	if disabled, the Inbox page is not accessible from the pager main menu.
Show folders	if disabled, the Folders page is not accessible from the pager main menu.
Show trash	if disabled, the Trash page is not accessible from the pager main menu.
Show games	if disabled, the Games are not accessible from the pager main menu.
Show capcodes	if disabled, the Capcodes menu in the individual folders will be hidden from the user.
Beep on lost signal	if enabled, a short beep will indicate that no paging signal has been received for the out of range period amount of time in minutes (see pager settings).
Battery alert every hour	if enabled, a battery alert will be activated every hour once the pager's battery has less than 15% charge. If disabled, the battery alert will progressively alert, first after 16 hours, then after 8 hours, 4 hours, 2 hours, 1 hours, ... down to 5 minute intervals.
Show reminder beep	if enabled, shows the Reminder beep menu option.
Keyword alerting	if enabled, shows the Keyword alert menu option. Here keywords can be defined that will trigger an alert only if the message contains one of the keywords in the list. Important! The Alert on all feature must be unticked for this feature to work!
Force 24H clock	if enabled, the 24H clock menu option is enabled but hidden from the user, the clock mode is thus fixed to 24H time display.
Auto on/off	if enabled the Auto-On/Auto-Off menu is shown and the pager can be automatically turned on or off at a set time.
Alarm clock	if enabled the Alarm clock menu is shown and the pager can be used as an alarm clock.
Enable OTA beep	if enabled, a short beep will notify of a received Over-The-Air configuration message. Normally no alert sound is made when OTA messages are received.

Feature	Description
Service mode	if enabled allows access to special service functionality such as Signal strength indicator, Oscilloscope and Receiver Diagnostics page.
Show ID panel	if enabled, displays a configurable line of text at the bottom of the home page. If the ID text does not fit into one line, a smaller font is used and the text displayed over two lines.
Low volume	if disabled, the pager is forced to Loud alerting mode only.
Change alert duration	if disabled, the alert duration cannot be changed.
Folder tools	if enabled, allows to manage folders on the pager. New folders can be created, existing folders can be renamed or deleted if no capcodes have been assigned to them. The sort option allows to sort the folders.
Databases	if enabled the Databases menu is shown in the About page. It shows the status of the individual databases and allows to initialise corrupted databases. Note that any data in corrupted databases will be lost!
Force alert on all	if enabled, Keyword alerting is disabled and the Alert on all feature is turned on, the Alert on all tick box is no longer accessible on the pager.
Show language	if enabled a language menu of currently five languages is displayed in the main menu. If English UK is selected any # characters in a message are replaced with the £ symbol.
Disable turn-off	if enabled the Off... menu option is hidden and the pager can no longer be turned off.
Advanced→About	if enabled, the Advanced menu is moved from the menu of the home page to the menu of the About page.
Show holster menu	if disabled, the Holster menu is no longer accessible on the pager.
Restrict status	if enabled, the General status menu option will only show the pagers electronic serial number (ESN) and the firmware version.
Show Profiles menu	If enabled, allows the user to manually change profiles on the pager. A profile switch can only be achieved by sending a profile switch OTA/OAP message, if this feature is disabled.
Show Profile	This feature shows the currently active profile name below the top icon row on the home page of the pager.

Feature	Description
Li-Po Log	if enabled, a sample application that shows a charging diagram of the Lithium Polymer battery and it's temperature can be accessed.
User Applet	this feature is for customers using the X5 Software development kit, a custom application can be plugged into the X5 application that can be enabled here if present.

### 1.39.1.2 Default feature settings

Feature	Description
Reminder beeps	enables the Reminder beep feature. Reminder beeps will sound a short reminder beep if a message has been received but not acknowledged. The period of the reminder beep is defined by the Reminder beep period setting (see pager settings)
Vibrating alert	enables the vibrating alert feature. The pager will vibrate when an alert sound is played and vibrating alerts are enabled.
Screen saver	enables the holster screen saver feature. When the pager is placed into a holster, the About page logo is displayed.
Sound effects	enables sound effects when the pager is placed in or out of the holster.
Wall charger	when the pager is put on the charger when this feature is enabled, the screen is inverted. Note that this feature menu is only available if the Screen orientation feature mask setting is enabled.
Inverted signal	if the transmitter sends the binary signal inverted then this feature must be enabled. <b>Warning: DO NOT ENABLE THIS FEATURE UNLESS SPECIFICALLY TOLD TO DO SO!</b>
24H Clock mode	if this feature is enabled, the clock will be displayed in 24H clock mode, if disabled the clock mode is 12H AM/PM.
Alert on all	enables the alert on all feature, note that this overrides any keyword alert settings. All messages will trigger a message alert.

Feature	Description
Sort folders	enables the alphanumeric sorting of folders in the folder menu.
Disable Move Messages	a user is prevented from moving messages between folders if this feature is enabled.

### 1.39.2 Options

Options are configuration parameters that have a limited list of values. The following options can be configured at the time of programming the pager. Most of these options can be accessed and changed on the pager.

Option	Description
Button sound	defines the default for Button sound (Click, Beep or No sound)
Alert type	defines the default for Alert type (Silent, Escalating, Soft or Loud)
Alert duration	defines the default for Alert duration (Short, Normal, Continuous)
Language	defines the default language of the user interface on the pager (English UK, English, German, Dutch, Swedish or French).
Code type	defines the receiver protocol (POCSAG 512, POCSAG 1200, POCSAG 2400, FLEX, POCSAG 512 relaxed preamble, POCSAG 1200 relaxed preamble and POCSAG 2400 relaxed preamble). Relaxed preamble means that the correlation of the received signal during the hunt for preamble is not strict, I.e. an inverted preamble will be accepted as well as a normal phase preamble. Note that this option can not be changed on the pager!
Auto Capcode type	defines the code type of the four function codes for POCSAG capcodes, if the AANT option is selected, the capcode at function codes A and B will use alphanumeric encoding, while function code C will use numeric encoding and function code D tone only code type.
Display brightness	defines the default display brightness (Minimum, Normal, Maximum).

<b>Option</b>	<b>Description</b>
Screen timeout	defines the timeout in seconds before the screen turns off if no button is pressed or alerts are generated (30s, 45s, 60s, 75s, 90s).

### 1.39.3 Settings

Settings are numeric values that define timeouts or other numeric parameters on the pager

Setting	Description
Out of Range timeout	defines the time in minutes for which no valid POCSAG or FLEX SYNC word has not been received before the Antenna symbol on the pager is turned off and an optional out of range beep is generated.
Out of Range period	defines the time in minutes after which an out of range alert beep is repeated (if the out of range beep feature is enabled).
Reminder period	defines the time in seconds after which a short reminder beep is generated if a received message alert has not been acknowledged.
Repeat message timeout	defines the time period during which repeatedly received messages are treated as repeats of a previous message if the messages match. Messages received outside this timeframe will be treated as individual messages, even if the messages are identical to already received messages. The repeat message timeout can be set in 15 second intervals only and will be rounded down to the nearest 15 second interval. A value of 0 will disable repeat message processing.
About page background colour	defines the RGB colour component value for the background colour of the About image. This is a 16-bit RGB value (R5 – G6 – B5). The top five bits of the value represent the red colour component, the middle six bits represent the green component and the bottom five bits represent the blue component. A value of 0 will set the background colour of the About page on the pager to black. A value of 65535 will set the background colour of the About page to white. Select this value to blend in with the background colour of your customised uploded logo graphics.
PIN	Defines a 4-digit Personal Identification Number (0000...9999). The PIN login feature is disabled if this value is not set (set to 0xFFFF).

## **Pager Care**

**DO NOT** expose to extremes of hot or cold as this may impair the hardware's effectiveness.

**DO NOT** scratch your name into the pager case or holster or use any corrosive materials to write your name on the pager or holster.

**DO NOT** attempt to open the pager case as this will permanently damage the casing on the pager and will not guarantee that the pager remains waterproof.

**DO NOT** drop the pager as this can damage the components.

**DO** wear pagers in their holster because this aligns the antenna correctly.

**DO** clean the pager with a water dampened cloth only as required.

## Appendix – X5 Menu Structure

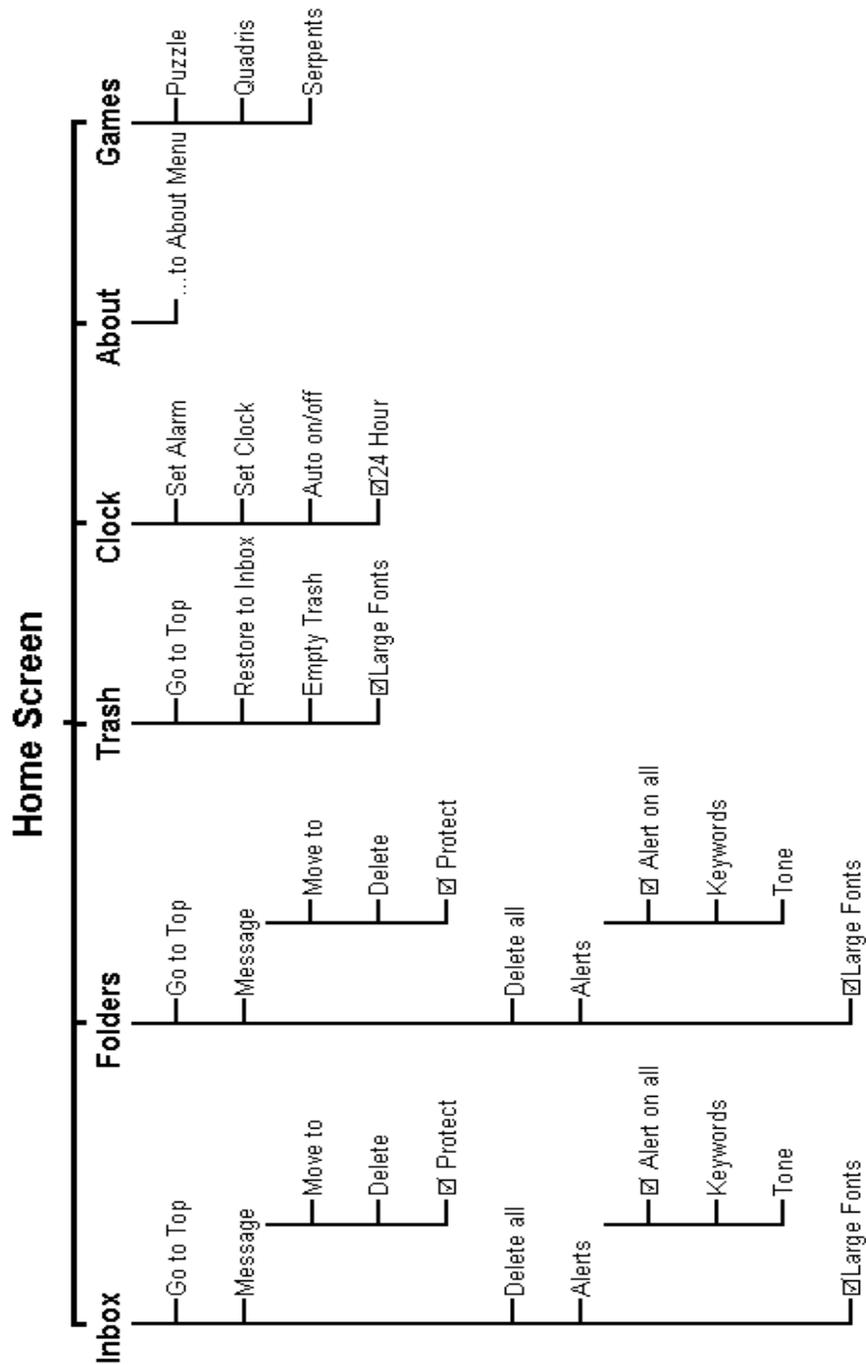


Figure 46: Home Screen menu

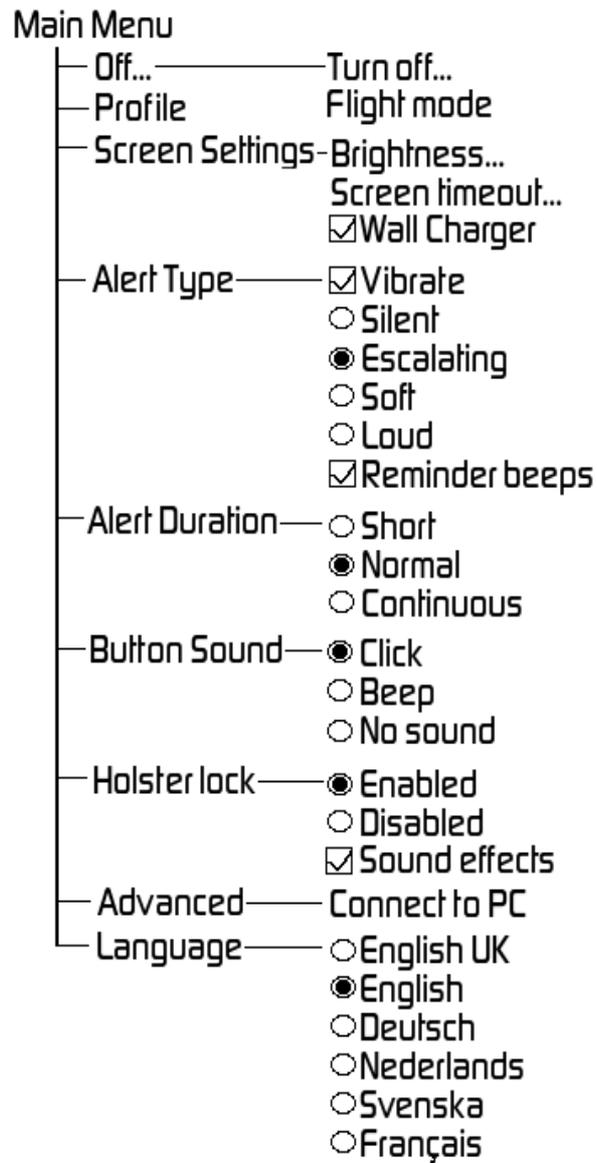


Figure 47: Main menu

## About menu

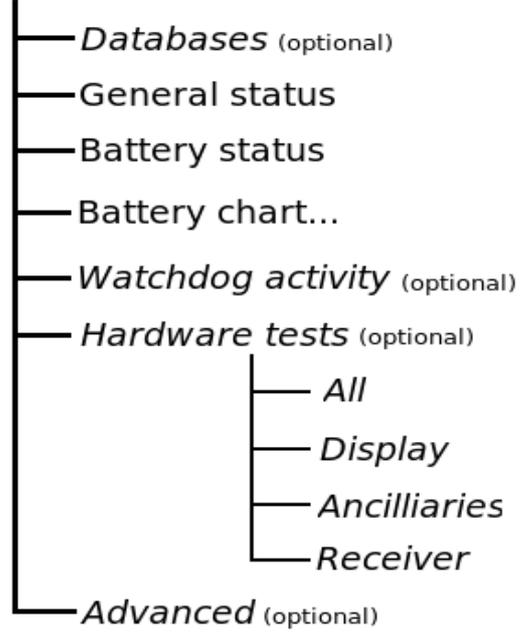


Figure 48: About Menu

## **Appendix – Default Settings**

The default settings of the pager are controlled by the X3 and X5 Programming web site at <http://programming.infostream.com.au> and are specific to each customer. Please refer to Doc. 148-1001 X3 and X5 Programming User guide for further details.

## Appendix – Technical Specifications

Parameter	X5 synthesized	X5 crystal	Test Method
Frequency bands	P/N: A102-2164, Frequency range: 164.000-167.100 MHz	P/N: A102-1139-xxx, A102-3139 –xxx Frequency range: 135-143 MHz	
	P/N: A102-2167, Frequency range: 167.5-170.4 MHz	P/N: A102-1147-xxx, A102-3147 –xxx Frequency range: 143-151 MHz	
	P/N: A102-2171, Frequency range: 171.8-174 MHz	P/N: A102-1155-xxx, A102-3155 –xxx Frequency range: 151-159 MHz	
	P/N: A102-2147, Frequency range: 147.5-151 MHz	P/N: A102-1163-xxx, A102-3163 –xxx Frequency range: 1159-167 MHz	
		P/N: A102-1171-xxx, A102-3171 –xxx Frequency range: 167-175 MHz	
		P/N: A102-1448-xxx, A102-3448 –xxx Frequency range: 446- 450MHz	
		P/N: A102-1458-xxx, A102-3458 –xxx Frequency range: 456-460 MHz	
		P/N: A102-1466-xxx, A102-3466 –xxx Frequency range: 464-468 MHz	
Channel spacing	10 / 20 / 25 kHz		
Receiver	Synthesized receiver	Crystal receiver	
	<10.5 dBuV/m (3.35 uV/m) @ 512 bps		ETSI EN 300 390-1 V1.2.1

Parameter	X5 synthesized	X5 crystal	Test Method
Sensitivity – tone only	<14 dBuV/m (5 uV/m @, 1200 bps		(2000-09), 9.1, best position on salty man
	<17 dBuV/m (7 uV/m), @ 2400 bps		
Sensitivity – 20 character message	<13.5 dBuV/m (4.74 uV/m) @ 512 bps		ETSI EN 300 390-1 V1.2.1 (2000-09), 9.1, best position on salty man
	<17 dBuV/m (7.08 uV/m @, 1200 bps		
	<20 dBuV/m (10 uV/m), @ 2400 bps		
Co-channel rejection	-8 dB		ETSI EN 300 390-1 V1.2.1 (2000-09), 9.3
Adjacent channel selectivity	>60 dB	>70 dB	ETSI EN 300 390-1 V1.2.1 (2000-09), 9.4
Intermodulation immunity	>50 dB		ETSI EN 300 390-1 V1.2.1 (2000-09), 9.6
Blocking immunity or desensitization	>95 dBuV/m (80 dB)		ETSI EN 300 390-1 V1.2.1 (2000-09), 9.7
Baud rate	512,1200, 2400,1600,3200 Baud		
Signal format:	POCSAG CCIR RPC No. 1, FLEX G1.9b		
IP protection grade	N/A	IP 67 (P/N A102-3xxx-xxx)	
Climatic conditions	ETS 300 019-1-7 class 7.3 (-10°C to +60°C)		
Single charge operating time	10 days (typical)	12 days (typical)	
Battery type	Rechargeable Li-ion Polymer		
Fast charge	< 4 hours		
Charging temperature	0°C to +40°C		
Alert loudness	85 dB(A) at 50 cm (typical)		
Lens	Scratch resistant lens coating		
Display	<ul style="list-style-type: none"> <li>- Colour (TFT active matrix)</li> <li>- 220x176 pixels</li> <li>- 65,536 colours</li> </ul>		
Dimensions	91 x 51 x 20 mm		
Additional alerts	<ul style="list-style-type: none"> <li>-Vibrator</li> <li>Red LED (array of 3 LEDs)</li> </ul>		
Additional features	<ul style="list-style-type: none"> <li>-Clock, date and alarm function</li> <li>-One hand handling</li> <li>-Out of range alarm</li> <li>-Holster detection</li> </ul>		

Parameter	X5 synthesized	X5 crystal	Test Method
	-Battery fuel gauge -Battery low indication and alert -Battery end of life indication More than 2500 hours of RAM backup		