CODAN
RADIO COMMUNICATIONS

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Envoy™ Transceiver

Getting Started Guide

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Table of contents

Appendix B Compliance

Index

List of figures

List of tables

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1 Introduction

Congratulations on choosing a Codan Envoy™ Transceiver to meet your HF communications needs. You can expect many years of reliable high performance, and if ever assistance is required, Codan's world-class after-sales support team is ready to help. Please read this guide thoroughly and retain it for future reference. There is an index at the end of this guide to assist you in finding information.

Overview of this guide

This guide provides instructions on how to connect up your Envoy™ Transceiver, and how to perform basic setup and operating tasks. It assumes that you have limited knowledge of HF communication and of using an HF transceiver.

Detailed information for setting up a particular system and extensive reference material are provided on the CD at the back of this guide.

This guide contains the following sections:

Introduction—provides an overview of the components of the transceiver system

Using the wizard—describes the steps in the wizard that are used to set up the transceiver

Navigating the menu structure—describes how to navigate the menu structure and perform basic selection and editing functions

Structure of information—describes the building blocks of information in the transceiver

Operating the transceiver—describes how to operate the transceiver and how to make calls

Adding a contact—describes how to add a contact

Specifications—provides a list of specifications for the transceiver

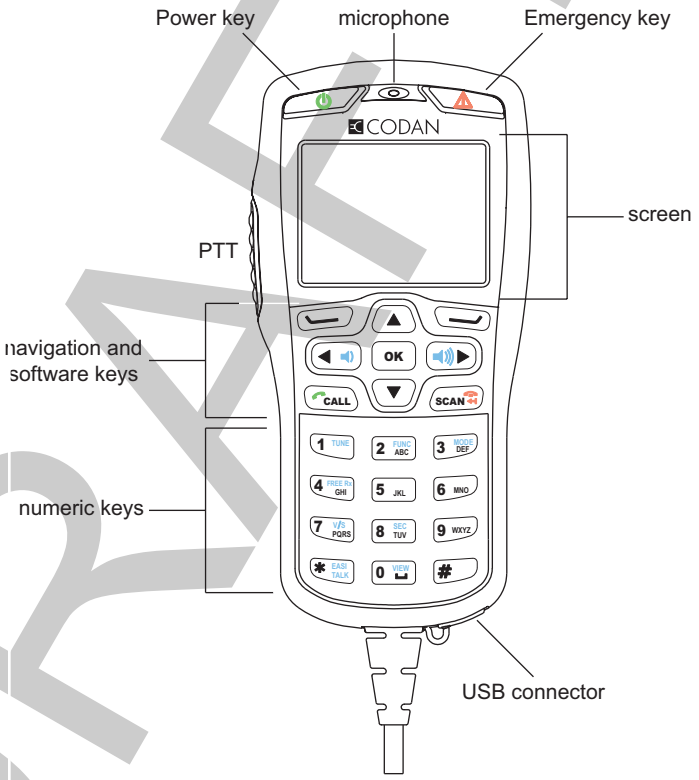
Installing the transceiver—describes how to mount and connect the transceiver in mobile and fixed stations

Compliance—provides mandatory compliance information

The 2220 Handset

The 2220 Handset is a control point for the Envoy™ Transceiver. The user interface provides an icon-based menu structure for easy setup and operation of the transceiver.

Figure 1: 2220 Handset



The 2220 Handset is a hand-held device that has a microphone, a PTT button, a screen, navigation keys, and numeric keys. The keypad enables you to control and configure the transceiver system via the user interface. The handset and an external speaker connect to the RFU via a special interface cable.

The 2220 Handset is shipped from the factory with standard functions pre-programmed to specific keys. The standard function is written on the key in blue text. New user-defined functions may be assigned to most of the keys.

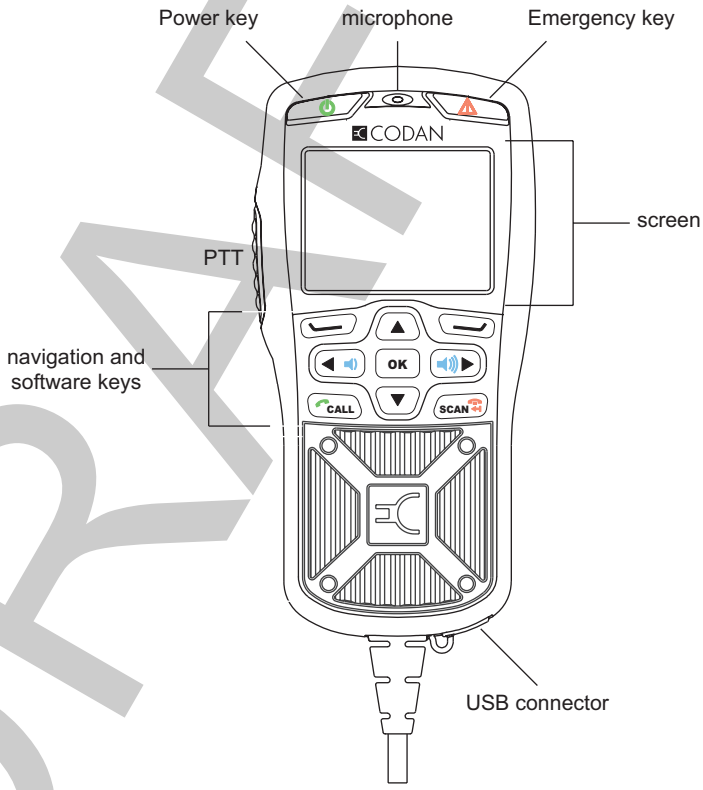
Related links:

Keypad on page 8
Navigating the menu structure on page 31

The 2221 Handset

The 2221 Handset is a control point for the Envoy™ Transceiver. The user interface provides an icon-based menu structure for easy operation of the transceiver. It has a condensed set of keys for use in simpler communication scenarios.

Figure 2: 2221 Handset



The 2221 Handset is a hand-held device that has a microphone, a PTT button, a screen, and navigation keys. The navigation keys enable you to operate the transceiver system via the user interface using pre-defined profile information. Typically, this profile is fully configured using the TPS system programmer. The handset and an external speaker connect to the RFU via a special interface cable.

The 2221 Handset is shipped from the factory with standard functions pre-programmed on the key, or in a list that is accessed via the **Functions** icon ( ). New user-defined functions may be assigned to this list.

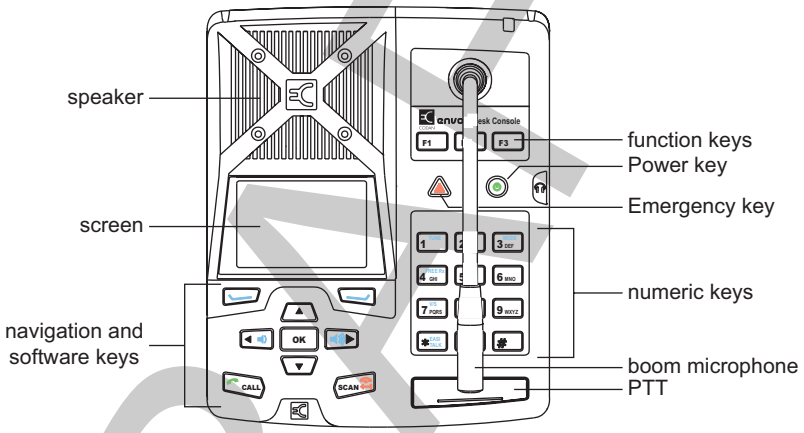
Related links:

Keypad on page 8
Navigating the menu structure on page 31

The 2230 Desk Console

The 2230 Desk Console is a control point for the Envoy™ Transceiver. The user interface provides an icon-based menu structure for easy setup and operation of the transceiver. The desk console is standard for a fixed station.

Figure 3: 2230 Desk Console



The 2230 Desk Console has an optional boom microphone, a built-in speaker, a PTT button, a screen, navigation keys, function keys, and numeric keys. The console also supports the use of headphones, a foot-switched PTT device, and a separate hand microphone with PTT. The keypad enables you to control and configure the transceiver system via the user interface.

The 2230 Desk Console is shipped from the factory with standard hot keys programmed to the numeric keys. The function that each standard hot key performs is written on the numeric key in blue text.

Related links:

Keypad on page 8
Navigating the menu structure on page 31

Keypad

Standard macros are programmed in the transceiver in the factory. You can also create a macro and assign it to a hot key.

NOTE: For more information, see the Reference Manual.

Table 1: Keys and their function

Key	Function
	Switches on the transceiver. Switches off the transceiver (*hold* for 2 sec). Performs a hot-key sequence with another key (*hold* + key): • + 0 jumps to the Brightness screen • + 2 toggles advanced view • + 3 jumps to the Select Language screen (admin level) • + SEC performs secure erase
	Starts a chain call of all calls for the selected emergency contact (*hold* for 2 sec).
PTT	Press-to-talk. Cancels out of editing and calls before they are connected.
	Performs the function shown directly above the key in the menu bar of the screen.
	Scrolls left in a list of values. Moves the cursor/highlight to the left. Reduces the volume when the  indicator is shown in the menu bar of the screen.
	Scrolls right in a list of values. Moves the cursor/highlight to the right. Increases the volume when the  indicator is shown in the menu bar of the screen.
▲	Scrolls up in a list of entries. Moves the highlight up a row.

Table 1: Keys and their function (cont.)

Key	Function
▼	Scrolls down in a list of entries. Moves the highlight down a row.
OK	Enters the submenu or list of entries represented by the selected icon. Toggles the selection of a check box. Enters the virtual keypad in the user interface of a 2221 Handset.
CALL	Starts the calling process by jumping to the call screen (default behaviour). Jumps to Contacts/Call History/Emergency Contacts/Last Heard Log (*hold* for 2 sec).
SCAN ↵	Toggles scanning on and off. Ends a call. Deletes the character to the left of the cursor. Deletes all characters (*hold* for 2 sec).
1 TUNE	Enters 1 in character-entry mode. Tunes the antenna.
2 FUNC	Enters 2, a, b, c, A, B, C in character-entry mode. Access the clarifier for the currently selected channel.
3 MODE	Enters 3, d, e, f, D, E, F in character-entry mode. Selects the next allowed mode for the current channel.
4 FREE Rx	Enters 4, g, h, i, G, H, I in character-entry mode. Accesses the free-tune receive function.
5	Enters 5, j, k, l, J, K, L in character-entry mode. Toggles the operating mode of a crosspatch, if connected. Shows the firmware version of a crosspatch, if connected (*hold* for 2 sec).
6	Enters 6, m, n, o, M, N, O in character-entry mode.

Table 1: Keys and their function (cont.)

Key	Function
7 V/S	Enters 7, p, q, r, s, P, Q, R, S in character-entry mode. Toggles the type of mute selected.
8 SEC	Enters 8, t, u, v, T, U, V in character-entry mode. Toggles secure mode on and off. Enables you to enter a PIN for a secure session, or access secure information (*hold* for 2 sec).
9	Enters 9, w, x, y, W, X, Y in character-entry mode.
0 VIEW	Enters 0 or a space in character-entry mode. Toggles between the channel screen and Contacts/Call History.
✱ EASITALK	Enters a special character (repeated press, or *hold* for 2 sec). Toggles *Easitalk*™ on or off.
#	Toggles character-entry mode. Enables you to select the input language (*hold* for 2 sec).

Accessing the CD

To access the CD:

- Place the CD in the CD drive of your computer.

  You can view and search the Reference Manual and Getting Started Guide using the Adobe® Reader® supplied on the CD.

Standards and icons

The following standards and icons are used:

This typeface...	Means...
Italic	a cross-reference, text requiring emphasis, or variable information
Bold	a key on a computer keyboard
Bold	a menu, submenu, tab, entry, a value in the user interface of the control point, or key that you press on the control point
ACTION	a hot key for a factory macro
NOTE:	the text may be of interest to you
CAUTION:	proceed with caution as your actions may lead to loss of data, privacy or signal quality
WARNING:	your actions may cause harm to yourself or the equipment

2 Using the wizard

This section contains the following topics:

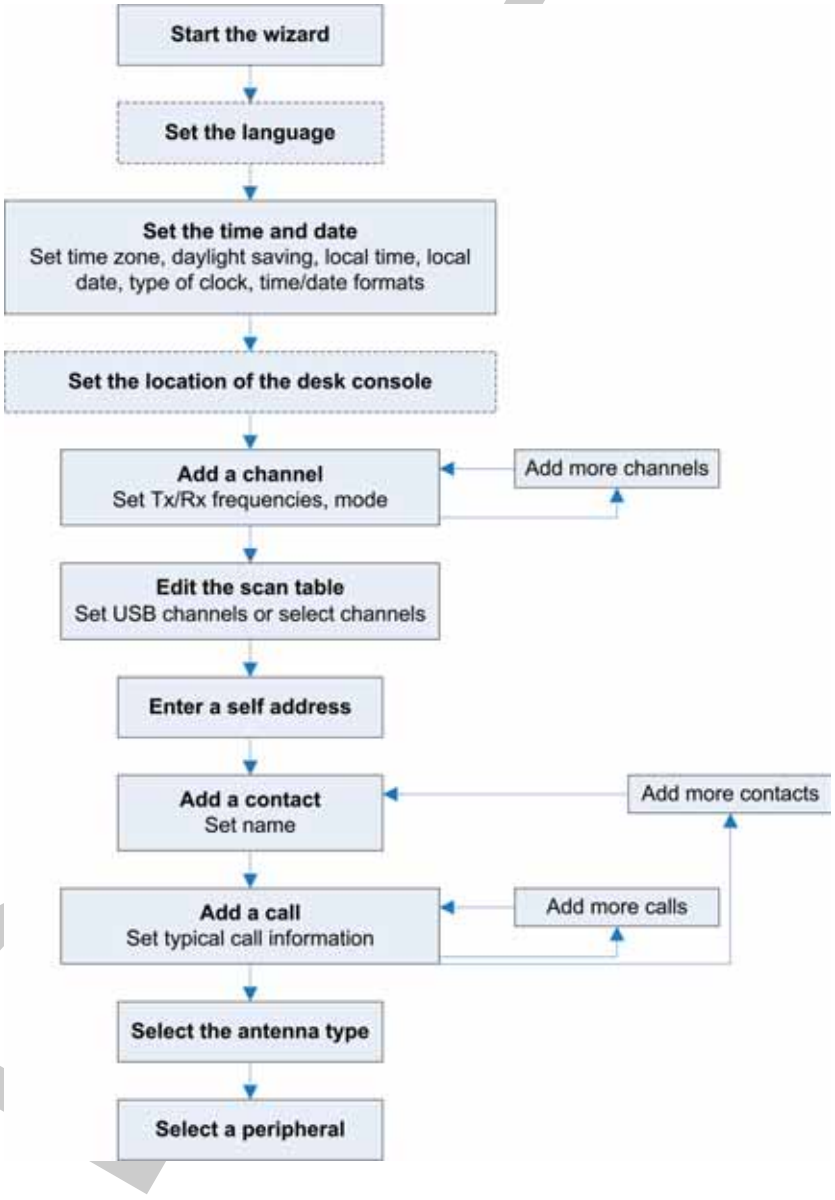
Overview of the wizard

The wizard is available if the transceiver:

- has not been programmed with a profile
- has a basic profile that has a common self address for the default HF networks Selcall and CALM, and has one scan table

The wizard steps you through setting up information in the transceiver so that it may be operated at a basic level.

Figure 4: Steps in the wizard



Using the wizard

The wizard should start automatically when a new transceiver is powered up for the first time.

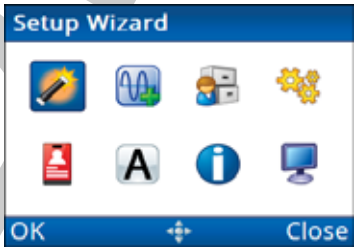
Figure 5: Wizard Startup screen

NOTE: If the wizard screen doesn't launch automatically, follow the instructions below. If your transceiver has been profiled using TPS, the wizard may not be available.

NOTE: For information on specific entries in the wizard, please see the Reference Manual.

To use the wizard:

- Press PTT, then press (**Menu**) to return to the top level of the menu structure.



- Check that the icon for the wizard is highlighted (), then press (**OK**).

- Press (**Yes**) to confirm that you want to start the wizard.

  If you want to bypass the wizard, press (**No**).

Selecting a language

NOTE: This step in the wizard is shown if you have multiple languages available.

To select a language:

- Press ▲ or ▼ to scroll to the language that you want to use on the control point, then press **OK**.
- Press (**Save**) to save the information.
- Press (**Yes**) to confirm that you want to change the language.

Setting the time and date

To set the time and date:

- Press ◀ or ▶ to select the time zone that you want to use.
- Press ▼ to move to the **Daylight Saving** entry.
- Press ◀ or ▶ to select the time that you want to use.
- Press ▼ to move to the **Local Time** entry.
- Press ▶ to enter edit mode for the local time.
- Press ▲ or ▼ to scroll to the value that you want to set, then press ▶ to move to the next item.
- Repeat this for minutes, seconds and AM/PM values.
- Press (**Save**) to save the local time.
- Press ▼ to move to the **Local Date** entry.
- Press ▶ to enter edit mode for the local date.

- Press ▲ or ▼ to scroll to the value that you want to set, then press ▶ to move to the next item.
- Repeat this for the day/month and year, as required.
- Press (**Save**) to save the local date.
- Press ▼ to move to the **Clock** entry.
- Press ◀ or ▶ to select the type of clock that you want to use.
- Press ▼ to move to the **Time Format** entry.
- Press ◀ or ▶ to select the format that you want to use.
- Press ▼ to move to the **Date Format** entry.
- Press ◀ or ▶ to select the format that you want to use.
- If you want to review the information that you have entered, press ▲ or ▼ to move through the entries.
- Press (**Save**) to save the information.

  If you have not changed any of the time and date information, press (**Close**).

Setting the location of the desk console

NOTE: This step in the wizard is shown if your control point is a desk console.

To set the location of the desk console:

- Press ◀ or ▶ to select the value that you want to use from the following:
  - If the desk console is connected to the transceiver using cable 08-07205-00x, select **Local**.
  - If the desk console is connected to the transceiver using an Ethernet cable (08-07215-001), select **Remote**.
- Press (**Save**) to save the information.

Adding a channel

NOTE: This step in the wizard is shown if you are permitted to add channels.

To add a channel:

- ❑ Press (**Yes**) to add a channel, if required.
- ❑ Enter the name that you want to use for the channel.
- ❑ Press ▼ to move to the **Tx** entry.
- ❑ Enter the transmit frequency (in kHz) that you want to use for this channel.
- ❑ Press ▼ to move to the **Rx** entry.

  The **Rx** entry is automatically filled with the transmit frequency.
- ❑ Enter the receive frequency (in kHz), if required to be different from the Tx frequency.
- ❑ Press ▼ to move to the **Mode** entry.
- ❑ To select a mode:
  - Press ▶ to view the list of available modes.
  - Press ▲ or ▼ to scroll to the mode that you want to use, then press **OK**.

    The check box contains a ✓ when the mode is selected.
  - Select other modes, as required.

    NOTE: The modes that you select become the allowed modes for this channel. In a scan table, you can duplicate a channel and select another of the allowed modes.
  - Press (**Save**).
- ❑ If you want to review the information that you have entered, press ▲ or ▼ to move through the entries.
- ❑ Press (**Save**) to save the information.

- ❑ Do *one* of the following:
  - If you want to add another channel, press (**Yes**), then repeat these steps.
  - If you do not want to add another channel, press (**No**).

  The channels that you enter may be notionally grouped into scan tables. A scan table enables you to manage how these channels are scanned using one set of properties. The same channel may be included in one or more scan tables. One or more scan tables may be allocated to an HF network. The same scan table may be allocated to different HF networks.
- ❑ Do *one* of the following:
  - If you want to add a scan table, press (**Yes**).
  - If you do not want to add a scan table, press (**No**), then continue from *Entering a self address* on page 21.
- ❑ Do *one* of the following:
  - If you want to scan all of the channels in the transceiver that have a USB mode, press (**Yes**), then continue from *Entering a self address* on page 21.
  - If you want to choose the channels and modes that you want to scan, press (**No**), then continue from *Adding channels to a scan table* on page 20.

Adding channels to a scan table

To add channels to a scan table:

- ❑ Press ▲ or ▼ to scroll to the channel that you want to add, then press **OK**.
- ❑ Press ◀ or ▶ to select the mode that you want to use.
- ❑ Select more channels, as required.

- ❑ Press (**Save**) to add these channel selections.
- ❑ Continue from *Entering a self address* on page 21.

Entering a self address

A self address is used by other stations to call your station. For example, if the self address of your station is 1234, operators at other stations enter the address 1234 when they want to make a call to you.

To enter a self address:

- ❑ Enter the address that you want to use.

  You can enter up to six digits.

  NOTE: Addresses ending in 99 and 00 have a special function in Selcall HF networks.

- ❑ Press (**Save**) to save the information.

  NOTE: The wizard automatically allocates this self address to the default HF networks: Selcall and CALM (if FED-STD-1045 ALE or MIL-STD-188-141B ALE option is installed).

- ❑ Do *one* of the following:
  - If you want to add a contact, press (**Yes**), then continue from *Adding a contact* on page 22.
  - If you do not want to add a contact, press (**No**), then continue from *Selecting an antenna* on page 29.

Adding a contact

A contact is a person who you want to call, and for whom you want to pre-define the method of calling them. You may be able to contact the same person via a number of different methods. When you set up the contact, you define each method as a separate call for the contact.

NOTE: If you require more detail on adding a contact, see *Contacts* on page 93.

To add a contact:

- Enter the name that you want to use for the contact, then press (**Add Call**).

  The **HF Network** entry is highlighted.

  The HF network defines the call system and self address that is used by your station when the call is made. For example, if you want to select a channel for the call, use a Selcall HF network. If you want the transceiver to automatically select a channel for the call, use a CALM HF network.

- Press ◀ or ▶ to select the HF network that you want to use.
- Press ▼ to move to the **Call Type** entry.
- Press ◀ or ▶ to select the call type that you want to use.

  NOTE: The call type that you select affects information that you can enter for the remainder of this call.

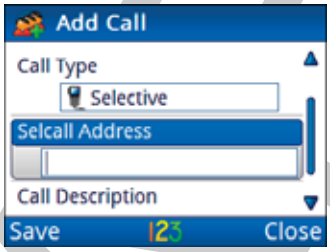
- If you are adding:
  - a Selective, Channel Test, Emergency, Get Position or Send Position call *Adding a simple call* on page 23
  - a Message call *Adding a Message call* on page 24
  - a Phone call *Adding a Phone call* on page 26
  - a Get Status call *Adding a Get Status call* on page 27

Adding a simple call

A simple call is a call that requires an address only at this stage of the definition process.

To continue with adding a Selective, Channel Test, Emergency, Get Position or Send Position call:

- Press ▼ to move to the **Selcall**|**ALE Address** entry.

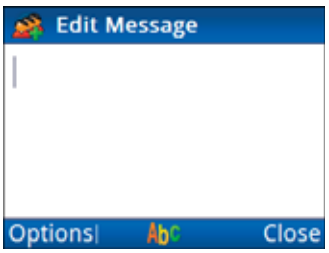


- Enter the address of the station that you want to call.
- Continue from *Completing the contact* on page 28.

Adding a Message call

To continue with adding a Message call:

- Press ▼ to move to the **Selcall**|**ALE Address** entry.
- Enter the address of the station that you want to call.
- Press ▼ to move to the **Message** entry, then press ▶.

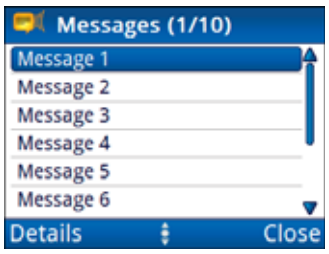


- If you want to enter a message:
  - Start typing the message.

    NOTE: Press **OK** to start a new line, if required.
  - Press (**Options**), scroll to **OK**, then press (**Select**) to add the message to the call.

❑ If you want to select a message from a list of stored messages:

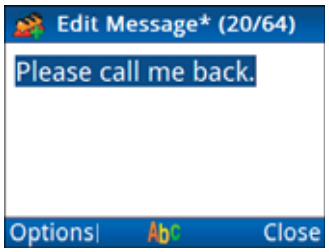
- Press (**Options**), scroll to **Stored**, then press (**Select**).



- Press ▲ or ▼ to scroll to the message that you want to use.

  NOTE: If you want to view the message, press (**Details**) to view the message, then press (**Close**).

- Press **OK** to select the message.
- Edit the message, if required.



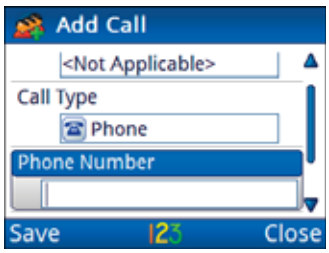
- Press (**Options**), scroll to **OK**, then press (**Select**).

❑ Continue from *Completing the contact* on page 28.

Adding a Phone call

To continue with adding a Phone call:

- Press ▼ to move to the **Phone Number** entry.



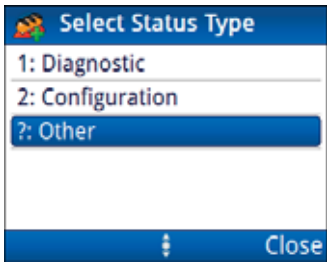
- Enter the phone number.
- Continue from *Completing the contact* on page 28.

Adding a Get Status call

To continue with adding a Get Status call:

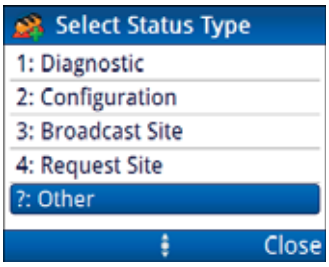
- Press ▼ to move to the **Selcall**|**ALE Address** entry.
- Enter the address of the station that you want to call.
- Press ▼ to move to the **Status Type** entry, then press ▶.

Selcall HF network



ALE/CALM HF network

ALE Site Manager:
Auto
Manual
Restricted



- Press ▲ or ▼ to scroll to the status type that you want to use, then press **OK**.
- If you selected **?: Other** as the status type, enter the text/command that you want to send, press (**Options**), scroll to **Save**, then press (**Select**).
- Continue from *Completing the contact* on page 28.

Completing the contact

To finish entering the information required for the contact:

- Press ▼ to move to the **Call Description** entry.

  By default, the call type is entered as the call description.
- Enter the description that you want to use for this call.
- Press (**Save**) to save the information.
- If you want to add another call for the contact, press (**Yes**), then repeat the steps for adding a call.

  If you do not want to add another call, press (**No**).
- If you want to add another contact, press (**Yes**), then repeat the steps for adding a contact.

  If you do not want to add another contact, press (**No**).
- Do *one* of the following:
  - If you want to select an antenna, continue from *Selecting an antenna* on page 29.
  - If you do not want to select an antenna, continue from *Selecting a peripheral device* on page 30.

Selecting an antenna

Each type of antenna has a specific requirement for tuning, and the transceiver uses a different protocol for each one. You must select the type of antenna that is used in your station so that the transceiver knows how to tune the antenna. Some antennas, such as broadband antennas, do not require tuning.

To select an antenna:

- ❑ Do *one* of the following:
  - Press ▲ or ▼ to scroll to the antenna type that you want to use, then press **OK**.
  - Press (**Close**), then continue from *Selecting a peripheral device* on page 30.
- ❑ Press (**Save**) to save the information.
- ❑ Do *one* of the following:
  - If you want to connect an accessory to the 15-way port of the RFU, press (**Yes**), then continue from *Selecting a peripheral device* on page 30.
  - If you do not want to connect an accessory, press (**No**), then press **OK** to close the wizard.

Selecting a peripheral device

When you select the peripheral device from the list, the transceiver automatically sets these properties.

NOTE: Codan peripheral devices are listed by their type number, for example, 3031 Crosspatch. The type number for a Codan device is located on the front or serial number escutcheon.

To select a peripheral device:

- Press ▲ or ▼ to scroll to the type of peripheral device that is attached to the connector, then press **OK**.

  If there are settings that you can change to optimise this peripheral for your requirements, ▶ is shown to the right of the peripheral name when it is selected.
- If you want to change settings for the peripheral, press ▶ to see the list of entries that you may change.

  If you change the value of an entry for a peripheral device from the default value, ● is shown next to the title of the entry.
- Press ⌐ (**Save**) to automatically update settings for correct operation of the connected peripheral device.
- Press **OK** to close the wizard.
- If you added a peripheral device, restart your transceiver to activate the new settings.

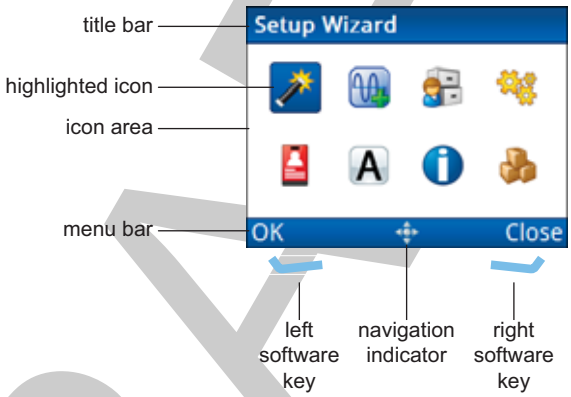
3 Navigating the menu structure

This section contains the following topics:

The basic menu structure

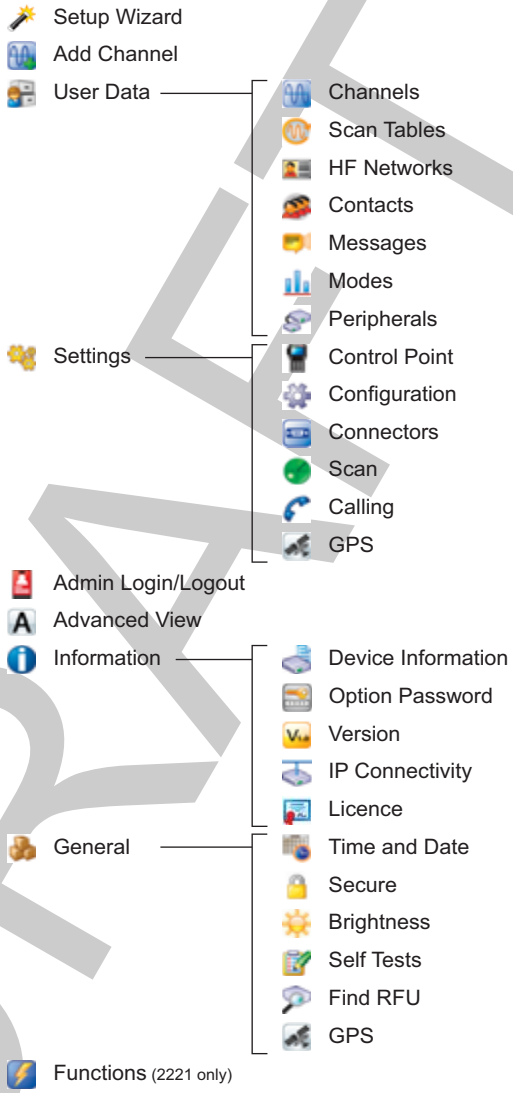
The menu structure comprises a main menu and a series of submenus that are accessed via the main menu. Each menu and submenu is represented by an icon. Some icons provide direct access to an input/view screen, while other icons provide a list of entries for the menu.

Figure 6: Typical menu screen



When an icon is highlighted, the name of the icon is shown in the title bar of the screen. For example, when the icon is highlighted, **Setup Wizard** is shown in the title bar.

Figure 7: Menu structure (user level, basic view)



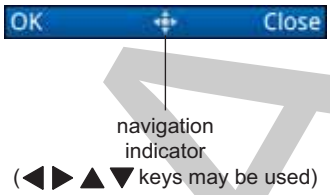
The menu items may contain further submenus and lists of entries. Each entry either has specific values from which you may choose, or you may enter the information required.

Navigating the menu structure

The menu structure comprises a main menu and a series of submenus that are accessed via the main menu. Navigation keys enable you to highlight an icon, then press **OK** to select that menu. You can continue drilling down through the menu structure in this way. At the lowest level of the menu structure there is either an input/view screen, or a list of entries.

Navigation is available when the navigation indicator is shown in the menu bar at the bottom of the screen.

Figure 8: Navigation indicator showing navigation keys that may be used



To navigate the menu structure:

- To move down through the menu structure:
  - Press ◀, ▶, ▲ or ▼ to highlight the icon that you want to select.

    The name of the icon appears in the title bar of the screen.
  - Press **OK**.
  - Continue moving down through the menu structure by highlighting the icon that you want, then pressing **OK**.
- To move through a list of entries at the lowest level of the menu structure, press ▲ or ▼.

❑ To go to the top level in the menu structure, do *one* of the following:

- Press PTT to exit to the channel screen, then press (**Menu**) to enter the top level of the menu structure.
- Press to return to the top level of the menu structure, one level at a time.

Overview of basic and advanced views

There are two views of information in the user interface of the control point: basic and advanced. The contents of basic and advanced views are pre-determined and cannot be changed.

Basic view

Basic view provides a condensed view of the user interface, and typically the view at which the control point is operated. When you power up the transceiver, the control point enters basic view. Basic view is indicated by the absence of an advanced view indicator in the menu bar.

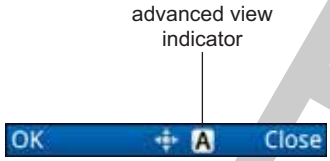
Figure 9: Basic view (no advanced view indicator)

Basic view provides access to items that are likely to be changed on a regular basis, or the user may want to change to suit their preferences for the day-to-day operation of the transceiver. The user can switch to advanced view to access items that they may want to change occasionally. The user should switch back to basic view to simplify the view of information presented on the screen of the control point.

Advanced view

Advanced view provides access to additional settings that may need to be changed occasionally, but are not required in the day-to-day operation of the transceiver. Generally, the control point of the transceiver is in basic view so you must switch to advanced view. Advanced view is indicated by the presence of the advanced view indicator in the menu bar.

Figure 10: Advanced view



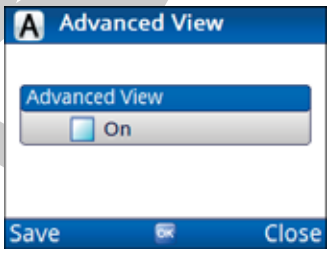
Switching between basic and advanced views

The user can switch between basic and advanced views to either:

- simplify the user interface of the control point (basic view), or
- access advanced settings that they are permitted to change (advanced view)

To switch between views:

- ❑ Press ⌣ until the main menu screen is shown.
- ❑ From the main menu, select A (**Advanced View**).



- ❑ Press **OK** to toggle advanced view on or off as required.
- ❑ Press ⌣ (**Save**).

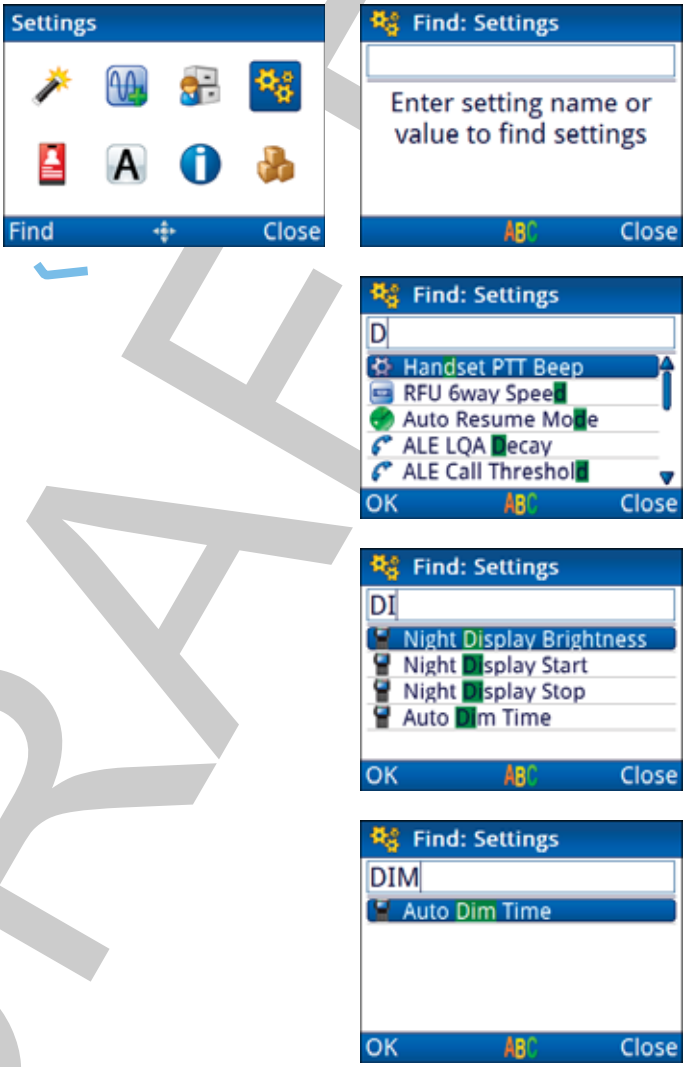
NOTE: You can also use the ⏻ + **2** hot-key sequence to place the user interface into advanced view.

Finding a word or value

The quickest way to find an entry or a value in the user interface of the control point is to use the Find function, which is available via the ⌐ key when the icon selected contains submenus or lists of entries. The feature searches for the sequence of characters (letter, numbers, or a combination of both) that you enter.

NOTE: The Find function only searches on words and values that are visible to the operator at the current view and level of access.

Figure 11: Find function



To find a word or value:

- *Highlight* the icon that represents the highest level in which you want to search, then press (**Find**).

NOTE: If you select the icon by pressing **OK**, you will enter that menu level. If you do not want to search at the lower level, press (**Close**) to return to the higher level, then press (**Find**) again.

- Enter the letter and/or number on which you want to search.

  Any entries or values that contain the character you have entered are shown in a list, with the character highlighted.

  NOTE: You may have to scroll through the list to view all of the results.

- Enter more characters to refine your search.

  The icon that is shown with each item in the list indicates the location of the information. For example, if appears next to the item, then it is located in **Channels**. If there is another item with next to it, then it is located in **HF Networks**.

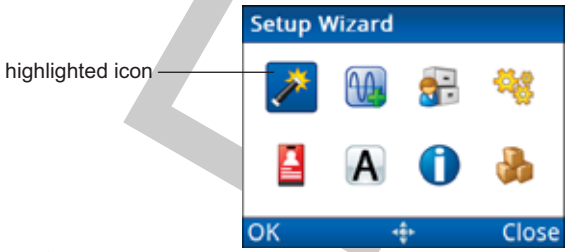
- Scroll to the entry or value that you want to select.
- Press **OK**.

  You are taken to the entry, or the name level of the user data containing the character.

Selecting an icon

The top levels of the menu structure are represented by icons. In order to enter the menu represented by the icon, you need to select the icon.

Figure 12: Highlighted icon



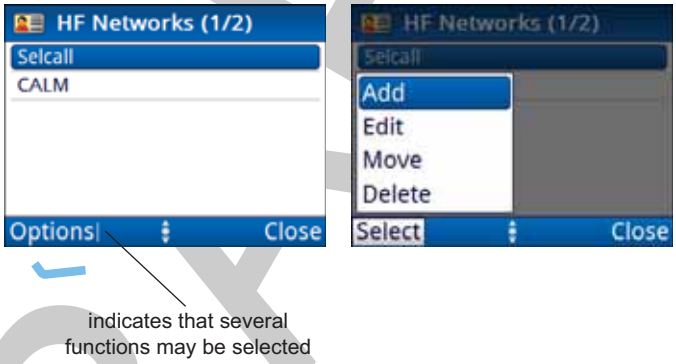
To select an icon:

- Use ◀, ▶, ▲ and ▼ to highlight the icon that you want to select.
- Press **OK** or (**OK**) to select the icon.

Selecting a function from the menu bar

The menu bar at the bottom of the screen provides varying functions, depending on the context. You can select a function directly, or activate a pop-up from the menu bar by pressing the corresponding key (or). A vertical line next to the text indicates that there are a number of choices from which to choose. Typically, you can add, edit, move, delete, save, duplicate, and clear items specific to your current location in the user interface.

Figure 13: Functions on the menu bar



To select a function from the menu bar:

- Press or , corresponding to the function that you want to select.

  If the function in the menu bar does not have a vertical line next to it, the function is performed immediately.

  If the function in the menu bar has a vertical line next to it, a pop-up is shown.

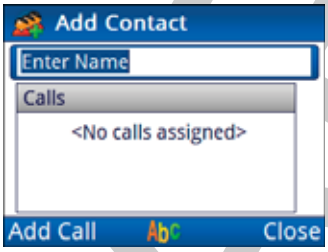
- If a pop-up of available functions is shown:
  - Press ▲ or ▼ to scroll to the function that you want to select.
  - Press ⌐ (**Select**).

    The function is performed.

Entering text in a field

You may need to enter text into a field within an entry. This may be a name given to some user data, or it may be a specific value, such as a frequency. When you first enter an editable text field, either by selecting a menu or using the ▲ and ▼ navigation keys, any existing text that you can edit is highlighted. You can use this text, edit this text, or delete this text and enter new text.

Figure 14: Example of an editable text field



To enter text in a field:

- Navigate to a field in which you can edit text.
- Do *one* of the following:
  - To use this text, press ▼.
  - To delete this text, start entering new text.
  - To edit this text, press ▶ to place the cursor at the end of the text.
- Press # repeatedly to select the character-entry mode that you want to use.

  The indicator for the character-entry mode is shown in the centre of the menu bar.

Figure 15: Character-entry mode indicator

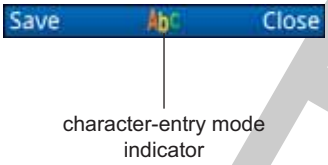


Table 2: Character-entry mode

Character-entry mode	Indicator
All upper-case letters	ABC
All lower-case letters	abc
Leading-capital letters	Abc
Numbers	123

- ❑ Do any of the following:
  - Press ◀ or ▶ to move the cursor to the point at which you want to enter text.
  - Press ↵ to delete text to the left of the cursor.
  - *Hold* ↵ to delete the whole entry.
  - Press the key on the keypad that corresponds to the letter that you want to enter.

    For example, if you want to enter the letter E, press **3** twice.

    After a brief pause, the cursor moves to the next space, ready to enter another character.

    NOTE: If you are in a letter-entry mode and want to enter a number, *hold* the key corresponding to the number that you want to enter.
- ❑ Press ▼ to move to the next entry.

Entering special characters

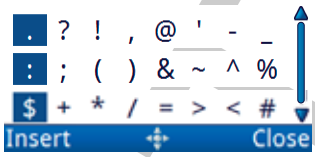
You can enter special characters in messages and names, and in addresses of stations that you call.

NOTE: If the FED-STD-1045 ALE/CALM option or MIL-STD-188-141B ALE option is installed in your transceiver, the ✱ key may be used to enter the global ALL address syntax (@?@) or special ALE addressing characters easily.

To enter a special character:

- ❑ Press ◀ or ▶ to move the cursor to the point where you want to insert a special character.
- ❑ Press ✱ to cycle through the available choices or *hold* ✱ to see the available special characters.

Depending on the context, you can select from:



- Press ▲, ▼, ◀ or ▶ to highlight the character that you want to use, then press ⏎ (**Insert**).
- Repeat as required.

Entering text in the 2221 Handset

The 2221 Handset does not have alphanumeric keys, however, you can still enter text into fields within the user interface.

CAUTION: This process describes how to enter text into an entry field using the virtual keypad, then save the text back to the entry. At this point, the change to the entry itself has not been saved. Descriptions of processes in this document continue from the change to the entry.

To enter text:

- Navigate to an entry in which you can enter text, then press **OK** to see the virtual keypad.

- Press ◀, ▶, ▲ or ▼ to move the highlight to the character that you want to select, then press **OK**.

  If you want to change case, enter a number, or enter a special character, scroll to Abc, then press **OK**.

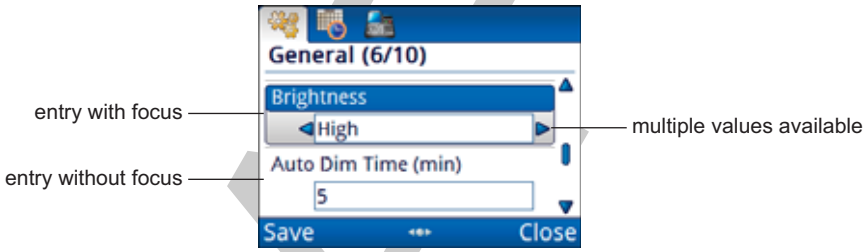
- Continue entering text in this manner.
- Press (**Save**) to save the information.

  You are returned to the entry.

Selecting a value from a list

When you select an entry that has a list of values, either by selecting an icon or using the ▲ and ▼ navigation keys, the field is highlighted to show that it can be edited, and ◀/▶ indicators appear on one or both sides of the field to show that multiple values are available.

Figure 16: List of entries, with and without focus



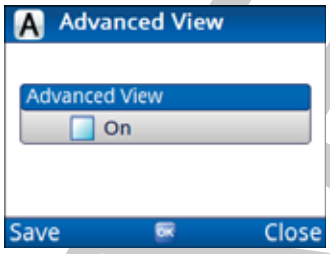
To select a value from a list:

- Navigate to an entry in which you can select a value.
- Press ◀ or ▶ to select the value that you want to use.
- Press ▼ to move to the next entry.

Selecting/deselecting a check box

There are some entries in the menu structure that require you to enable or disable a particular feature via a check box. When the check box contains a ☑, the feature is enabled. If the check box is clear, the feature is disabled.

Figure 17: Entry with a check box



To select or deselect a check box:

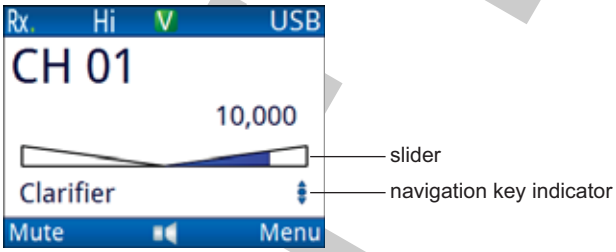
- Highlight the entry.
- Press **OK** to toggle the check box as selected or deselected.

  When the check box is selected, the item is enabled. When the check box is clear, the item is disabled.
- Press (**Save**) to save the information.

Moving a slider

Some values in the user interface of the control point are represented by a slider.

Figure 18: A slider value



To move a slider:

- Press any of the navigation keys suggested in the navigation key indicator to adjust the slider.

Changing the order of items in a list

In some areas of the control point, you are able to change the order in which the items appear, which impacts how the item is viewed, or when each item may be used. For example, you may change the order in which the channels, scan tables, HF networks, contacts, phone links, and NETs are listed so that you don't have to scroll to the item to select it. In areas where the order is important, such as NET members, you can move the items into the preferred response order.

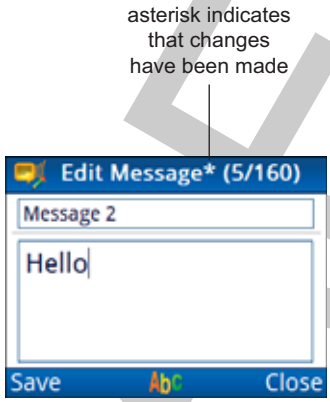
To change the order of items in a list:

- Highlight the item that you want to move.
- Press ⌐ (**Options**), scroll to **Move**, then press ⌐ (**Select**).
- Press ▲ or ▼ to move the item to the new position in the list, then press ⌐ (**Place**).

Saving your changes

When information in an entry has been changed, either by editing existing text or selecting a different value from a list, an asterisk is added to the title of the screen.

Figure 19: Screen that has changes to be saved



To save changes:

- ❑ Do *one* of the following:
  - Press (**Save**).
  - Press (**Options**), scroll to **Save**, then press (**Select**).
  - Press (**Close**) to discard the changes.

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4 Structure of information

This section contains the following topics:

Structure of user information

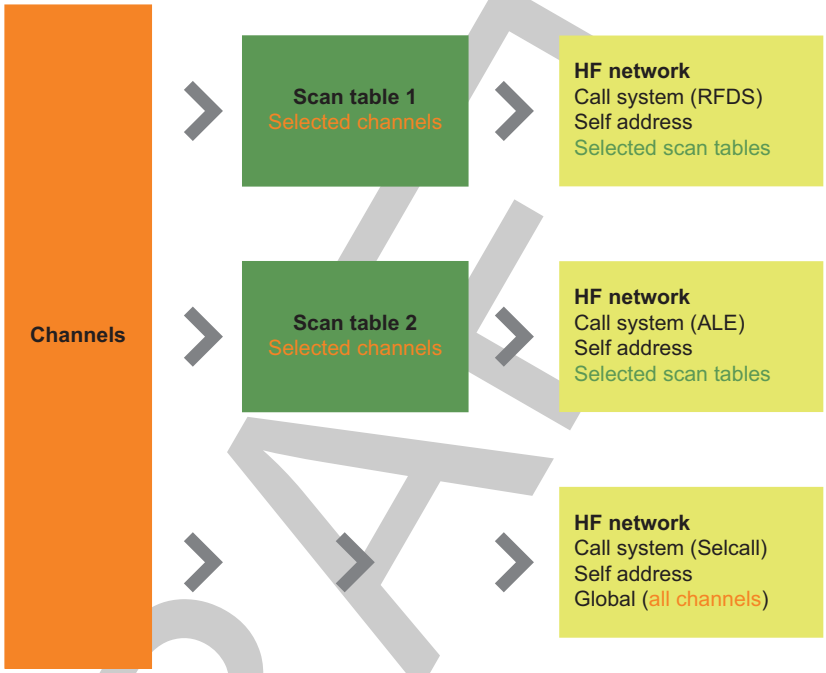
Information in the Envoy™ Transceiver is stored like blocks in a building. Basic blocks are populated with information first, then these blocks, along with different blocks, are assembled into larger blocks. Ultimately, one of the top-level blocks is used to make a call.

The most basic block is a frequency. A frequency is combined with a mode, say USB or LSB, and a name to become a channel. Channels may be grouped into scan tables. Scan tables may be allocated to HF networks. An HF network defines the call system by which a call is made.

Further blocks may be assembled for the convenience of the user. A contact stores information on the typical calls that can be made to a person. Each call is defined by the HF network and the call type.

How these blocks are assembled is up to the system administrator. There is, of course, finer detail that needs to be included, however, the basic structure of information in the transceiver is shown in Figure 20.

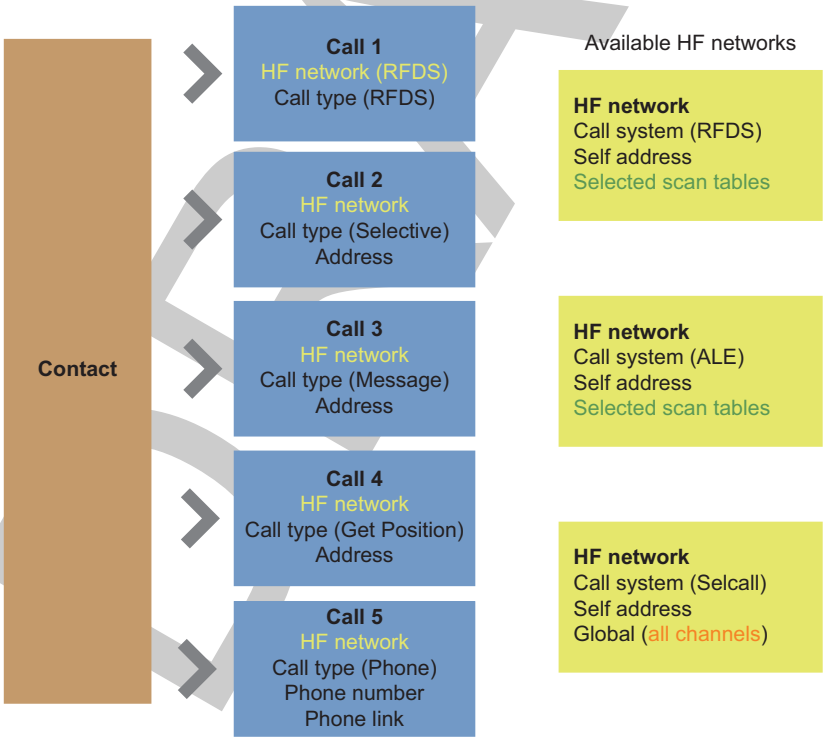
Figure 20: Basic structure of information in the Envoy™ Transceiver



Structure of contact and call information

A contact holds information on calls that you make to a particular person. You may have several methods of calling the same person. Each method that you use is bundled into a call for that contact. The basic building blocks that you require to define a call to a contact is the HF network that will be used, the type of call that you want to make, and the address or telephone number at which the person will answer the call. The basic structure of call information in a contact is shown in Figure 21.

Figure 21: Structure of call information for a contact in the Envoy™ Transceiver



5 Operating the transceiver

This section contains the following topics:

Switching the transceiver on and off

Switching on the transceiver

To switch on the transceiver:

- Press .

  The template screen, then the welcome screen (if set) are shown briefly, followed by the channel screen.

Switching off the transceiver

To switch off the transceiver:

- *Hold* for 2 sec, then release.

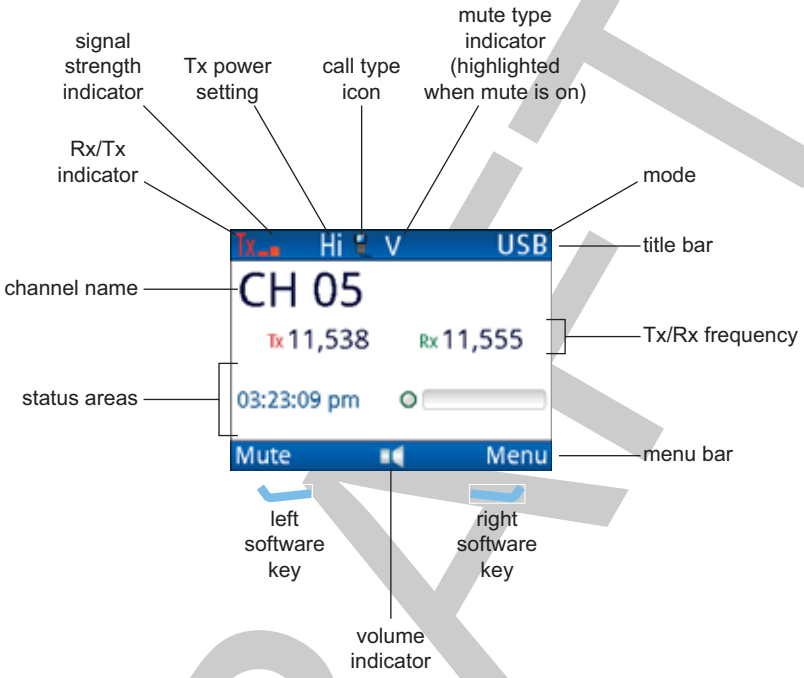
  The transceiver is switched off.

The channel screen

The channel screen shows the following information:

- the name of the currently selected channel
- the transmit and receive frequencies, if applicable
- a bar graph that indicates the signal strength on receive (green) and the output power on transmit (red)
- the transmit power level setting
- the call type icon (when calling) or the scan indicator (when scanning)
- the mute type indicator
- the mode

Figure 22: Channel screen



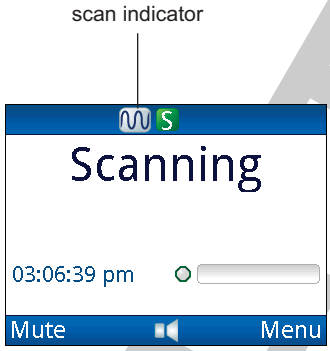
If the transmit and receive frequencies are the same, the frequency is only shown on the right side of the screen. The Rx/Tx indicator shows whether the transceiver is receiving (green) or transmitting (red). The more bars that are shown, the higher the signal strength.

Your transceiver may have the option of selecting high, medium, or low power. **Hi**, **Med**, or **Lo** is shown respectively to the right of the signal strength indicator.

While a call is being established, the transceiver shows that calling activity is in progress by flashing in place of the scan indicator. Once a call is established, these indicators are replaced with an icon that represents the type of call being sent or received.

When the transceiver is scanning, the channel screen is replaced by the scanning screen.

Figure 23: Scanning screen



Selecting a channel

To select a channel:

- Press PTT to exit to the channel or scanning screen.
- If the transceiver is scanning, press **SCAN** to switch off scanning.

- Press ▲ or ▼ to scroll to the channel that you want to use.

  The channel is selected.

  NOTE: If you want to change the sideband, press **MODE**. If the mode does not change, there is only one mode for the channel.

NOTE: If you have an automatic antenna tuner fitted, press PTT to tune the antenna to the currently selected channel.

- ❑ Do any of the following:
  - *Hold* **OK** to edit the channel, if permitted.
  - Press **OK** to search for a channel.
  - Press **CALL** to start a call.
  - *Hold* **CALL** to go to Contacts.

Scanning channels

If you intend to receive calls on several channels, switch on scanning. When scanning is switched on, the transceiver sequentially selects each channel/mode in your scan tables to detect incoming calls. The channel are scanned in a continuous cycle. Mute is switched on automatically.

NOTE: Only those scan tables that are set to be scanned have the channels scanned.

When the transceiver detects a call addressed to your station, it stops scanning and notifies you according to the type of call received. When you press **SCAN** to end the call, scanning resumes. If you do not press this key to end the call, or any other key within a pre-determined timeout, the transceiver automatically ends the call and resumes scanning.

NOTE: The default standby state for the transceiver is to return to scanning so that it is ready to receive calls across a range of frequencies.

When the transceiver detects voice, it notifies you according to the mute setting selected. If your transceiver is set to notify you when voice is detected (**V**), you can pause scanning, select the channel/mode on which the voice was heard, then resume scanning when required. If your transceiver is set to Selcall mute (**S**), it only pauses scanning when it detects a call addressed to your station.

It is recommended that scanning is switched on when you are not using the transceiver to communicate.

Switching scanning on or off

To switch scanning on or off:

- Press **SCAN**.

  If a call is not in progress, scanning is toggled on or off.

  If a call is in progress, the call is ended and the transceiver begins scanning.

NOTE: When scanning is switched on, mute is also switched on.

NOTE: If you press PTT while the transceiver is scanning, the scan is stopped.

Pausing scanning

To pause scanning:

- Do *one* of the following:
  - To pause scanning on the last-selected channel, press **OK**.
  - To pause scanning and scroll to another channel, press ▲ or ▼.

  The channel/modes through which you can scroll are those in the scan tables that are being scanned. They are not listed alphabetically but in the order in which they are being scanned.

  If you do not press a key within 30 sec, the transceiver automatically resumes scanning.
- While scanning is paused, do *one* of the following:
  - To speak on the selected channel, *hold down* PTT.
  - To resume scanning immediately, press **OK**.

Muting the transceiver

When the transceiver is set to a channel or is scanning channels, and mute is switched off, you hear on-air signals on each channel. If you do not want to listen to this, you can silence the transceiver by switching mute on.

You can set the mute to open when a voice signal is detected (Voice mute **V**), or only when a call addressed to your station is received (Selcall mute **S**). If you have a digital voice encryptor fitted and active, you can also set the mute to open only when a digitally encrypted voice signal is detected (Digital Voice mute **D**).

Switching mute on or off

To switch mute on or off:

- Press (**Mute**) on the channel, scanning or free-tune screen.

  On the 2221, press (**Options**), scroll to **Mute On**|**Off**, then press (**Select**).

  The **V** or **S** in the title bar of the channel screen is highlighted when mute is on.

Selecting the mute type

To select the mute type:

- Press V/S to toggle the mute type between Selcall mute (**S**) and Voice mute (**V**).

  NOTE: If you have the AES-256 digital voice encryptor fitted and active, an additional mute type of Digital Voice mute (**D**) is available.

Using the microphone

The microphone is located at the top centre of your handset. When you talk into the microphone:

- hold the microphone side-on and close to your mouth
- *hold down* PTT
- speak clearly at your normal volume and rate
- release PTT to return to receiving mode

NOTE: By default, the transceiver is set up to transmit a short beep when you release PTT. This removes the need for you to say 'over' at the end of your transmission.

CAUTION: Your conversation can be monitored by anyone tuned to your transmit frequency, unless you are using one of Codan's encryption options. Your signal can potentially travel very large distances.

If PTT is held continuously for a certain length of time, the system stops transmission, switches to receive and shows an error message on the control point. This ensures that, even if the PTT button is being held down accidentally, the battery will not be flattened, and your transceiver is ready to receive calls.

You can set the length of time the system waits before it cuts transmission (default is 10 min), or switch this feature off.

Setting the basics

Setting the date and time

The transceiver is set to UTC time in the factory. You set the local time and time zone offset for the location of the control point. This feature is useful if you have a communication network that spreads over several time zones, or you need to time stamp your transmissions according to the current time at longitude zero.

To set the time and date:

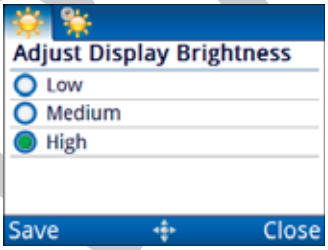
- From the main menu, select (**General**), then (**Time and Date**).
- Press (**Set**).
- Press ▼ to move to the **Time Zone** entry.
- Press ◀ or ▶ to select the time zone that you want to use.
- Press ▼ to move to the **Daylight Saving** entry.
- Press ◀ or ▶ to select the time that you want to use.
- Press ▼ to move to the **Local Time** entry.
- Press ▶ to enter edit mode for the local time.
- Press ▲ or ▼ to scroll to the value that you want to set, then press ▶ to move to the next item.
- Repeat this for minutes, seconds and AM/PM values.
- Press (**Save**) to save the local time.
- Press ▼ to move to the **Local Date** entry.
- Press ▶ to enter edit mode for the local date.
- Press ▲ or ▼ to scroll to the value that you want to set, then press ▶ to move to the next item.
- Repeat this for the day/month and year, as required.
- Press (**Save**) to save the local date.
- Press ▼ to move to the **Clock** entry.
- Press ◀ or ▶ to select the type of clock that you want to use.

- Press ▼ to move to the **Time Format** entry.
- Press ◀ or ▶ to select the format that you want to use.
- Press ▼ to move to the **Date Format** entry.
- Press ◀ or ▶ to select the format that you want to use.
- If you want to review the information that you have entered, press ▲ or ▼ to move through the entries.
- Press (**Save**) to save the information.

Setting the brightness of the display

To set the brightness:

- Do *one* of the following:
  - Press + **0**.
  - From the main menu, select (**General**), then (**Brightness**).

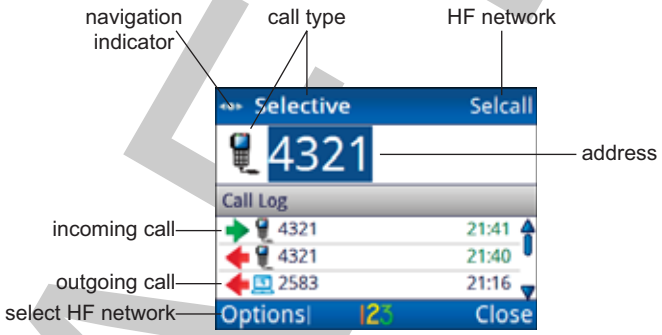


- Press ▲ or ▼ to scroll to the value that you want to set, then press **OK**.
- Press (**Save**) to save the information.

Calling

This section describes how to make the various types of calls from the transceiver.

Figure 24: Call screen



NOTE: Additional call types are discussed in the Reference Manual.

Making a Selective call

If you want to speak with the operator at a particular station, make a Selective call to the address of that station. When the station receives the call, the transceiver sounds an alert tone to notify the operator.

To make a selective call:

- Press **CALL**.

  The call type and address of the last call are shown at the top of the call screen.

- If you do not want to use the HF network shown at the top right of the screen:
  - Press (**Options**).
  - Scroll to **HF Networks**, then press (**Select**).
  - Scroll to the HF network that you want to use, then press **OK**.
- Press ◀ or ▶ to select the Selective call type if it is not selected.
- Do *one* of the following:
  - To repeat the call to the last address used, press **CALL**.
  - To call a different station, enter the address, then press **CALL**.
  - To repeat or return a call from the call log, press ▼ to scroll to the call, then press **CALL**.
- If prompted, press ▲ or ▼ to scroll to the channel that you want to use, then press **CALL**.

  A ✓ is shown next to the currently selected channel/mode.

  To abort the call before it is answered, press PTT or **SCAN**.

  There will be audible beeps or a pop-up message to indicate that the call has been successful.

Making a Message call

If you want to send a text message to another station, make a Message call.

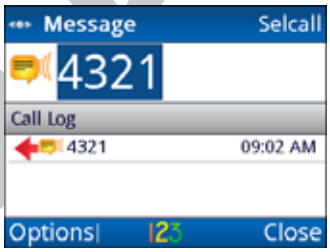
You can:

- enter a message at the time that you make a call
- store up to 10 messages in **User Data** > **Messages** for later use
- store messages in a contact as part of a pre-programmed Message call

To make a Message call:

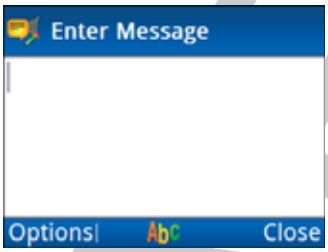
- Press **CALL**.

  The call type and address of the last call are shown at the top of the call screen.



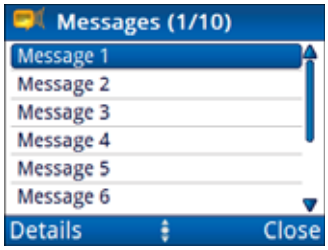
- If you do not want to use the HF network shown at the top right of the screen:
  - Press (**Options**).
  - Scroll to **HF Networks**, then press (**Select**).
  - Scroll to the HF network that you want to use, then press **OK**.
- Press ◀ or ▶ to select the Message call type if it is not selected.

- Do *one* of the following:
  - To repeat the call to the last address used, press **CALL**.
  - To call a different station, enter the address, then press **CALL**.
  - To repeat or return a call from the call log, press ▼ to scroll to the call, then press **CALL**.



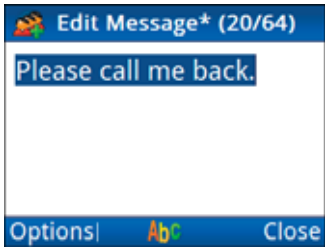
- If you want to enter a message:
  - Start typing the message.

    NOTE: Press **OK** to start a new line, if required.
  - Press (**Options**), scroll to **OK**, then press (**Select**) to add the message to the call.
- If you want to select a message from a list of stored messages:
  - Press (**Options**), scroll to **Stored**, then press (**Select**).



  - Press ▲ or ▼ to scroll to the message that you want to use.

    NOTE: If you want to view the message, press (**Details**) to view the message, then press (**Close**).
  - Press **OK** to select the message.
  - Edit the message, if required.



- Press (**Options**), scroll to **OK**, then press (**Select**).

❑ If prompted, press ▲ or ▼ to scroll to the channel that you want to use, then press **CALL**.

A ✓ is shown next to the currently selected channel/mode.

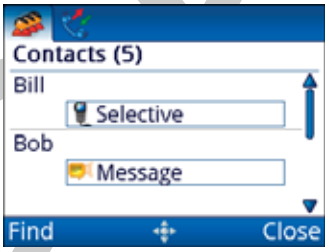
To abort the call before it is answered, press PTT or **SCAN**.

There will be audible beeps or a pop-up message to indicate that the call has been successful.

Making a call to a contact

To make a call to a contact:

❑ *Hold* **CALL**.



❑ Press ▲ or ▼ to scroll to the contact who you want to call.

❑ If required, press ◀ or ▶ to scroll to the call that you want to make.

The call types that are available for the contact are set up in **User Data** > **Contacts**.

NOTE: If only one call has been set up for the contact, you cannot select a different call type at the time of the call.

❑ Press **CALL**.

- If prompted, press ▲ or ▼ to scroll to the channel that you want to use, then press **CALL**.

  A ✓ is shown next to the currently selected channel/mode.

  To abort the call before it is answered, press PTT or **SCAN**.

  There will be audible beeps or a pop-up message to indicate that the call has been successful.

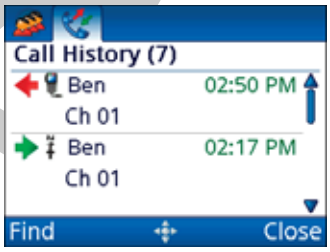
Making a call from the Call History

The Envoy™ Transceiver stores information on the calls that you send and receive. The detailed call history is accessed by *holding* **CALL**, then pressing ▶ to scroll to the **Call History** tab.

NOTE: A filtered call log is available in the call screen. This log contains only the latest instance of a call to a specific station.

To make a call from the Call History:

- *Hold* **CALL**.
- Press ◀ or ▶ to select the **Call History** tab.



- Press ▲ or ▼ to scroll to the call that you want to return or repeat, then press **CALL**.
- If you want to view the details of the call, press (**Options**), scroll to **Details**, then press (**Select**).

  Press (**Close**) to exit viewing the details.

- Press **CALL**.
- Press ◀ or ▶ to select the call type that you want to use.
- Continue from making your chosen call type.

Making a call from the Emergency key

You can set up emergency contacts with calls that are chained together when you *hold* the ⚠ key.

CAUTION: If you have more than one emergency contact, you will be prompted to select the emergency contact that you want to call at the time of the call.

NOTE: For more information, see the Reference Manual.

To make a call from the ⚠ key:

- *Hold* ⚠ for 2 sec.
- If you have more than one emergency contact, scroll to the contact that you want to call, then press **CALL**.
- If prompted, press ▲ or ▼ to scroll to the channel that you want to use, then press **CALL**.

  A ✓ is shown next to the currently selected channel/mode.

  To abort the call before it is answered, press PTT or **SCAN**.

  There will be audible beeps or a pop-up message to indicate that the call has been successful.

Using GPS

Viewing GPS information

NOTE: You can view GPS information if the GPS Call option is installed.

To view GPS information:

- From the main menu, select (**General**), then (**GPS**).
- Press ▶ to move to the tab that you want to view.

Table 3: GPS information

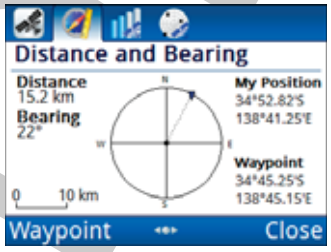
Tab	Description
	Latitude and longitude readings from a GPS receiver, or from **Settings** > **GPS** > **My Position**. Altitude and speed readings are hidden by default. The spinning circle shows that the GPS receiver is active, and the Last Fix reading shows the time lapse from the last receipt of valid GPS information.
	Distance and bearing from your location to a selected waypoint.

Table 3: GPS information (cont.)

Tab	Description
	Signal strength from each visible satellite. The number represents a particular satellite, and its location is shown on the Satellites Constellation tab. Satellites with a blue signal strength provide information for the GPS location.
	Map of visible satellites. The satellites that are coloured blue are providing the strongest signals and this information is being used to establish the position of the receiver. The other satellites are visible, but the signal is weaker and information is ignored.

- Press (**Close**).

Using encryption

Switching the encryptor on or off

The 2220 Handset and 2230 Desk Console have hot keys that access the secure feature directly. With the 2221 Handset, you access the secure feature via **Functions**.

If you want secure to remain on at all times, you set this in **Settings** > **Security** > **Secure Start State**.

NOTE: For more information, see the Reference Manual.

To switch the encryptor on or off:

- If you are using a 2220 Handset or 2230 Desk Console, press SEC.
- If you are using a 2221 Handset:
  - Press (**Options**).
  - Press ▲ or ▼ to scroll to the **Secure On**|**Secure Off** option.
  - Press (**Select**).

Secure is toggled on or off across all available encryptors.

For CIVS voice scrambling you will see:

Secure

Clear

For CES-128 voice encryption you will see:

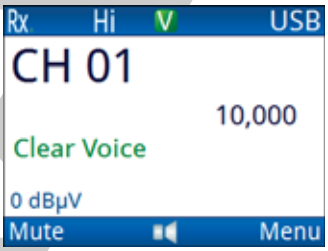
Secure

Clear

For AES-256 digital voice encryption you will see:

Secure

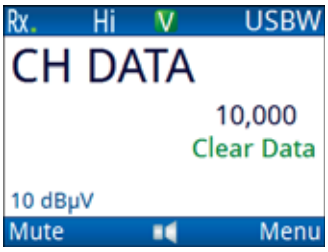
Clear



For AES-256 digital data encryption you will see:

Secure

Clear



- Change to the encryptor type that you want to use, if permitted.
- If you are using CES-128 voice encryption with a 2220 Handset or 2230 Desk Console, press ✱ to go to secure standby mode, if enabled and required.

Standby

- If you are using CES-128 voice encryption with a 2221 Handset, do the following to go to secure standby mode:
  - Press (**Options**).
  - Press ▲ or ▼ to scroll to the **Standby On** option.
  - Press (**Select**).

Selecting a secure key

If an encryptor contains two or more keys, you have the option of selecting a different key for encryption, if permitted. When AES-256 digital voice and data encryptors are used together, the selected key is common to both.

To select a secure key:

- If you are using a 2220 Handset or 2230 Desk Console, do *one* of the following:
  - From the main menu, select (**General**), then (**Secure**).
  - *Hold* SEC.
- If you are using a 2221 Handset:
  - From the main menu, select (**Functions**).
  - Press ▲ or ▼ to scroll to the **Secure Info** function.
  - Press (**OK**).
- Press ▲ or ▼ to scroll to the **Select Key Index** entry.

- Press ◀ or ▶ to select the secure key index that you want to use.

  Hold the key to scroll rapidly through the secure key indexes.
- Press (**OK**).

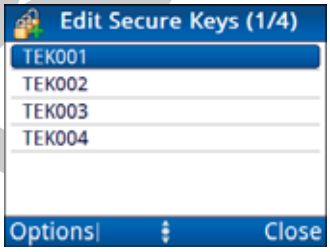
  The transceiver goes secure on the selected key.

Adding a secure key

If you are permitted to add a secure key for a CES-128 or AES-256 encryptor, the transceiver automatically selects the next empty secure index into which you can enter a secure key. You cannot select the secure key index.

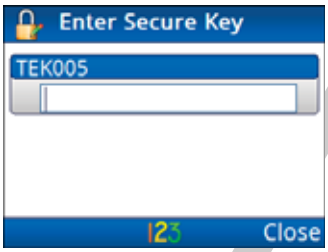
To add a secure key:

- ❑ If you are using a 2220 Handset or 2230 Desk Console, do *one* of the following:
  - From the main menu, select (**General**), then (**Secure**).
  - *Hold* SEC.
- ❑ If you are using a 2221 Handset:
  - From the main menu, select (**Functions**).
  - Press ▲ or ▼ to scroll to the **Secure Info** function.
  - Press (**OK**).
- ❑ Press ▲ or ▼ to scroll to the **Edit Keys** entry.
- ❑ Press ▶.



- ❑ Press (**Options**), scroll to **Add**, then press (**Select**).

NOTE: If all secure key indexes contain a key, **Add** is not shown as an option.



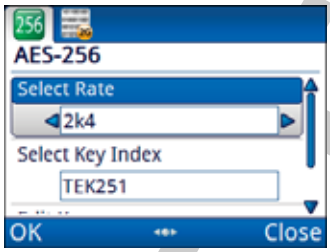
- Enter the characters that you want to use for the secure key.
- Press (**Save**) to save the information.
- Press (**Close**).

Selecting the data rate

The data rate affects the speed with which digitally encrypted transmissions are sent.

To select a different data rate:

- If you are using a 2220 Handset or 2230 Desk Console, do *one* of the following:
  - From the main menu, select (**General**), then (**Secure**).
  - *Hold* SEC.
- If you are using a 2221 Handset:
  - From the main menu, select (**Functions**).
  - Press ▲ or ▼ to scroll to the **Secure Info** function.
  - Press (**OK**).



- Press ◀ or ▶ to select the data rate that you want to use.
- Press (**OK**).

Using a crosspatch

Overview of the 3031 Crosspatch

The 3031 Crosspatch is a device that connects an HF communication system with a VHF or UHF communication system.

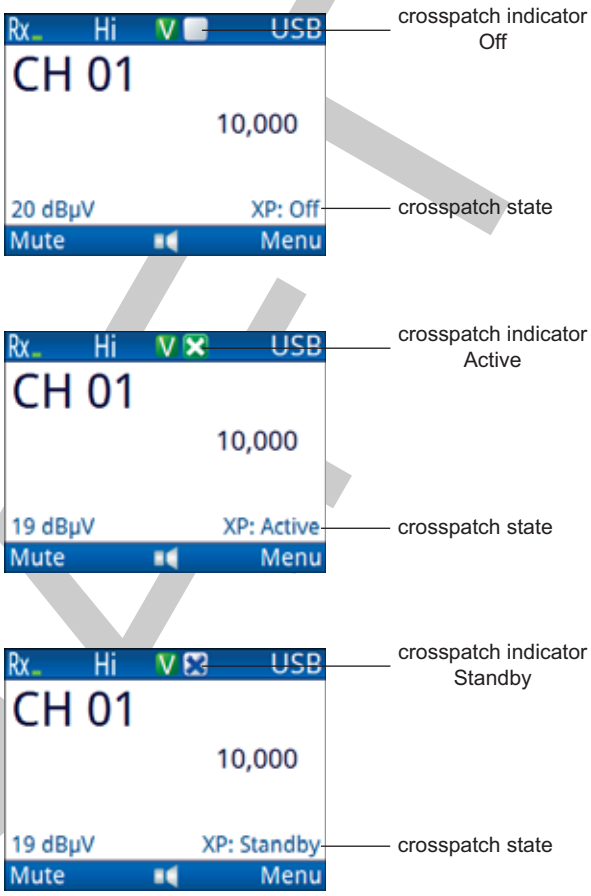
NOTE: For details on installing the crosspatch and its operation, see the documentation provided with the device.

NOTE: You must select the 3031 Crosspatch as the peripheral device for the 15-way connector.

The operating mode of the crosspatch may be controlled directly by the transceiver, or by using DTMF commands on a DTMF-capable VHF/UHF transceiver.

The crosspatch may be active, on standby, or switched off. The status of the crosspatch is shown in the title bar, and you can set the status to be shown in one of the status areas.

Figure 25: Crosspatch status



Changing the operating mode of the crosspatch

To change the operating mode of the crosspatch:

- If you are using a 2220 Handset or 2230 Desk Console, press **5**.
- If you are using a 2221 Handset:
  - From the main menu, select (**Functions**).
  - Press ▲ or ▼ to scroll to the **Next Crosspatch State** function.
  - Press (**OK**).

  The crosspatch toggles between the following states:
  - Off
  - Active
  - Standby

  NOTE: If the status shows **XP: Disconnected**, the crosspatch may not be connected, or is connected but not selected as a peripheral device.

Upgrading the transceiver via a USB stick

Firmware packages, profiles from TPS, and secure keys may be loaded onto a USB stick, providing a portable method of upgrading transceivers in the field. You can also read a profile from a transceiver in the field. When the USB stick is connected to the control point, a selection menu is shown for various activities, depending on the values set in **Settings** > **General** > **USB User Access**.

To manage profiles, firmware, and secure keys:

- Connect your USB stick to the control point using a standard USB A (female) to micro USB cable.

  The USB stick is detected automatically.

- Press ▲ or ▼ to scroll to the activity that you want to perform from the following:
  - If you want to program a profile from the USB stick to the transceiver, select **Program Profile**.
  - If you want to read the profile from the transceiver to the USB stick, select **Read Profile**.
  - If you want to upgrade the transceiver with a firmware package from the USB stick, select **Upgrade Firmware**.
  - If you want to program secure keys to a transceiver that has an encryptor module enabled, select **Program Secure Keys**.

- ❑ Do *one* of the following:
  - Press ▲ or ▼ to scroll to the firmware package, profile, or key set file, press (**Options**), scroll to **Open**, then press (**Select**).
  - Press ▲ or ▼ to scroll to the folder in which you want to save the profile from the transceiver, then press (**Save**).
- ❑ Press (**Yes**) to confirm that you want to complete the selected action.
- ❑ Perform more tasks with the USB stick as required.
- ❑ Press (**Eject**) when you have finished working with the USB stick.

6 Contacts

This section contains the following topics:

Adding a contact

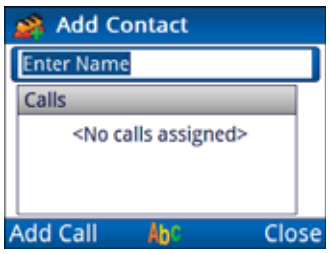
Contacts are used to pre-define the typical calls that you want to make to another person. For each contact you can define a number of calls. Each call contains information about:

- the call system that you want to use
- the type of call that you want to make to the contact
- the address or telephone number of the station at which this contact may be located

NOTE: You can select some of the call information to prompt you for a choice at the time that a call is made via the contact. The **Prompt** value is available in these instances.

To add a contact:

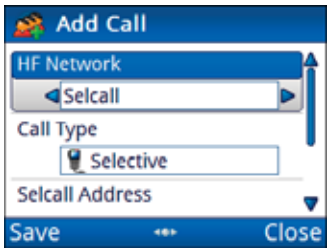
- From the main menu, select (**User Data**), then (**Contacts**).
- Select (**Contacts**) or (**Emergency Contacts**), as required.
- Press (**Add**).



- Enter the name that you want to use for the contact, then press (**Add Call**).

  The **HF Network** entry is highlighted.

  The HF network defines the call system and self address that is used by your station when the call is made. For example, if you want to select a channel for the call, use a Selcall HF network. If you want the transceiver to automatically select a channel for the call, use an ALE/CALM HF network.



- Press ◀ or ▶ to select the HF network that you want to use.
- Press ▼ to move to the **Call Type** entry.
- Press ◀ or ▶ to select the call type that you want to use.

NOTE: The call type that you select affects information that you can enter for the remainder of this call.

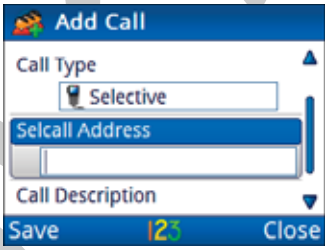
- If you are adding:
  - a Selective, Channel Test, Emergency, Get Position or Send Position call, continue from *Adding a simple call* on page 96
  - a Message call *Adding a Message call* on page 97
  - a Phone call *Adding a Phone call* on page 98
  - a Get Status call *Adding a Get Status call* on page 99
  - an RFDS Emergency call *Adding an RFDS Emergency call* on page 100

Adding a simple call

A simple call is a call that requires an address only at this stage of the definition process.

To continue with adding a Selective, Channel Test, Emergency, Get Position or Send Position call:

- Press ▼ to move to the **Selcall**|**ALE Address** entry.

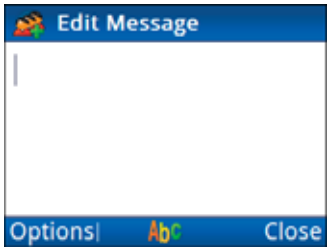


- Enter the address of the station that you want to call.
- Continue from *Completing the contact* on page 101.

Adding a Message call

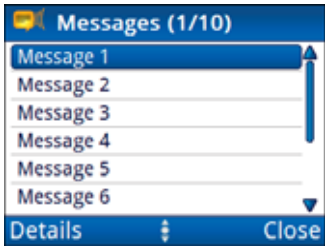
To continue with adding a Message call:

- Press ▼ to move to the **Selcall**|**ALE Address** entry.
- Enter the address of the station that you want to call.
- Press ▼ to move to the **Message** entry, then press ▶.



- If you want to enter a message:
  - Start typing the message.

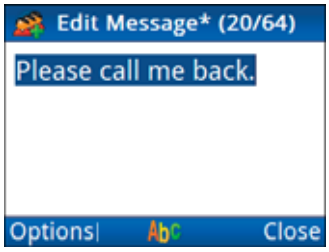
    NOTE: Press **OK** to start a new line, if required.
  - Press (**Options**), scroll to **OK**, then press (**Select**) to add the message to the call.
- If you want to select a message from a list of stored messages:
  - Press (**Options**), scroll to **Stored**, then press (**Select**).



- Press ▲ or ▼ to scroll to the message that you want to use.

  NOTE: If you want to view the message, press (**Details**) to view the message, then press (**Close**).

- Press **OK** to select the message.
- Edit the message, if required.



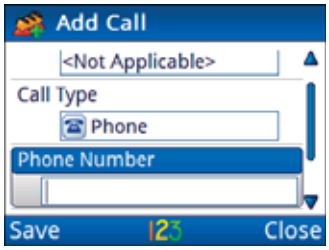
- Press (**Options**), scroll to **OK**, then press (**Select**).

❑ Continue from *Completing the contact* on page 101.

Adding a Phone call

To continue with adding a Phone call:

❑ Press ▼ to move to the **Phone Number** entry.



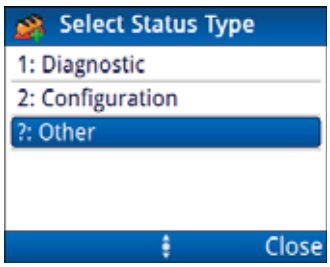
- Enter the phone number.
- Continue from *Completing the contact* on page 101.

Adding a Get Status call

To continue with adding a Get Status call:

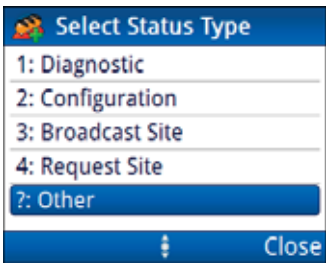
- Press ▼ to move to the **Selcall**|**ALE Address** entry.
- Enter the address of the station that you want to call.
- Press ▼ to move to the **Status Type** entry, then press ▶.

Selcall HF network



ALE/CALM HF network

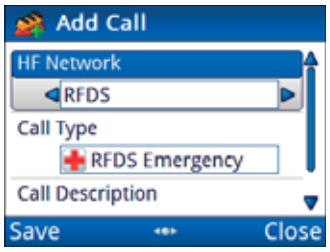
ALE Site Manager:
Auto
Manual
Restricted



- Press ▲ or ▼ to scroll to the status type that you want to use, then press **OK**.
- If you selected **?: Other** as the status type, enter the text/command that you want to send, press (**Options**), scroll to **Save**, then press (**Select**).
- Continue from *Completing the contact* on page 101.

Adding an RFDS Emergency call

NOTE: RFDS Emergency calls are only available when an RFDS HF network is selected or you set the **HF Network** entry to **Prompt**.



To continue with adding an RFDS Emergency call:

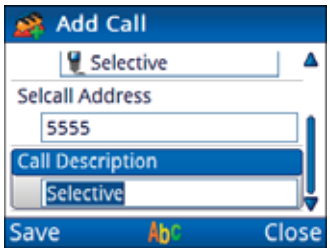
- Continue from *Completing the contact* on page 101.

Completing the contact

To finish entering the information required for the contact:

- Press ▼ to move to the **Call Description** entry.

  By default, the call type is entered as the call description.

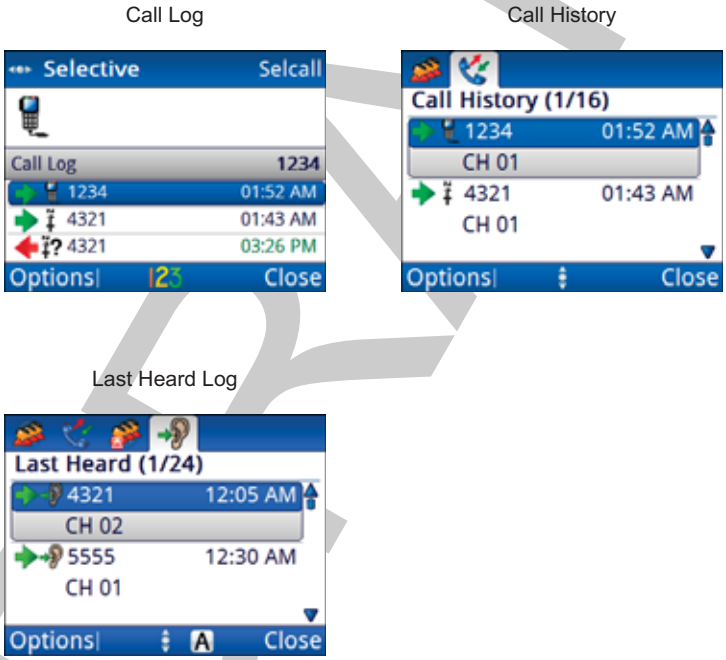


- Enter the description that you want to use for this call.
- Press (**Save**) to save the information.
- If you want to add another call, press (**Options**), scroll to **Add Call**, press (**Select**), then repeat the steps for adding a call.
- Press (**Options**), scroll to **Save**, then press (**Select**).

Adding a contact from the Call Log, Call History, or Last Heard Log

You can save information from the Call Log, Call History, or Last Heard Log to Contacts. This can either be a new call type for an existing contact, or you can add a new contact to hold this call information. The Call Log and Call History are separate entities, however, the process for saving the call information to a contact is the same.

Figure 26: Call Log, Call History and Last Heard Log



To add a contact from the Call Log, Call History, or Last Heard Log:

- ❑ Do *one* of the following:
  - Press **CALL**, then press ▲ or ▼ to scroll to the entry in the Call Log.
  - *Hold* **CALL**, press ▶, then press ▲ or ▼ to scroll to the entry in the Call History.
- ❑ Press (**Options**), scroll to **Save**, then press (**Select**).

  You are informed if there is a matching contact for the address in the call, and whether or not you want to append this call to that contact. If there is no matching contact you can create a new contact.
- ❑ Do *one* of the following:
  - If there is a matching contact who you want to use, press (**Yes**), then edit the call as required.
  - If you do not want to use the matching contact, press (**No**), create a new contact, then edit the call as required.
  - If there is no matching contact, edit the call as required.
- ❑ Press (**Save**) to save the information.

  If the contact does not exist, enter a name for the contact, then press (**Save**).

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7 Specifications

Table 4: Specifications

Item	Specification
Frequency range	Transmit: 1.6 to 30 MHz Receive: 0.25 to 30 MHz
Channel capacity (single or two-frequency simplex channels)	X1: 100 (International) 400 (Australia) X2: 1 000
Operating modes	Single sideband (J3E) USB and LSB or switched USB/LSB, AM (A3E Rx, H3E Tx), CW (J1A, A1A)
Environment	Ambient temperature: −30 to +60°C (–22 to 140°F) Relative humidity: 95% Derate upper ambient temperature by 1°C (33.8°F) per 330 m (360 yd) above sea level
Cooling	Convection or fan (Option F)

Table 4: Specifications (cont.)

Item	Specification	
Size	2210 RFU:	210 mm W × 270 mm D × 65 mm H (8.4 in W × 10.8 in D × 2.6 in H)
	2220/2221 Handset:	74 mm W × 32 mm D × 150 mm H (2.9 in W × 1.3 in D × 5.9 in H)
	2230 Desk Console:	190 mm W × 233 mm D × 81 mm H (7.5 in W × 9.2 in D × 3.2 in H)
	Handset and speaker connector:	42 mm W × 55 mm D × 22 mm H (1.7 in W × 2.2 in D × 0.9 in H)
Weight	2210 RFU:	2.8 kg (6.2 lb)
	2220/2221 Handset:	0.3 kg (0.7 lb)
	2230 Desk Console:	1 kg (2.2 lb)
	Handset and speaker connector:	0.4 kg (0.9 lb)
Sealing	All units:	IP41

A Installing the transceiver

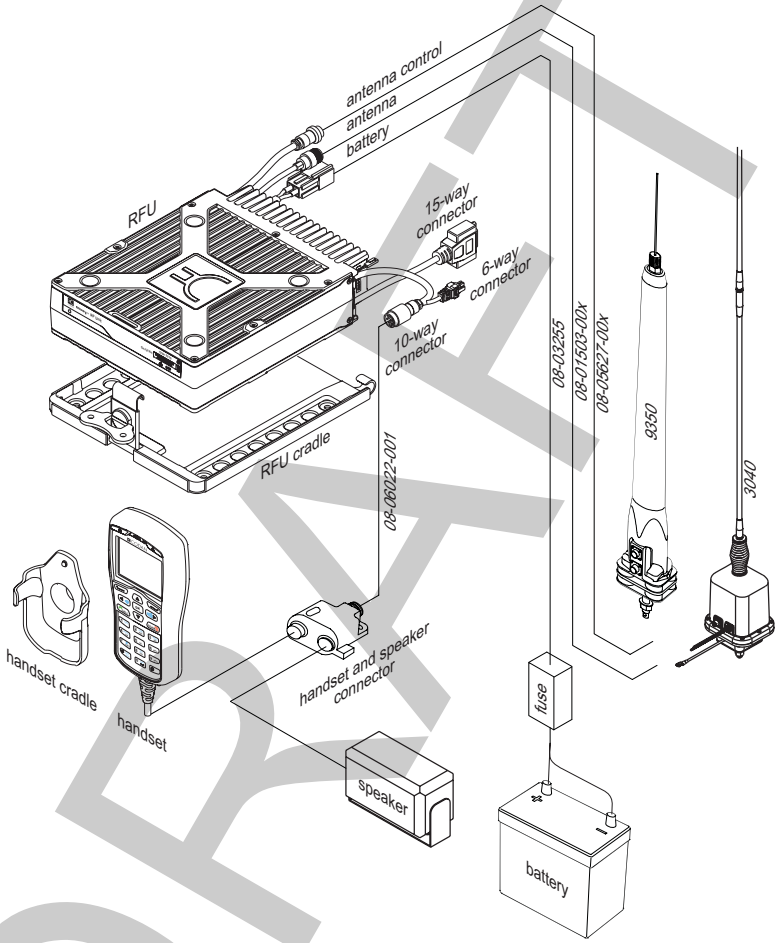
This section contains the following topics:

Overview of mobile stations

A mobile station typically consists of a transceiver, a 12 V DC power supply (battery), an antenna, control and accessory devices, ancillary equipment, and appropriate connecting cables. The antenna is connected to the transceiver by coaxial cable. An automatic tuning antenna also requires a control cable connected to the transceiver.

When space is limited in a mobile situation, the transceiver may be located in the boot or behind/under a seat.

Figure 27: Typical mobile station



NOTE: A range of ancillary equipment may be connected to the Envoy™ Transceiver using the 6-way and 15-way connectors at the rear of the RFU.

Cables in a mobile station

Table 5: Cables for a typical mobile Envoy™ station

Cable	Symbol	Part number
Handset and speaker connector[1]		08-06022-001
Coaxial cable between RFU and antenna[2]		08-01503-006
Control cable between RFU and antenna[b]		08-05627-006
DC power supply cable[a]		08-03255

1. The part number for the cable corresponds to a standard 6 m cable.
2. The part number for the cable corresponds to a standard 6 m cable. The cable is also available in a number of shorter and longer lengths.

Mounting a mobile Envoy™ station

Most components of a mobile Envoy™ station are provided with their own mounting cradles. For general guidance on suitable locations for equipment and installing these stations see the reference material on the enclosed CD.

Mounting the handset cradle

To mount the handset cradle:

- Mount the handset according to the fitting instructions (Codan part number 15-00149-001) provided with the handset cradle.

Mounting the speaker

To mount the speaker:

- Secure the mounting cradle to the surface with at least two screws.

  Ensure there is sufficient space at the rear for the cable.

- Attach the speaker to the cradle with the two screws and rubber washers.

Mounting the handset and speaker connector

To mount the handset and speaker connector:

- Use cable ties or screws to secure the handset and speaker connector in a suitable location.

Mounting the RFU

CAUTION: If you are transferring a fixed station to a mobile station and you have installed rubber feet to the bottom of the RFU, you must remove the rubber feet before installing it into the mounting cradle.

To mount the RFU:

- Secure the mounting cradle to the surface with at least four screws, one in each corner of the cradle.

  NOTE: Ensure there is sufficient space at the rear of the cradle to clear the RFU heatsink.

- If the key is locked to the base of the cradle, flip the key away from the base until it can be rotated (see Figure 27), then rotate the key in a counterclockwise direction.

- Place the RFU into the cradle and push it under the tabs at the rear of the cradle, then hold the clamp against the front of the RFU.

- Rotate the key clockwise, then push the key toward the base of the cradle to lock the RFU into position.

Connecting a mobile Envoy™ station

NOTE: A typical mobile station is shown in Figure 27.

To connect a mobile station:

- Connect the cable (Codan part number 08-06022-001) from the handset and speaker connector to the 10-way plug on the cable lead from the RFU, then secure the locking ring tightly into position.
- Connect the plug of the handset cable to the socket on the handset and speaker connector, then secure the locking ring tightly into position.
- Connect the plug at the end of the speaker cable to the socket on the handset and speaker connector, then secure the cable by pushing it into the slot on the side of the connector.
- Connect the plug at the end of the cable (Codan part number 08-01503-00x) to the socket at the end of the cable lead from the RFU, then secure the locking ring tightly into position.
- Connect the plug at the opposite end of the cable (Codan part number 08-01503-00x) to the socket located at the base of the antenna, then secure the locking ring tightly into position.

Connecting the control cable to an automatic tuning antenna

To connect the control cable to an antenna:

- Connect the socket at the end of the cable (Codan part number 08-05627-00x) into the plug at the base of the antenna, then secure the locking ring tightly into position.
- Fit the plug at the opposite end of the cable (Codan part number 08-05627-00x) into the socket at the end of the lead from the RFU.

Connecting the power supply

To connect the transceiver to the battery power supply:

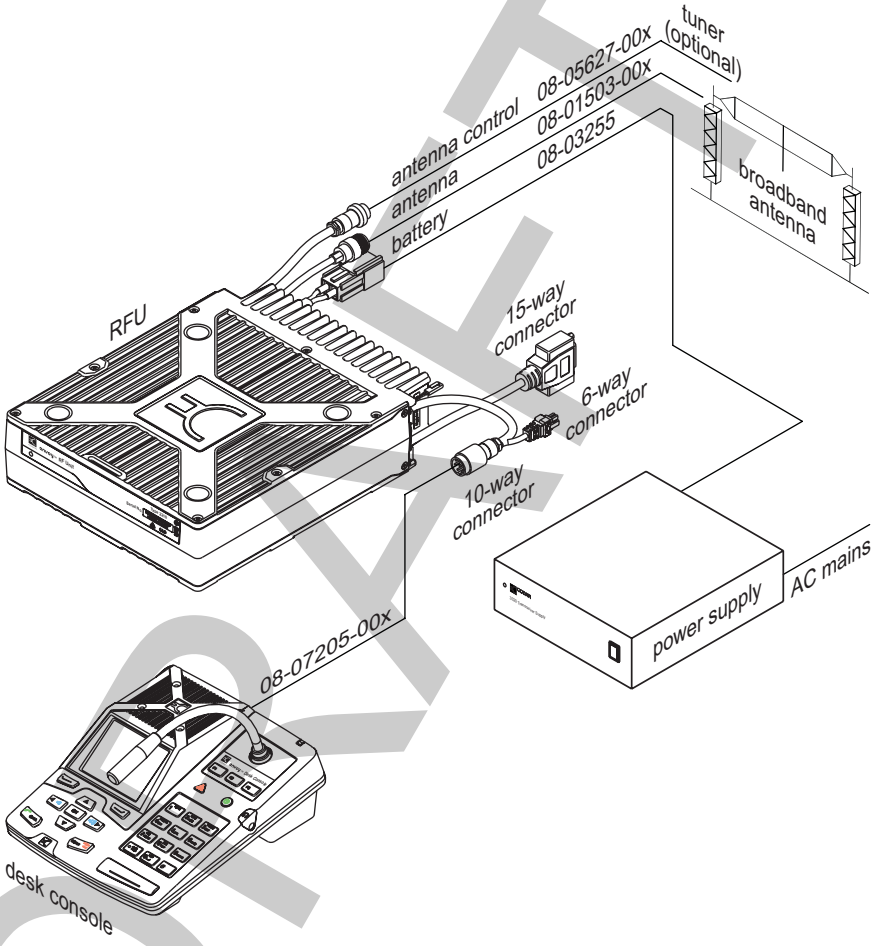
- If you are using a 24 V battery supply, connect the battery to a 24 V to 12 V voltage regulator (Codan part number 15-00508).
- Connect the power supply cable (Codan part number 08-03255) to the plug at the end of the **12 V** cable lead from the RFU.
- Route the power supply cable according to the instructions supplied with the Vehicle Installation Kit (Codan part number 15-00112).
- Insert the 32 A fuse and holder in the power supply cable at a convenient location, as close as possible to the battery terminals.
- Connect the power supply cable to the battery terminals, black to negative, red to positive.

Overview of fixed stations

A fixed station typically consists of a transceiver, an AC transceiver supply connected directly to the mains, an antenna, control and accessory devices, ancillary equipment, and appropriate connecting cables. The transceiver is connected to the DC output lead of the transceiver supply. The antenna is connected to the transceiver by coaxial cable.

NOTE: A fixed station may also be powered via a battery system or solar power system.

Figure 28: Typical fixed station



NOTE: A range of ancillary equipment may be connected to the Envoy™ Transceiver using the 6-way and 15-way connectors at the rear of the RFU.

Cables in a fixed station

Table 6: Cables for a typical fixed Envoy™ station

Cable	Symbol	Part number
Cable between RFU and 2230 Desk Console		08-07205-xxx
Handset and speaker connector[1] and cable (optional)		08-06022-001
Coaxial cable between RFU and antenna[2]		08-01503-006

1. The part number for the cable corresponds to a standard 6 m cable.
2. The part number for the cable corresponds to a 30 m coaxial cable. The cable is also available in a number of shorter lengths.

Mounting a fixed Envoy™ station

A fixed Envoy™ station may be mounted using a 2230 Desk Console. For general guidance on suitable locations for equipment and installing the fixed station see the reference material on the enclosed CD.

RFU and transceiver supply

The RFU and the transceiver supply are self-contained and are usually stacked loosely. If you want to mount the RFU and/or the transceiver supply, contact your Codan representative to obtain a rack-mounting unit or the appropriate mounting cradles.

CAUTION: If you are mounting an RFU in a cradle, do not fit rubber feet to the bottom of the RFU.

NOTE: If you are transferring a mobile station to a fixed station, and you are not mounting the RFU in a cradle, rubber feet can be fitted to the bottom of the RFU. The rubber feet are available from Codan (Codan part number 30-11208-000).

Rack-mounting unit

A rack-mounting unit consists of a 19 inch rack tray. It can be used to mount your fixed station with either a desk console or the handset and cradle.

Connecting a fixed Envoy™ station

NOTE: A typical fixed station is shown in Figure 28.

To connect a fixed station:

- ❑ Do *one* of the following:
  - Connect cable 08-07205-00x between the Transceiver connector on the 2230 Desk Console and the 10-way plug on the flying lead from the RFU, securing the locking rings tightly into position.
  - Connect cable 08-07215-001 between the Ethernet connector on the 2230 Desk Console, or an optional switch/router, and the 10-way plug on the flying lead from the RFU, securing the locking ring tightly into position.
    - If a switch/router is used, an additional RJ45 cable is required to connect between the switch/router and the desk console.
  - Connect the lead from the handset and speaker connector to the 10-way plug on the flying lead from the RFU, then secure the locking ring tightly into position.
- ❑ If you are using the handset and speaker connector and cable:
  - Connect the plug of the handset cable to the socket on the handset and speaker connector, then secure the locking ring tightly into position.
  - Connect the plug at the end of the speaker cable to the socket on the handset and speaker connector, then secure the cable by pushing it into the slot on the side of the connector.

- Connect the plug at the end of the cable to the socket at the end of the cable lead from the RFU, then secure the locking ring tightly into position.
- Connect the plug at the opposite end of the cable to the socket located at the base of the antenna, then secure the locking ring tightly into position.

Connecting an automatic tuner to the RFU and antenna (optional)

NOTE: You may need to install a tuner to improve the efficiency of the antenna in your fixed station (see the reference material on the enclosed CD).

NOTE: The tuner used in most applications has connectors at the end of the cables attached to the tuner, as described below, however, you may have a tuner that has sockets on the connector panel of the tuner.

To connect the tuner to the RFU:

- Connect the plug at the end of the coaxial cable from the tuner to the socket at the end of the cable lead from the RFU, then secure the locking ring tightly into position.
- Connect the plug at the end of the control cable from the tuner to the socket at the end of the cable lead from the RFU, then secure the locking ring tightly into position.
- Connect the antenna to the antenna connector on the tuner, then secure it tightly into position.

Connecting the transceiver supply

To connect the transceiver to the transceiver supply:

- Connect the DC output from the transceiver supply to the plug at the end of the **12 V** cable lead from the RFU.
- Connect the transceiver supply to the AC mains supply.

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B Compliance

This section contains the following topics:

Overview

This section describes how to ensure the Envoy™ Transceiver complies with the European R&TTE Directive 1999/5/EC.

This section also contains the requirements for RCM.

European R&TTE Directive

The Envoy™ Transceiver has been tested and complies with the following standards and requirements (articles of the R&TTE Directive):

- Article 3.1b: ETSI EN 301 489-1 V1.8.1
- Article 3.1b: ETSI EN 301 489-15 V1.2.1
- Article 3.2: Australian type approval according to AS/NZS 4770:2000 + transmitter RSE tests to the limits specified in Annex 6, section 6.1.2 of CEPT/ERC/Recommendation 74-01E
- Article 3.1a: assessed against ICNIRP and FCC requirements
- Article 3.1a: (LVD) EN 60950-1:2006/AC:2011
- Article 3.1a: (MPE) EN 62311:2008

Product marking and labelling

Any equipment supplied by Codan that satisfies these requirements is identified by the CE 0889 ⓘ markings displayed on the product.

Radiation safety (EU installations only)

To ensure optimal transceiver performance and to avoid exposure to excessive electromagnetic fields, the antenna system must be installed according to the instructions provided.

WARNING: High voltages exist on the antenna during transmission and tuning. Do not touch the antenna during these activities. RF burns may result.

WARNING: Install the grounding system or counterpoise as directed to prevent RF burns from any metal part of the transceiver.

WARNING: You should not transmit from your transceiver or tune the antenna unless people are beyond the safe working distance for the installation.

The following safe working distances apply:

- anywhere within the vehicle cabin with externally mounted mobile antenna
- 3 m unobstructed, of any part of a mobile antenna
- 2 m of any part of a fixed antenna

Safe working distance is based on continuous exposure to CW-type transmissions, as set out in the Human Exposure Restrictions standard EN 62311:2008.

Declaration of Conformity and Notified Body Letter of Opinion

The CE Declaration of Conformity and Notified Body Letter of Opinion for this product are available upon request to Codan or a Codan-authorised supplier.

Protection of the radio spectrum

CAUTION: Most countries restrict the use of HF radio communications equipment to certain frequencies and bandwidths and/or require such equipment to be licensed. It is the user's responsibility to check the specific requirements with the appropriate communications authorities. Some options may vary the stated compliance. If necessary, contact Codan for more information.

The receive and transmit frequencies may be any frequencies within the HF range, however, the transmit frequencies can only be those allocated to you by the relevant government authority in your country.

Spectral regulations may require the TxD option to be installed in the transceiver. In this case, you cannot add channels with new transmit frequencies. You can, however, add receive-only channels, and channels with the same transmit frequency as an existing channel. If the TxP option is installed in the transceiver, you cannot add channels.

EMC and safety notices

Radiation safety (non-EU installations)

To ensure optimal transceiver performance and to avoid exposure to excessive electromagnetic fields, the antenna system must be installed according to the instructions provided.

WARNING: High voltages exist on the antenna during transmission and tuning. Do not touch the antenna during these activities. RF burns may result.

WARNING: Install the grounding system or counterpoise as directed to prevent RF burns from any metal part of the transceiver.

WARNING: You should not transmit from your transceiver or tune the antenna unless people are beyond the safe working distance for the installation.

The following safe working distances apply:

- anywhere within the vehicle cabin with an externally mounted mobile antenna
- 1.8 m (6 ft) unobstructed, of any part of a mobile antenna
- 2 m (7 ft) of any part of a fixed antenna in a data installation of up to 125 W output
- 5 m (17 ft) of any part of a fixed antenna in a data installation of up to 1 kW output

Safe working distance is based on continuous exposure to CW-type transmissions, as set out in the ICNIRP Exposure Guidelines (1998) for occupational exposure. Safe working distance can be reduced with normal voice communication.

Sécurité des radiations (installations non-EU)

Pour assurer la performance optimale de l'émetteur-récepteur et pour éviter une exposition excessive aux champs électromagnétiques, le système d'antenne doit être déployé selon les instructions fournies.

ATTENTION: De hautes tensions RF sont présentes au cours de la transmission et de la syntonisation. Ne touchez pas l'antenne pendant ces activités, au risque de vous brûler.

ATTENTION: Installez le système de prise de terre ou le contrepoids comme prescrit pour éviter toute brûlure RF au contact des pièces métalliques de l'émetteur-récepteur.

ATTENTION: Evitez d'émettre à partir de votre émetteur-récepteur onde syntoniser l'antenne si quelqu'un se trouve à moins de la distance de sécurité.

Les distances de sécurité suivantes sont applicables :

- à l'intérieur de la cabine d'un véhiclue sur lequel une antenne mobile est deployée
- 1.8 m sans obstruction, de n'importe quelle partie de l'antenne mobile
- 2 m de n'importe quelle partie de l'antenne fixe dans une installation de données dont la sortie peut atteindre 125 W
- 5 m de n'importe quelle partie de l'antenne fixe dans une installation de données dont la sortie peut atteindre 1 kW

La distance de sécurité du travail se base sur une exposition continue aux transmissions de type onde entretenue, telle qu'établie dans les Lignes directives d'exposition de l'ICNIRP (1998) pour l'exposition au travail. La distance de sécurité du travail peut être réduite dans le cas de communications vocales normales.

EMC

CAUTION: If it is necessary to remove the covers at any stage, they must be refitted correctly before using the equipment.

To ensure that compliance with the EMC Directive is maintained.

- Use standard shielded cables supplied from Codan (where applicable).
- Ensure the covers for the equipment are fitted correctly.
- Cover unused connectors on the RFU with the protective caps supplied to prevent electrostatic discharge passing through your transceiver.

Electrical safety

To ensure compliance with the European Low Voltage Directive is maintained, you must install and use the Envoy™ Transceiver in accordance with the instructions in the Envoy™ Transceiver Getting Started Guide and the Envoy™ Transceiver Reference Manual.

When using equipment that is connected directly to the AC mains these precautions must be followed and checked before applying an AC mains supply to the unit.

To ensure electrical safety:

- Use the standard AC mains cable supplied.
- Ensure the covers for the equipment are fitted correctly.

CAUTION: If it is necessary for a qualified electronics technician to remove the covers during servicing, they must be refitted correctly before using the equipment.

WARNING: A protective earth connection must be included in the mains wiring to the 3020 Transceiver Supply.

WARNING: The protective cover must always be fitted when the 3020 Transceiver Supply is connected to the AC mains.

Related links:

Earth symbols on page 129

Earth symbols

Chassis earth connection points are provided on the Envoy™ Transceiver and 3020 Transceiver Supply. A protective earth is provided in the AC mains wiring of the 3020 Transceiver Supply. This protective earth must be connected at the AC mains supply outlet. The symbols shown below are used to identify the earths on the equipment.

Table 7: Earth symbols

Symbol	Meaning
	Chassis earth
	Protective earth

FCC compliance

FCC Part 90 certification

The Envoy™ Transceiver has been tested and certified to FCC Part 90 (FCC identifier code DYY2210).

FCC Part 15 compliance

Any modifications made to the Envoy™ Transceiver and 3020 Transceiver Supply that are not approved by the party responsible for compliance may void your equipment's compliance under Part 15 of the FCC rules.

The Envoy™ Transceiver and 3020 Transceiver Supply have been tested and found to comply with the limits for a Class B device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by switching the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna
- increase the separation between the equipment and receiver
- connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- consult the dealer or an experienced radio/TV technician for help

IC certification

Product markings and labelling

The Envoy™ Transceiver is certified to IC standards (IC identifier 1029A-1).

L’émetteur-récepteur Envoy™ est certifié conforme aux normes IC (Code d’identification IC : 1029A-1).

RCM approval

The Envoy™ Transceiver meets the requirements of the Australian Communications and Media Authority: Radiocommunications (MF and HF equipment—Land Mobile Service) Standard 2003 (AS/NZS 4770) and Radiocommunications (HF CB and Handphone Equipment) Standard 2008 (AS/NZ 4355).

Index

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