
Using the microphone

The microphone on the handset is located at the bottom of the Sentry-H 2320 Handset. You may also use the microphone on an H-250 handset (Codan part number 08-07381-001). 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

While you are transmitting and the speaker is in the **Earpiece** mode, the handset outputs a small percentage of your microphone signal (i.e., "side-tone") back into the earpiece. This does not occur in the **Loudspeaker** mode to avoid feedback. You may press **2|SPK** to change the speaker 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 encryptors or the frequency hopping feature. 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 discharged, 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 off this feature.

Setting the basics

Setting the time and date

The transceiver is set to UTC time in the factory. You set the local time and time zone 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:

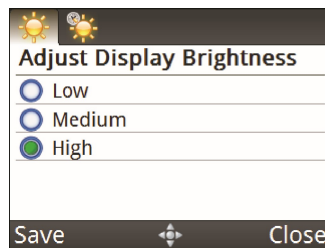
- From the main menu, select  (**General**), then  (**Time and Date**).
- Press  (**Set**).
- Press  to move to the **Time Zone** entry.
- Press  or  to select the time zone that you want to use.
- Press  to move to the **Daylight Saving** entry.
- Press  or  to select the time that you want to use.
- 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.

NOTE: You can also toggle the 2320 Handset backlight on and off using a macro. To do this you must assign the **Toggle Handset Backlight** macro to a hot key. This macro changes both the display and keypad backlight simultaneously.

Calling

This section describes how to make the various types of calls from the transceiver. You can make a call to a contact, return or repeat a call from the Call History, or enter information at the time of the call.

For selective calling in ALE/CALM and Selcall HF networks, a control point must register a self address from the list of available addresses for that HF network. Self addresses are included in the HF network information in either the **Selcall|ALE Self Address** or **Additional Self Addresses** entries. If you select an HF network for a call that does not have a registered self address for the control point, you will be prompted to register one of the available self addresses. If you decline to register at this prompt, you can register a self address in **General > Register Self Address** (available in advanced view if the HF network has two or more self addresses).

CAUTION: Your control point should have a registered self address for each HF network in which you want to receive voice calls. If a 3031 Crosspatch is connected as a peripheral device to the GP port connector and you want to be able to receive calls that are specifically addressed to the crosspatch, its self address must be entered in the **Settings > Connectors > RFU GP Port > RFU GP Port Startup** entry, for example **selfid 3031**

NOTE: Depending on the options installed in your transceiver, additional call types from those discussed in this guide may be available. For more information, please see the Reference Manual.

NOTE: Depending on the setup of the HF network used for the call and the digital voice and/or encryption options installed in the transceiver, the transceiver may switch automatically between analogue/digital voice and/or clear/secure signals.

Related links:

[Overview of digital voice options on page 59](#)

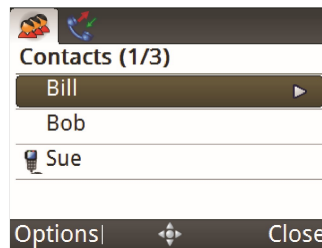
Making a call to a contact

NOTE: The default behaviour for the **CALL** key is to press it to start a call, or *hold CALL* to see your Contacts/Call History. This behaviour may be reversed by your system administrator, if required.

NOTE: You may use a USB keyboard to initiate and control a call. Please refer to [USB Keyboard support on page 4](#) for more information.

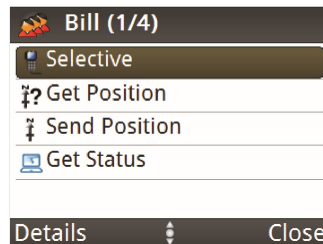
To make a call to a contact:


- *Hold CALL*.
- Press ▲ or ▼ to scroll to the contact who you want to call.



If there is more than one call available for the contact, ► is shown to the right of the contact name when it is highlighted. If there is only one call for the contact, the icon for this call is shown to the left of the contact name.

- If multiple calls are available, press **CALL** or ►.



- 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 change this at the time of the call.
- Press **CALL**.
NOTE: Depending upon the call type and other information stored with the contact, you may be prompted to select information during the call. Press **CALL** to progress through these prompts.
- 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.
NOTE: If **Settings > Calling > General > LBT Mode** is set to **Enabled** or **Override allowed**, you may be asked to make the call again if the channel is occupied.

Making a call from the Call History

The Sentry-H transceiver stores information for up to 200 calls that have been sent and received for a control point. Each control point may store this call information for up to 20 RFUs to which it has been connected. The detailed Call History is accessed by *holding* **CALL**, then pressing ► to scroll to the **Call History** tab.

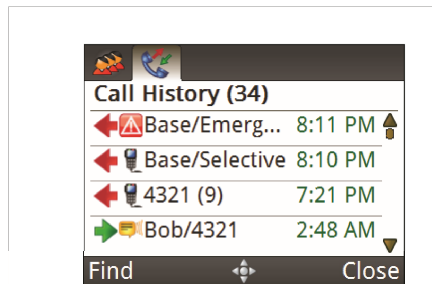
NOTE: For more information on the Call History, please see the Reference Manual (Codan part number 15-04188-EN Issue 1).

- NOTE: The default behaviour for the **CALL** key is to press it to start a call, or *hold CALL* to see your Contacts/Call History. This behaviour may be reversed by your system administrator, if required.
- NOTE: A filtered Call Log is available in the call screen. This log contains only the latest instance of a call to and from a specific station, and provides records of up to 20 calls.
- NOTE: Missed calls are indicated by an exclamation mark in a yellow triangle in front of the call icon.
- NOTE: You may use a USB keyboard to initiate and control a call. Please refer to [USB Keyboard support on page 4](#) for more information.


To make a call from the Call History:






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

The unfiltered history of the last 200 calls is shown.



- NOTE: If you want to view two lines of information for each call as you scroll through the Call History, switch to advanced view (▲ + 2).
- If you want to filter the Call History by incoming calls, outgoing calls, or missed calls, press # repeatedly until the log that you want to view is shown.
 - Press ▲ or ▼ to scroll to the call that you want to return or repeat.

NOTE: You can also press  (**Find**), enter appropriate characters, then highlight the call that you want to return or repeat.

- If you want to view the details of the call, press  (**Options**), scroll to **Details**, then press  (**Select**).
Press  (**Close**) to exit from the call details.
- Press  or  to select the call type that you want to use.
- Continue from making your chosen call type.

Related links:

[Viewing missed calls on page 56](#)

Making a call from the Emergency key


You can set up an emergency contact with calls that are chained together when you *hold* the  key. Emergency contacts are set up in **User Data > Contacts > Emergency Contacts**.

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

NOTE: You may use a USB keyboard to initiate and control a call. Please refer to [USB Keyboard support on page 4](#) for more information.

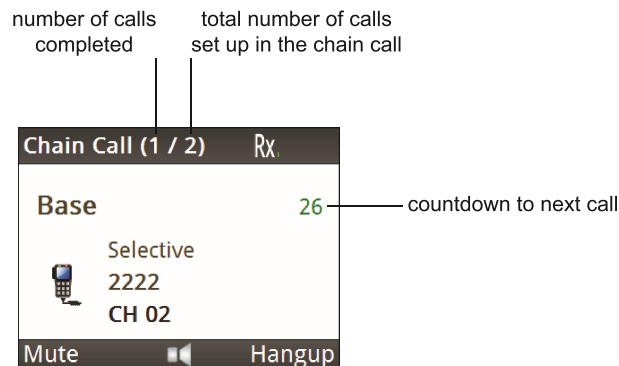
NOTE: For more information, please see the Reference Manual (Codan part number 15-04188-EN Issue 1).

To make a call from the Emergency key:

- *Hold*  for 2 sec.
- If you have more than one emergency contact, scroll to the contact who 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.
- NOTE:** Calls made from the 🚨 key always override LBT mode if it is enabled.
- NOTE:** If there are several calls programmed for this emergency contact, a chain call will be started. The transceiver proceeds with the next call following a pre-defined pause.

Figure 8: Chain call



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:

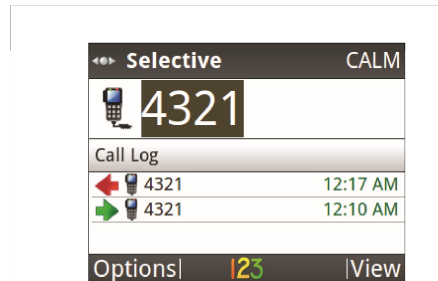
- Press **CALL**.





**OPERATING THE TRANSCEIVER
CALLING**

NOTE: You may be prompted to register a self address on this control point for the HF network that you are using to make the call.



NOTE: You may use a USB keyboard to initiate and control a call. Please refer to *USB Keyboard support on page 4* for more information.

The call type and address of the last call are shown at the top of the call screen. The filtered Call Log below this shows the latest instance of any call type made to or received from the addresses that contain the current input.




- 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.

NOTE: If you want to test the quality of the channel before you make the actual call, *hold CALL* first.

- 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, press ◀ or ▶ to select your required call type, then press **CALL**.
 - To use an ALE address syntax in an ALE/CALM HF network, press  (**View**), scroll to **ALE**, press  (**Select**), scroll to the syntax that you want to use, 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.

NOTE: If **Settings > Calling > General > LBT Mode** is set to **Enabled** or **Override allowed**, you may be asked to make the call again if the channel is occupied.

NOTE: If you are using the ALE/CALM call system, you can send an inlink message when a call is established. Refer to [Sending an Inlink Message on page 1](#) for more information.

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

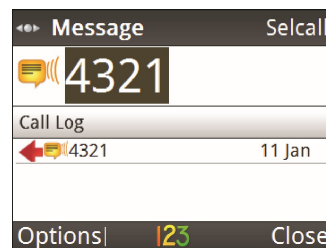
To make a Message call:










- Press **CALL**.

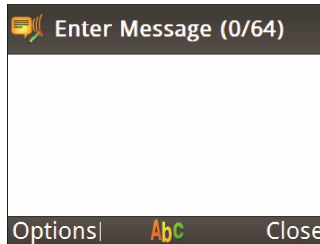
NOTE: You may be prompted to register a self address on this control point for the HF network that you are using to make the call.

NOTE: You may use a USB keyboard to initiate and control a call. Please refer to [USB Keyboard support on page 4](#) for more information.

The call type and address of the last call are shown at the top of the call screen. The filtered Call Log below this shows the latest instance of any call type made to or received from the addresses that contain the current input.







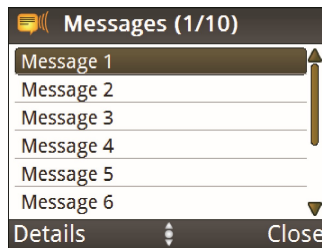
- If you do not want to use the HF network shown at the top right of the screen:
 - Press  (**Options**).
 - Scroll to **HF Networks**, then press  (**Select**).
 - Scroll to the HF network that you want to use, then press **OK**.
- Press  or  to select the Message call type if it is not selected.
- 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, press  or  to select your required call type, then press **CALL**.
 - To use an ALE address syntax in an ALE/CALM HF network, press  (**View**), scroll to **ALE**, press  (**Select**), scroll to the syntax that you want to use, then press **CALL**.







- If you want to enter a message:
 - *Hold #* to select a different input language, if required. If you are using a USB keyboard, press **Ctrl+Shift** to select a different input language.
 - Start typing the message.

NOTE: Press **OK** to start a new line, if required.

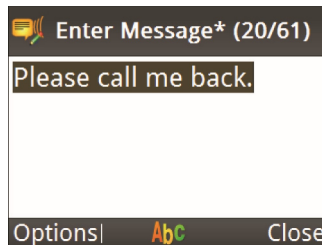
- Press  (**Options**), scroll to **Call**, then press  (**Select**) to add the message to the call.
- If you want to select a message from a list of stored messages:
 - Press  (**Options**), scroll to **Stored**, then press  (**Select**).



- 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.



NOTE: A USB keyboard may be used to input the message. Please refer to *Entering text with a USB keyboard on page 147* for more information.

NOTE: Depending on the call system, privacy mode you are using and the characters you have typed, the length limit of the message varies. Please refer to the Reference Manual (Codan part number 15-04188-EN Issue 1) for details.


NOTE: When the message's length limit is exceeded, the extra characters will be marked with grey colour and a strikethrough. You can only send a message if it is within the length limit.

- Press  (**Options**), scroll to **Call**, then press  (**Select**).
- If you have a GPS receiver connected, or your My Position setting is programmed, and you want to insert your current GPS position into the message:
 - Press  (**Options**), scroll to **Insert GPS**, then press  (**Select**).

NOTE: This menu option is only available providing there is space for twenty (20) characters in the message.

NOTE: You can insert the GPS position in the middle of the typed message.

- 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.

NOTE: If **Settings > Calling > General > LBT Mode** is set to **Enabled** or **Override allowed**, you may be asked to make the call again if the channel is occupied.

Related links:

[Entering text in a field on page 144](#)

[Entering text with a USB keyboard on page 147](#)

Receiving a call

Some calls that are addressed to your station are handled automatically by your transceiver. It will either respond automatically with the information requested in the call that it received (Get Position, Get Status, Channel Test, or ALE Sounding call), or receive the message (Message, Send Position, SMS or Web Message call). The remaining call types (Selective, Phone, and Emergency) sound an incoming call ringtone at your station.

You may have to switch off mute and change the mute type to be able to hear the conversation.

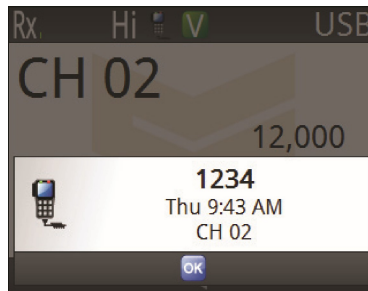
Selective and Phone calls sound an incoming call ringtone that is similar to a telephone ringing. An Emergency call sounds a hee-haw alarm.

To answer an incoming call:

- Listen for an incoming call tone.

An incoming call pop-up shows information on the type of call, the address of the caller, the time of the call, and the channel used.

Figure 9: Incoming call pop-up



If the call isn't answered before the callee hangs up, or after the period set in **Settings > Calling > General > In Call Timeout** has lapsed, the incoming call pop-up changes to the missed call pop-up.

NOTE: Depending on the setup of the HF network used for the call and the digital voice and/or encryption options installed in the transceiver, the transceiver may switch automatically between analogue/digital voice and/or clear/secure signals.

- If you are receiving a Selective or Emergency call, answer the call by *holding* PTT and speaking side-on across the microphone in the handset.
- If you are receiving a Phone call, press PTT to accept the call, then release PTT.

An automatic voice message is played that asks you to wait while the connection is made. Do not speak during this time.

NOTE: You may use a USB keyboard to accept and control a call. Please refer to [USB Keyboard support on page 4](#) for more information.

Viewing missed calls

If you do not answer a call on your transceiver, a missed call pop-up is shown on the channel screen. The icon for the call type is shown with an exclamation mark. You can scroll through the missed call pop-up to acknowledge the missed calls. If the missed call pop-up is closed without acknowledging a missed call, a missed call icon for the call is shown in the status bar of the channel screen. If the missed call pop-up contains a short message that may be viewed fully in the pop-up, a missed call icon is not shown for this message in the status bar when you close the pop-up.

A list of the possible missed call icons in the status bar is provided in [Table 2](#). The details of any missed call may be viewed in the pop-up, or via the Call History or Call Log.

NOTE: The incoming call pop-up changes to a missed call pop-up when the sending station hangs up the voice-type call, or when the period set in **Settings** > **Calling** > **General** > **In Call Timeout** has lapsed.

Figure 10: Missed call pop-up for a single call

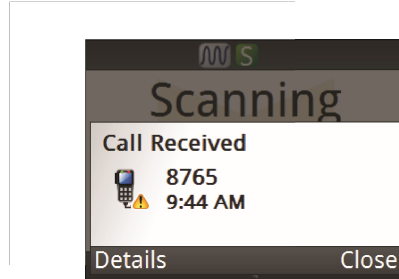


Figure 11: Missed call pop-up for multiple calls

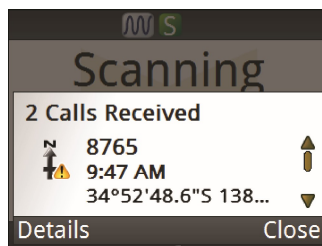
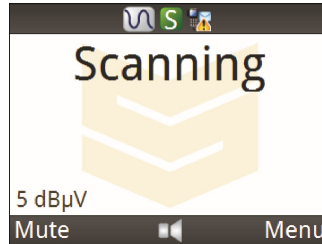


Figure 12: Example of a missed call icon in the status bar of the channel/scanning screen



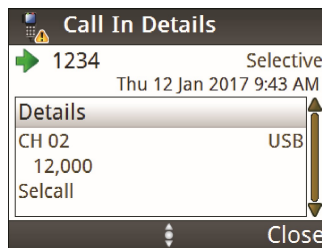
NOTE: Received Get Status and Get Position calls, which do not present an incoming call pop-up, are not tracked as missed calls.

Table 2: Missed call icons that may be shown in the status bar of the channel/scanning screen and free tune screen

Icon	Description
	At least one missed or unread Emergency call exists (takes priority over all other missed calls)
	At least one missed Selective, Phone, ALL, ANY, Group Selective or Wildcard call exists (voice-type call)
	At least one unread Message, Send Position, SMS or Web Message call exists (<i>received</i> message-type call)
	At least one missed voice-type call <i>and</i> one unread message-type call exists

To view the details of a missed call:

- Do *one* of the following:
 - In the missed call pop-up, press ▲ or ▼ to scroll to the missed call that you want to view.
 - Press **CALL**, then press ▲ or ▼ to scroll to the missed call that you want to view in the Call Log.
 - *Hold CALL*, press ► to select 📞 (**Call History**), press # repeatedly until the Call History is filtered as **Missed Calls**, then press ▲ or ▼ to scroll to the missed call that you want to view.
- Press ⏪ (**Details**).



- Press ▼ to scroll through the details of the missed call.
- Press ⏪ (**Close**).
- If you want to return a missed call, scroll to the call, press **CALL**, then continue with the call.

Using digital voice

Overview of digital voice options

The Sentry-H transceiver provides 3 digital voice options:

- The Standard Digital (15-10624) Option offers digital voice with MIL/STANAG 2G Data.
- The Advanced Digital (15-10625) option offers digital voice with MIL/STANAG 2G Data, RM50 AES-256 Encryption, 1200 bps DV and Low Rate DV.
- The AES256 DV Encryptor (15-10627) option offers AES-encrypted digital voice only.

NOTE: Digital voice provided by the Standard Digital and Advanced Digital options is implemented by the RM50 module, and is incompatible with the digital voice provided by the AES256 DV Encryptor option.

NOTE: The RM50 module can be upgraded from TPS System Programmer or from a USB stick. See [Upgrading the transceiver via a USB stick on page 113](#) for more information.

CAUTION: A permit from the Australian government is required if you want to upgrade the RM50 module with an export controlled version firmware package, which enables AES-256 Encryption and Low Rate DV capabilities.

Table 3: Digital voice options




Sales option	Encryptor type	Tab Icon	When the digital voice is inactive	When the digital voice is active
Standard Digital (15-10624)	—		Analogue voice Clear data	Digital voice Clear data

Table 3: Digital voice options (cont.)

Sales option	Encryptor type	Tab Icon	When the digital voice is inactive	When the digital voice is active
Advanced Digital (15-10625)	AES-256		Analogue voice Clear data	Secure digital voice Secure data
AES256 DV Encryptor (15-10627)	AES-256		Analogue voice	Secure digital voice

Related links:

[Using encryption on page 89](#)

Digital voice rate

The digital voice rate sets the speed with which digital voice transmissions are sent. The digital voice rate is shown in status area 1 of the screen. Use the available digital voice rate in the first instance, then if good HF propagation conditions exist, a higher rate may be selected.

NOTE: Receiving DV stations, which have both MELPe and TWELP vocoders available by default, automatically switch to the appropriate rate and vocoder type when a signal is detected.

Table 4: Digital voice rates

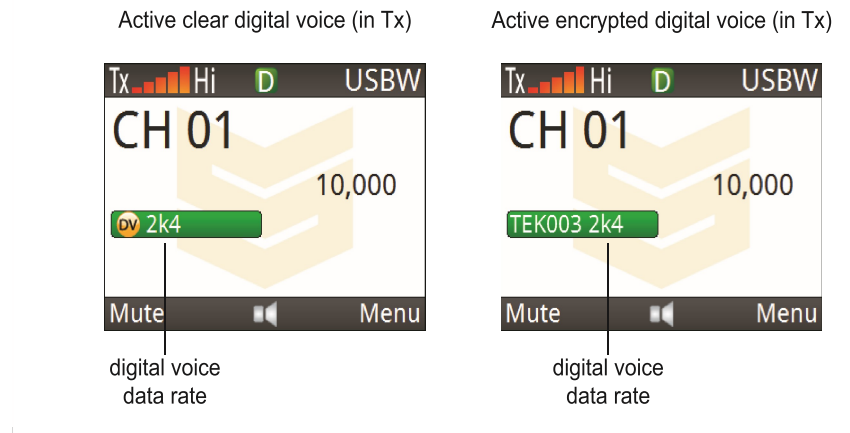
Digital voice option	Vocoder type	Available voice rates (bit/s)
Standard Digital	MELPe	2400
	TWELP	2400
Advanced Digital	MELPe	1200, 2400

Table 4: Digital voice rates (cont.)

Digital voice option	Vocoder type	Available voice rates (bit/s)
	TWELP	600, 1200, 2400
AES-256 DV Encryptor	–	1200, 2400

NOTE: 600 bit/s and 1200 bit/s rates are not available if the RM50 module has non-export controlled version firmware.

Figure 13: Channel screen showing the digital voice rate



Related links:

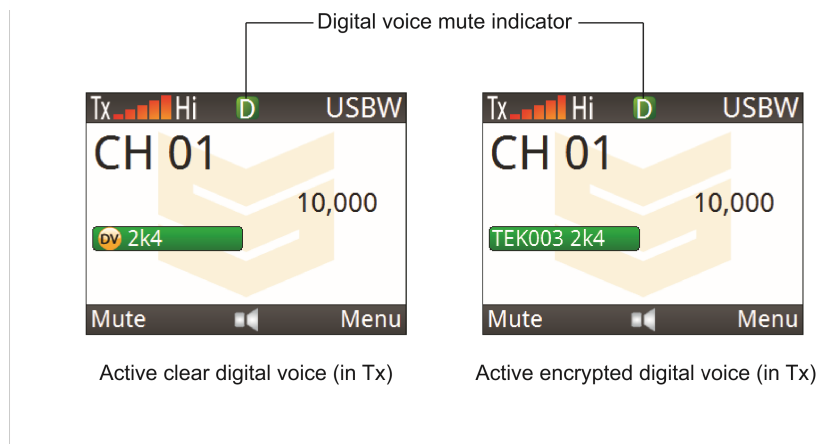
[Selecting the digital voice rate on page 65](#)

[Overview of digital voice options on page 59](#)

Digital voice mute

When any digital voice is active, you have the option of selecting voice mute (**V**), selcall mute (**S**), or digital voice mute (**D**). Digital voice mute enables only secure digital voice or clear digital voice to be processed through to the user when scanning is switched off or paused. Voice mute enables all clear and secure voice detected at your station to be heard by the user, and selcall mute blocks all signals except for calls specifically addressed to your station.

Figure 14: Digital voice mute indicator



Related links:

[Selecting digital voice mute on page 66](#)

Switching the digital voice feature on or off

NOTE: To switch the digital voice feature on, you must have at least one of the Standard Digital, Advanced Digital or AES256 DV Encryptor options enabled, and have your voice encryptor set to the appropriate type.

To switch the digital voice feature on or off:

- Press **8|SEC**.

Digital voice is toggled on or off.

Figure 15: Channel screen showing on/off status for digital voice (without encryption)

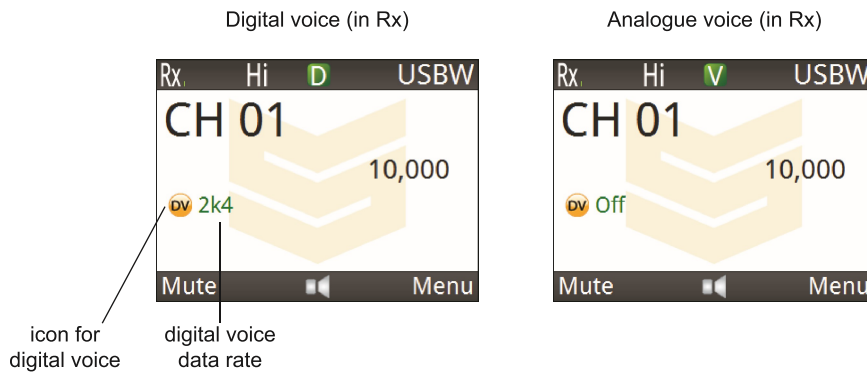


Figure 16: Channel screen showing transmit/receive status for digital voice (without encryption)

