



SRM9022 Mobile Radio



Conventional – PMR Operating Instructions

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ASSOCIATED DOCUMENTATION

The following documentation is available for use with the SRM9000 series of products:

TNM-I-E-0005	SRM9000 Series Installation Instructions
TNM-M-E-0001	SRM9000 Service Manual
TNM-U-E-0012	SRM9020 Trunked Operating Instructions
TNM-U-E-0013	SRM9020 PMR Operating Instructions
TNM-U-E-0004	SRM9030 Trunked Operating Instructions
TNM-U-E-0003	SRM9030 PMR Operating Instructions

To order copies of any of the above publications, or any other TMC Radio product, contact TMC Radio on +61 3-9730-3800 or send a Fax on +61 3-9730-3968.

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SAFETY

1. Do NOT operate your radio, without a handsfree kit, whilst driving a vehicle.
2. Do NOT operate your radio in an explosive atmosphere. Obey the 'Turn Off Two-way Radios' signs where these are posted, e.g. on a petrol station forecourt.
3. Do NOT touch the antenna while the radio is transmitting.
4. Do NOT operate the radio if the antenna has become disconnected or damaged.

HINTS FOR USING THE RADIO

- When speaking, hold the microphone a few centimeters from your mouth and speak across it, rather than into it.
- Keep the length of your conversation to a minimum and replace the microphone on its cradle after use.
- When it is possible to move location, avoid making calls from known poor signal-strength areas such as the radio systems fringe areas (limit of range) or from screened or shadowed areas, e.g. an underground car park or underpass.
- To avoid unnecessary drain on the vehicle battery, keep the engine running when using the radio for extensive periods of time.

CONTENTS

1. INTRODUCTION	6
1.1 Overview.....	6
1.2 Installation.....	6
1.3 Conventions.....	6
2. FRONT PANEL CONTROLS	7
3. MENU SYSTEM.....	8
3.1 Menu Navigation.....	8
4. MAIN MENU SCREENS.....	10
4.1 Channels Screen.....	10
4.2 Phonebook Screen	11
4.3 Status Screen.....	11
4.4 Send Message Screen.....	12
4.5 Stored Calls Screen (Selcall).....	13
4.6 Stored Calls Screen (Data Messages).....	14
4.7 Setup Screen.....	15
5. COMMON FUNCTIONS AND FACILITIES.....	16
5.1 Switch-On/Switch-Off	16
5.1.1 Volume Adjustment.....	16
5.2 Receiving.....	16
5.3 Transmitting.....	17
5.4 SELCALL Functions	18
5.4.1 Receiving a Selcall.....	18
5.4.2 Sending a Selcall	18
5.4.3 Other Selcall Functions	18
5.5 Scan Functions	19
5.5.1 Scan Screen.....	19
5.5.2 Scan-Edit Screen	20
5.6 DTMF Operation.....	21
5.7 External alert.....	21
5.8 Auxiliary Output.....	21
6. SETUP.....	22
6.1 Setup Sub-Menus	22
6.1.1 User Options	22
6.1.2 Mute Adjust	23
6.1.3 Contrast.....	23
6.1.4 Alert Volume.....	23

SRM9022 ~ PMR MOBILE RADIO USER GUIDE

6.1.5	Radio Information	24
6.1.6	Phone Book Menu.....	24
6.1.7	Phone Book Edit Menu	25
6.1.8	Mode Selection	27
7.	SPECIAL FUNCTION BUTTONS.....	28
7.1	Monitor.....	28
7.2	Squelch Defeat.....	28
7.3	Reset.....	28
7.4	Scan	28
7.5	Auxiliary.....	28
7.6	Send-2.....	28
7.7	Transpond	28
7.8	CTCSS	28
7.9	Mute	28
7.10	External Alert.....	28
7.11	Goto Chan A, B, C, D.....	28
7.12	Special Enc 1...8	28
7.13	Alarm	28
7.14	Repeater Defeat.....	28
7.15	Low Power	29
7.16	DTMF Mode.....	29
7.17	Scrambler On/Off	29
7.18	Send DTMF1/2	29
7.19	Lock / Unlock Key	29
8.	OPTIONS.....	30
8.1	Quick Release Transceiver Kit (MA-QRCRADLE).....	30
8.2	Microphone/Control Head Extension Lead.....	30
8.3	Type 1 Parallel I/O Expansion Option	30
8.4	Internal GPS Option.....	30
8.5	Cross-linked Cable	30
8.6	600 Ohm Interface Option	30
8.7	Type 2 I/O Option	30
8.8	Dual Control Head Option	30
8.9	Dual Transceiver Option	30
8.10	Desk Top Base Kit.....	30
9.	TROUBLESHOOTING	31

1. INTRODUCTION

1.1 OVERVIEW

The SRM9000 Series Radios are versatile Digital Signal Processor (DSP) controlled, two-way mobile radios. The SRM9000 Series is available in a number of frequency bands and versions for specific applications. This manual describes the operation of the SRM9022 PMR Controller Microphone variant.

The radio consists of a Transceiver unit that may be mounted in the vehicle boot or under a seat, and a Controller Microphone, which is designed to mount on the vehicle console or within view and reach of the operator.

The radio is software programmable and can be customised to the operational requirements of your particular fleet. Your TMC Radio representative can help in programming your radio facilities to meet your present and future requirements.

This guide describes the facilities that are currently available and can be programmed into the SRM9022.

1.2 INSTALLATION

As the installation of your SRM9022 Radio is a technical and possibly hazardous operation, we recommend that it is installed and set up for use by your dealer or an authorised installer. However, if you need information regarding the correct procedures for installation, please refer to the SRM9000 Series Installation Instructions supplied with the radio.

1.3 CONVENTIONS

Where the word “generally” or “may” is used to describe a facility, this operation is an option that may be enabled with the Radio Field Personality Programmer (FPP).

2. FRONT PANEL CONTROLS



Figure 2-1 SRM9022 Controller Mic. Key Layout

3. MENU SYSTEM

The SRM9022 radio software uses a programmed Menu structure to enable the operator to access the radio options. The structure of the menu can be programmed to meet the specific needs of individual customers.

Figure 3-1 (overleaf) illustrates the menu structure of the radio. Note that the order and presence of each menu is determined by the configuration of the radio programmed by the Field Programmer.

There are **setup** sub-menus that provide access to radio setup parameters.

Possible Menu entries are:

- Phone Book
- Status
- Stored Calls
- Mute Adjust
- Send Message
- Setup
- Phone Book Edit
- Contrast
- Alert Volume
- Radio Information
- Mode Selection
- Received Signal Strength Indication (RSSI)

To assist the user in menu key selection, a soft menu label will often appear above the function keys. The label shows the user the current function for that key which may change between different menus.

Programming of menus is a configuration task normally performed by the system manager using FPP software.

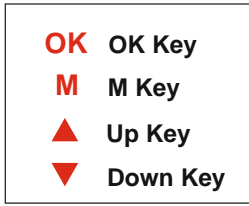
3.1 MENU NAVIGATION

The “**M**” key is generally used to select **Menu** mode from the main Channel Screen. Once in Menu mode, the ▲ and ▼ keys cycle through the menus.

To exit **Menu** mode, press the “**M**” key again or the **Menu** timeout will exit automatically. Generally, pressing “**M**” key while in a menu backs up to the next highest level of menu and the “**OK**” button selects the function.

The ▲ and ▼ keys are generally used to navigate through a list of options such as channels, or increase/decrease a value.

SRM9022 ~ PMR MOBILE RADIO USER GUIDE



Note: Example Menus only shown.
Other Menus may be configured with the FPP

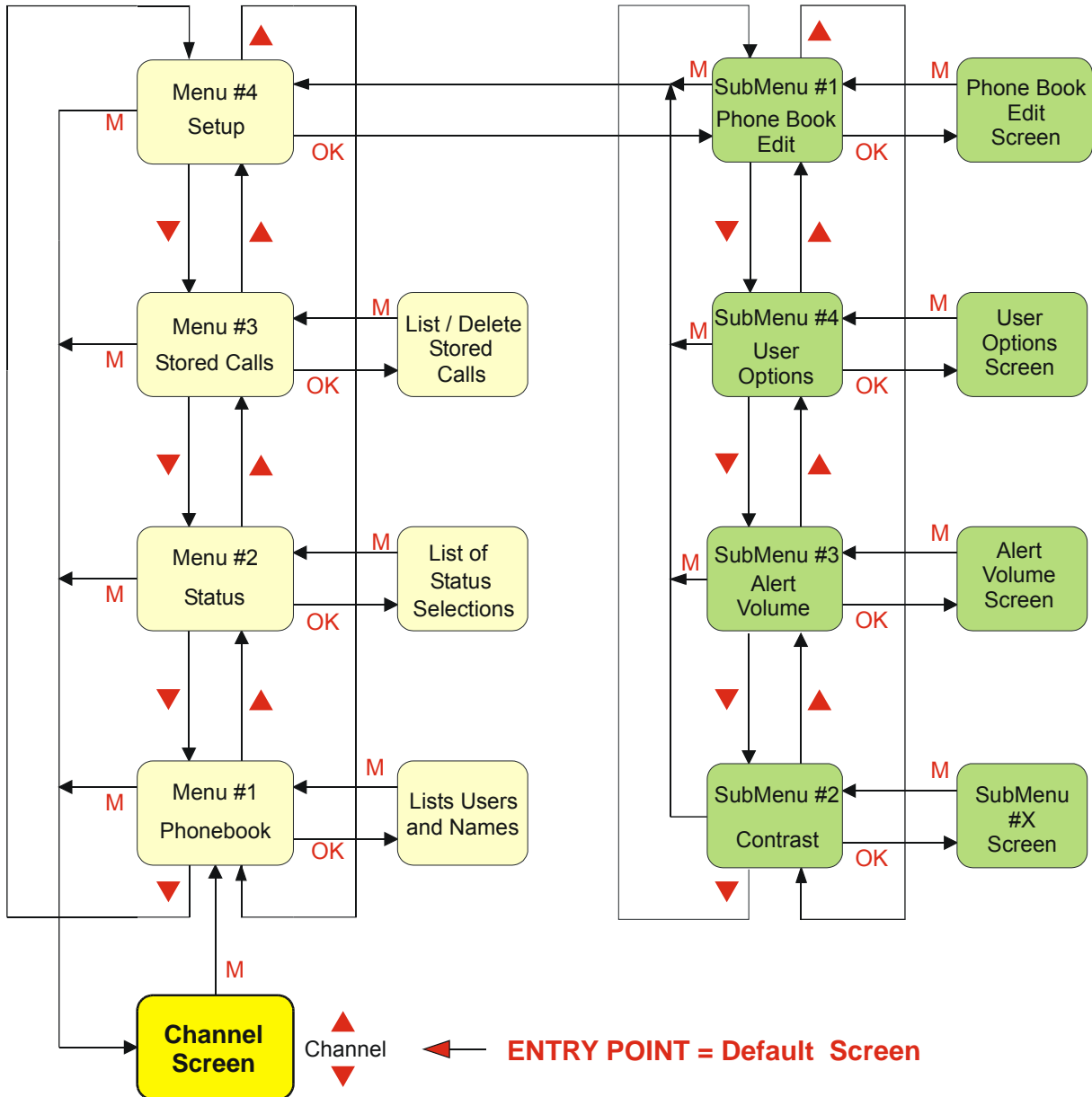


Figure 3-1 Menu Navigation

4. MAIN MENU SCREENS

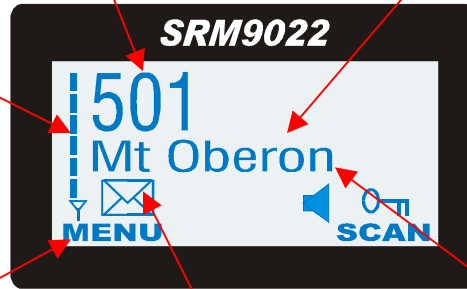
4.1 CHANNELS SCREEN

The Channels Screen shows the current channel and allows it to be changed.

The **RSSI Bars** indicate the signal strength of the current channel.

Channel Number

The **Name Field** shows the selected entry from the current Screen (e.g. from Channel List).



Displayed **Labels** show the current function of the F1 & F4 buttons. Pressing one of these buttons will execute the function.

The **ICON Line** displays various icons as described in the table below.

The **Message Line** provides additional information in the current Screen. (e.g. name of Voting or MultiAx channel when stopped on a channel)

Several **Icons** can be displayed as shown below:

ICONS	INDICATION
	A filled speaker icon indicates that a signal is present and the radio is unmuted.
	The outline speaker icon indicates that a signal is present and the radio is muted. This could be another user group, for instance.
	Received Signal Strength Indication (RSSI). A stronger signal will display more bars.
	Scan Indicator. When radio is on a scan channel and scanning, the arrow will rotate.
	The envelope icon indicates there is one or more stored calls
	Transmit indicator
	The asterisk symbol indicates whether the radio has been "called" or is in the "on-call" state.
	Keylock

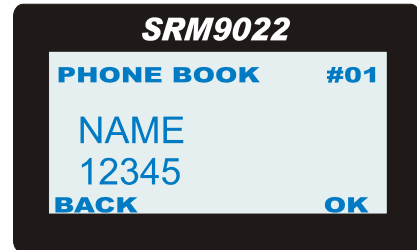
The **Keypad** may be used to enter numbers directly, which temporarily appear on the **Message-Line** (overwriting the Channel Name), e.g. Changing channels from the keypad can be done by entering the channel number and pressing the '#' button.

Note: If DTMF is enabled then pressing keypad buttons will send the corresponding DTMF tone.

4.2 PHONEBOOK SCREEN

The Phonebook lists the Radio Users and their selcall codes. Selcall Identity information is stored for various users and calls can be sent from this Screen.

The ▲ and ▼ buttons scroll through the Phonebook entries.



Pressing the **OK** button will place a call to the displayed identity.

Alternatively, if the Identity Number is known, the **Keypad** can be used to enter the number, which is sent when the **OK** button is pressed.

The **F6** button will backspace through keypad entered numbers, or it will exit back to the Idle Screen if none.

The **Back** button returns you to the Menu Select Screen.

Refer to section 6.1.6 for details on Phonebook sub-menus.

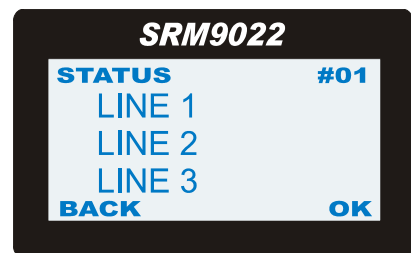
- Notes:
1. If the Selcall requires a Status to be included then the **Saved-Status-Value** will be used. (See description of Status below.)
 2. The Identity shown on the display when this Screen is exited may be referenced from other Menu Screens and is called the **Current-Phonebook-Entry**.

4.3 STATUS SCREEN

The Status Screen is used to send short pre-programmed messages, eg. “at lunch” , “job complete” and so on.

This Screen can only be accessed if Selcall is used. The Selcall Status is selected here and can be sent from this Screen.

The ▲ and ▼ buttons scroll through the Status List entries.



Pressing the **OK** button will send the displayed Status to the *Current-Phonebook-Entry*.

Alternatively, if the Status Number is known, the **Keypad** can be used to enter the number, which is sent (to *Current-Phonebook-Entry*) when the **OK** button is pressed.

The **F6** button will backspace through keypad entered numbers, or it will exit back to the Idle Screen if none.

The **Back** button returns you to the Menu Select Screen.

- Notes:
1. When a Status is sent, it becomes the current **Saved-Status-Value**, and can be used at a later time from other Menu Screens.

SRM9022 ~ PMR MOBILE RADIO USER GUIDE

2. The **Saved-Status-Value** can also be set from the Channel or Phonebook Screens by entering the number (from the Keypad) and pressing the * button. The value is saved but not sent.

4.4 SEND MESSAGE SCREEN

This Screen allows the user to send a free-form text message to another radio user in a similar manner to a cellphone "SMS".

After selecting the **Send Message** menu option with the **OK** button, a flashing cursor will appear on the lower LHS of the screen. The line above the flashing cursor shows the current cursor location.



Each key is labelled with up to 4 text characters. The text characters are entered by pressing the keypad - once for the first character, twice for the second, and three times for the third, and so on.

Note: The * key can be used to display up to 28 characters.

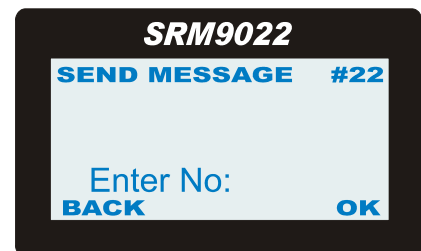
After a short delay, the cursor will advance to the next character entry.

To move the cursor left or right, use the ▲ and ▼ buttons.



To delete a character, move the cursor over the character, then press the **F6** function.

A total of 237 characters may be entered.




When the message is complete, press the **OK** button to send it. The screen will then ask for the address to send it to with "**Enter No.**". Enter the data address and then press **OK**. The message will be sent.

After the message is sent, the display will indicate whether the message delivery was successful.

4.5 STORED CALLS SCREEN (SELCALL)

This Screen allows the ten most recent missed Selcalls (ones not answered before the alert-tone stops) and received Status Selcalls to be reviewed.

The  icon will show in the Main Channel Screen when there is an entry in this Screen. A "Bip" tone is emitted every few seconds when a new call is stored here.

Press the **M** key and the **▲** and **▼** buttons to access the Stored Calls Screen. The most recent call is shown whenever this Screen is accessed.

The displayed text identifies the caller (e.g. **John Smith**) and, if used, Status text (e.g. **Call Depot**) is displayed on the Message Line.

Press the **Back** button to return to the Menu Select Screen without making a call.

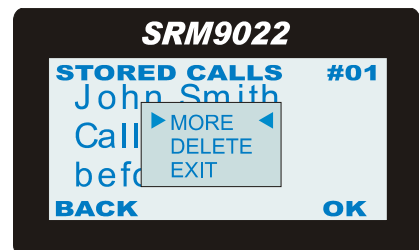
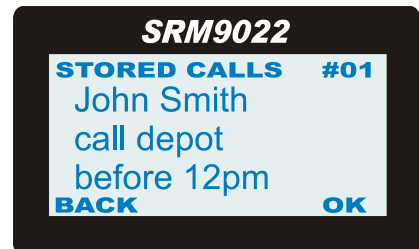
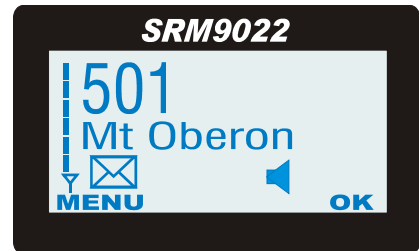
The **▲** and **▼** buttons scroll through any other Stored Calls. The number displayed in the top RHS side of the screen (eg #05) shows the queued position of the entry.

For other functions, press **OK** for the options pop-up menu. The **▲** and **▼** buttons allow selection within the pop-up box.

To view more of a long message that does not fit on the screen, select **More** in the pop-up window.


To delete the currently displayed message, select **Delete** in the pop-up window.

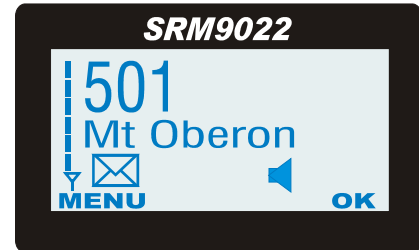
To exit and return to the channel screen, select **Exit** in the pop-up window



4.6 STORED CALLS SCREEN (DATA MESSAGES)

Received data messages are stored in the Stored Calls screen. Data messages may be up to 237 characters in length.

The  icon will show in the Main Channel Screen when there is an entry in this Screen. A "Bip" tone is emitted every few seconds when a new call is stored here.



Use the **M** key and the **▲** and **▼** buttons to select the Stored Calls screen. The most recent call is shown whenever the Stored Calls Screen is accessed.

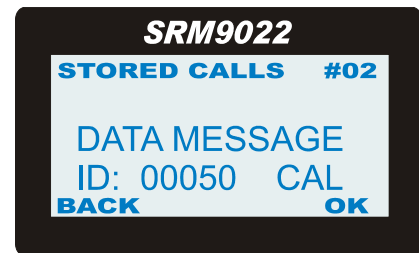
(Note that data messages may also be displayed immediately when received, if configured to do so by the FPP.)



The displayed text identifies the caller (e.g. **02**) by their data address. For example "ID: 00050".

If the caller is the despatcher as identified by the FPP, the callers identity is not shown.

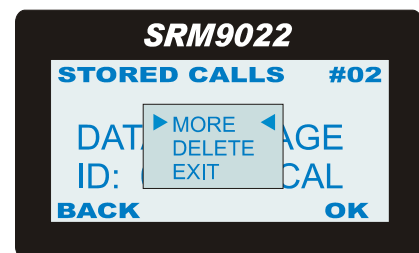
The **▲** and **▼** buttons scroll through any other Stored Calls, with the displayed number (**#05**) shows the queued position of the entry.



To access message options, press **OK** and a pop-up selector box will appear.

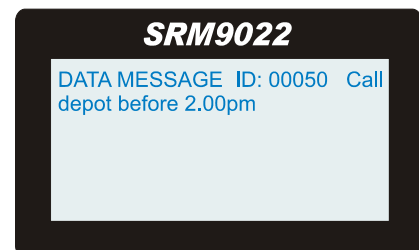
The **▲** and **▼** buttons allow selection within the pop-up box.

To view a long message that does not fit on the screen, select **More** in the pop-up window.



To delete the currently displayed message, select **Delete** in the pop-up window.

To exit and return to the channel screen, select **Exit** in the pop-up window

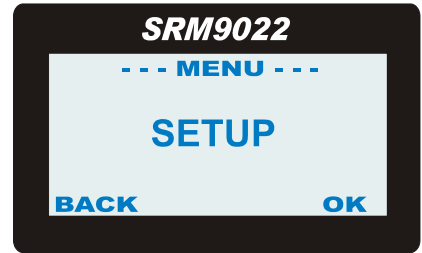


4.7 SETUP SCREEN

Use this Screen to access the other Setup submenus.

Press the **OK** button to show the first of the submenus, and then the **▲** and **▼** buttons to scroll through these screens.

Refer to section 6 for details on Setup sub-menus.



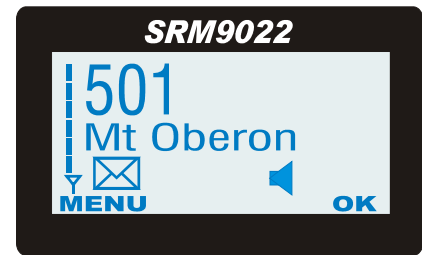
5. COMMON FUNCTIONS AND FACILITIES

5.1 SWITCH-ON/SWITCH-OFF

Momentarily press the red **On/Off** button to switch the radio **ON**.

The display will illuminate and show a 'Welcome Message' and the Selcall Identity of the radio.

After a brief time the display will revert to the Idle Screen, at which time the radio is ready for use.



Pressing and holding the **On/Off** button for approximately 2 seconds will switch the radio **Off**.

If the radio **Inactivity Timer** is enabled, the radio will automatically turn **Off** after several hours of inactivity (i.e. no buttons pressed).

The radio will emit warning beeps for 10 seconds prior to switching off. Pressing any button will reset this timer.

The radio can also be setup to switch on automatically with the Vehicle Ignition whenever the vehicle is started.

5.1.1 Volume Adjustment

The top +/- buttons adjust the speech level at the loudspeaker.


Whenever the volume level is adjusted, the screen briefly shows the current volume setting.




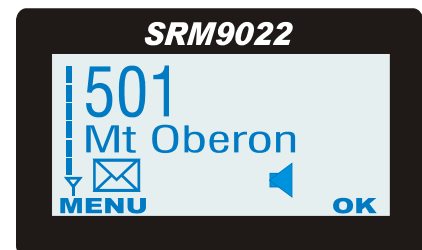
Note: The radio may be programmed so that the volume cannot be turned off completely.

5.2 RECEIVING

The radio will listen on the displayed Channel.

The Solid Speaker Icon  will show when a valid signal is being received and audio will be heard at the Loudspeaker.

An Outline Speaker Icon  will show if a signal is present but the audio is muted for some reason (e.g. incorrect CTCSS tone, or the Selcall Mute is closed).



SRM9022 ~ PMR MOBILE RADIO USER GUIDE

Changing channels may be achieved by any of the following:


Pressing the ▲ and ▼ buttons.

Entering the desired channel number from the Keypad and pressing # (e.g. 12#).

Pressing a **Go-to-Channel** Function Button. (refer to Section 7.11)

Note: If the displayed channel is a Vote or MultiAx channel then the Rotating Arrow symbol will be displayed while the radio is searching for a signal. When stopped on a channel the Rotating Arrow disappears and the selected Channel Name may be displayed.

5.3 TRANSMITTING

To avoid interfering with other users of the channel, listen first to ensure no transmissions are occurring. Make sure that the Outline Speaker Icon  is not shown.

Hold the microphone a few centimeters from the mouth, press the “Press to talk” (PTT) switch and note that the Tx-LED is RED. Speak clearly across the face of the microphone in a normal conversational manner.

In most systems it is important to wait a short time between pressing PTT and commencing to speak. This ensures that the path is properly established and avoids lost or distorted speech.

Use the correct operating procedure and keep transmissions short.

Release the PTT switch as soon as the message is finished.

- Notes:*
- 1. A channel may be programmed as “Receive-only” or “Transmit Inhibit” may be programmed which disallows PTT while the radio is receiving a signal. A continuous tone will be heard if PTT is disallowed.*
 - 2. A Transmit Limit Timer may be setup that limits a continuous transmission on a channel. The last 10 seconds before the timer expires may be accompanied by warning tones.*
 - 3. The radio may be programmed to send a Selcall (ANI) when the PTT is pressed or released. This may introduce a short delay before the microphone is enabled or after PTT is released.*

5.4 SELCALL FUNCTIONS

Selcall is a PMR signalling option that allows the mobile radio to initiate or respond to an identifying number. Selcall is generally used to allow individual mobiles (or groups of mobiles) in that system to be to be selectively called.

5.4.1 Receiving a Selcall

A number of different options can be set up by the FPP to sound various alert tones when a selcall is received. Consult your dealer for a detailed explanation of your radios set up.

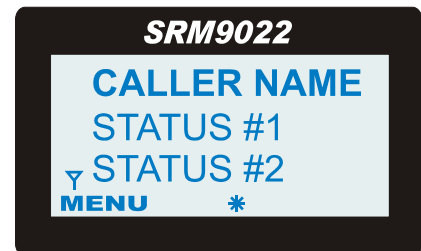
When a Selcall is received the radio may respond by:

- Showing a flashing or solid * icon to indicate that the radio has been **Called** or is **On-call**, or
- sounding an Alert tone, or displaying the Name of the caller (if it exists in the Phonebook) or the numerical identity of the caller (if unknown) on the display.



This is the alternative Selcall receive Idle Screen, showing the received Selcall and received Status information.

Pressing PTT and/or removing the Microphone from its Cradle may change the state of the * icon, stop the Alert tone and enable the speaker audio.



Replacing the Microphone back into its Cradle may clear the * icon (and/or mute the speaker).

5.4.2 Sending a Selcall

Selcalls are generally sent by accessing the *Phonebook Screen* (page 11) or the *Status Screen* (page 11) for methods of sending a Selcall.

5.4.3 Other Selcall Functions

The SRM9022 has several other functions that affect how the radio operates with received signals or selcalls. These are described later in this booklet under the headings:

Monitor/Reset	(refer to Section 7.1)
Reset	(refer to Section 7.3)
Transpond Enable	(refer to Section 7.7)
Send-1, Send-2	(refer to Section 7.6)
Special Encode1...8	(refer to Section 7.12)

5.5 SCAN FUNCTIONS

Scanning consists of sequentially searching up to 15 channels for a valid signal (RF, CTCSS or DCS tone). When found the radio will stop on that channel until the signal disappears again.

The Microphone may need to be in the cradle, (on hook) for the radio to scan.

While listening on the channel, the User may PTT on that channel. After the signal disappears the radio will remain listening on the channel for a short time (typically 3 seconds) before resuming scanning. PTT is inhibited while the Mic is in cradle.

If a **Priority/Emergency** Channel is assigned, the radio will interleave a check of this channel between each normal channel check. The radio may also check the Priority Channel every few seconds while stopped on a channel. If a signal is found on the Priority Channel then the radio will switch to that channel immediately.

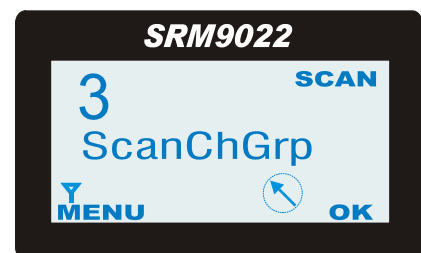
If programmed, the Priority Channel is automatically selected when the Microphone is removed from cradle.

To activate Scanning, press the SCAN Function button from the Main Channel Screen.

5.5.1 Scan Screen

The display shows the name of the current Scan-Group (e.g. "ScanChGrp"), which may be changed using the ▲ and ▼ buttons.

The Scan-Group Number is shown at the top-left of the display, i.e. **1...4** if it is a User Scan-Group, or **blank** for Fixed Scan-Groups. While the Scan Screen is displayed the radio is scanning the shown group.



The Scan Screen does not time-out. Normal exit is via the **OK** button.

The RSSI indicator shows the received signal strength as the radio is scanning.

All other buttons have the same assignments as in the Main Channel Screen.

When stopped on a channel, the name of the selected site, and the "rotating arrow" symbol is replaced by the Speaker symbol.

To temporarily skip the channel from the Scan-Group, press **OK** then select "**Skip**".

Skipped channels are restored when a different Scan Group is selected or if Scan is exited. The Priority Channel cannot be skipped.

OK: Edit is only active for User Scan Groups and opens up the Scan-Edit Screen for the selected Scan-Group allowing Channels to be added, deleted or set as the priority channel (see below).

SRM9022 ~ PMR MOBILE RADIO USER GUIDE

While listening on the channel, the User can PTT on that channel. After the signal disappears (or Microphone is placed back in Cradle) the radio will remain listening on the channel for a short time before resuming scanning.

The Microphone may need to be in cradle for the radio to scan. If the Microphone is left off-cradle for too long then the radio may sound a continuous alert tone until it is replaced.

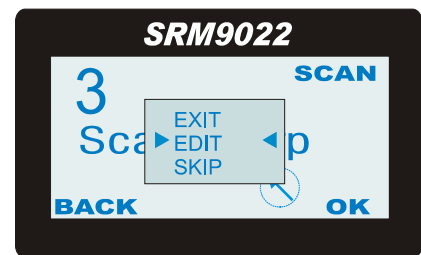
DTMF (if enabled) is only active when the Mic is out of cradle.

The Keypad may **NOT** be used for quick channel change (e.g. 456#) in this Screen.

5.5.2 Scan-Edit Screen

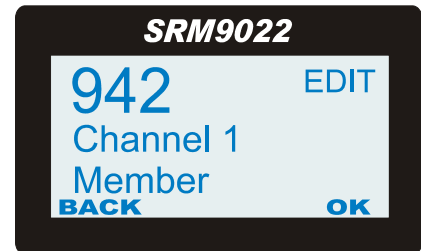
Press **OK** and select Scan Edit.

In the Scan-Edit Screen the display shows the Channel List (excluding Vote and MultiAx channels) and the Message-Line shows either "Member" or "Priority".

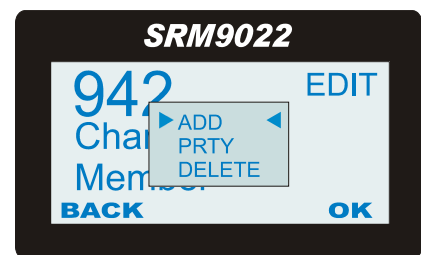


Press the ▲ and ▼ buttons to show channels within the Scan Group.

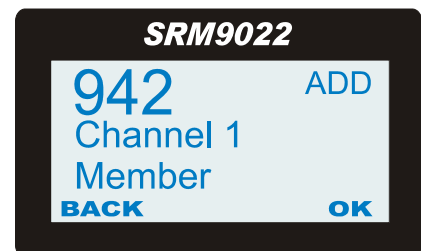
Press **OK** to Add/Delete a channel, or Change the Priority Channel.



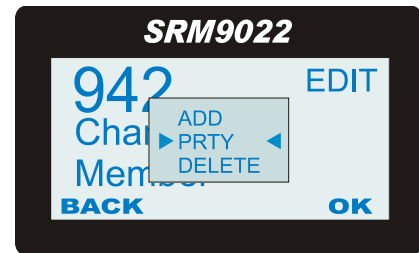
If the ▲ and ▼ buttons were used to select **ADD**.....



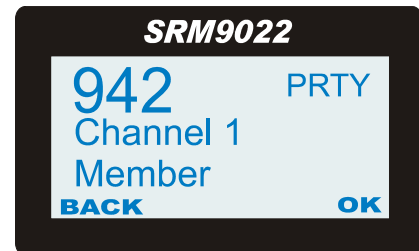
....then this Screen will appear. Press **OK** to confirm channel selection and to return to the previous screen.



Alternatively, if the ▲ and ▼ buttons were used to select PRIORITY.....



....then this Screen would appear. Press **OK** to confirm Priority selection and to return to the previous screen.



When adding Channels (or changing Priority Channel), press ▲ and ▼ buttons to scroll through all available channels, and press **OK** to make a selection.

Note: "Member" and "Priority" text strings will only be displayed if the channel is a member of the group.

In all Screens, press **Back** to return to previous Screen.

5.6 DTMF OPERATION

When DTMF is enabled, DTMF tones can be sent using the Keypad from the Main Channel Screen. Pressing **0...9**, ***** and **#** will send the associated tones. The tone period and gap are set by the programmer.

DTMF can be enabled in several ways:

via the DTMF option in the User-Options sub-menu under the SETUP Menu (refer to Section 6).

If the DTMF Function is assigned to a F1...6 button, DTMF is enabled when the button indicator is ON.

5.7 EXTERNAL ALERT

Provision is made to connect an external alerting device to the rear of the radio. The external alert may be activated when a selcall is received (and cancelled by a timeout, user intervention or receiving a different selcall).

This function is enabled by software programming. When enabled, the External Alert feature may be switched On or Off using a Function button.

5.8 AUXILIARY OUTPUT

Provision is made for connection to an Auxiliary Output on the rear of the radio. This output is enabled by software programming and can be used to activate an external device. When enabled, the function is toggled On/Off using a Function button.

6. SETUP

The Setup sub-menus allow the operator to edit/modify the operation of some of the general functions of the radio. The programmer can restructure or restrict access to any or all of these menus and may restructure them according to specific requirements.

6.1 SETUP SUB-MENUS

The Setup sub-menu structure programmed at manufacture is shown in Figure 2. These sub-menu Screens provide access to operator functions as follows.

User Options	Key beeps, Backlight, Dual Watch & DTMF on/off selection.
Mute Adjust	Mute Level adjustment .
Phone Book Edit	Allows Phonebook entries to be changed, deleted or added.
Contrast	Displays contrast adjustment.
Alert Volume	Alert “beep” tone level setting (relative to Audio Volume).
Radio Information	FPP File description, SW version, Serial No. Selcall ID.
Mode	Selects Trunk (Network 1/2), PMR, or P25 operation mode.

6.1.1 User Options

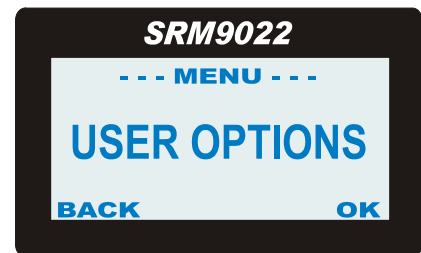
The **User Options** Screen allows a variety of user options (such as Keybeeps, Backlight, Dual Watch and DTMF facilities) to be set On or Off.

The option selections are set with the FPP.

Use the ▲ and ▼ buttons to scroll between the different options.

The **OK** button toggles the selection On/Off.

The setting is saved immediately.

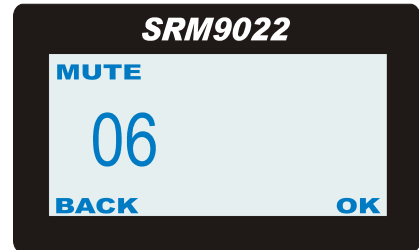


6.1.2 Mute Adjust

Select the **Mute Adjust Screen** to change current Mute setting.

Use the ▲ and ▼ buttons to change the Mute level.

Press the **OK** or **Back** button to save new Mute setting.



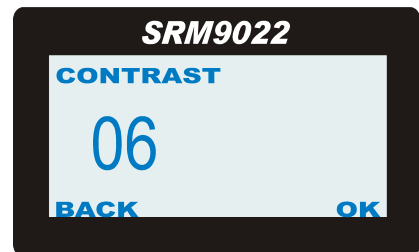
Note : When a Voting channel is selected the Voting-Mute level is shown, but may not be changed.

6.1.3 Contrast

The Contrast Screen allows you to set the contrast level of the Display in the range from 0 to 15.

Use the ▲ and ▼ buttons to select the required contrast setting.

Press **OK** to accept the setting and return to the Idle Screen.



Press **Back** to accept the setting and return to the Menu Select Screen.

6.1.4 Alert Volume

This Screen allows you to set the level of the Alert Volume Beep Tone in relation to the current Volume setting. The level can be set in 63 steps over the range -31 to +31.

Use the ▲ and ▼ buttons to change the relative alert level



Press **OK** to accept the setting and return to the Idle Screen.

Press **Back** to accept the setting and return to the Menu Select Screen.

Note: A minimum Alert Level may be set to ensure the Alerts can always be heard from the speaker.

6.1.5 Radio Information

This Screen displays information that identifies the...

- Programmer File description
- Software Version
- Selcall ID, and ...
- Radio Serial Number and ESN.



Press **OK** to return to the Idle Screen.

Press **Back** to return to the Menu Select Screen.



6.1.6 Phone Book Menu

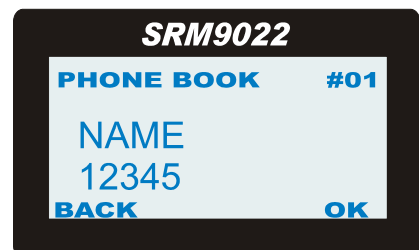
From the Main Menu, press **OK** to select the Phonebook Screen.



Once in the Phonebook Screen....

- The ▲ and ▼ buttons to scroll through the Entries...
- Pressing **OK** will select an Entry.
- Press the **Back** button will return you to the previous screen.

*Note: Use **F6** button when you need to backspace.*



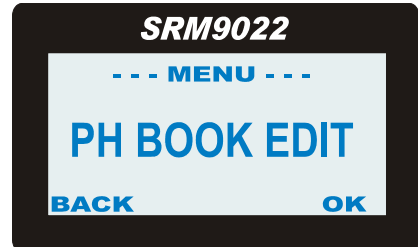
SRM9022 ~ PMR MOBILE RADIO USER GUIDE

6.1.7 Phone Book Edit Menu

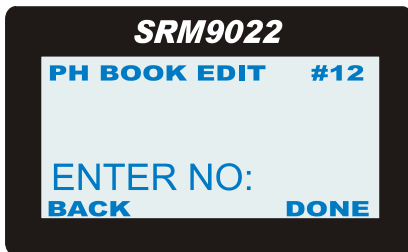
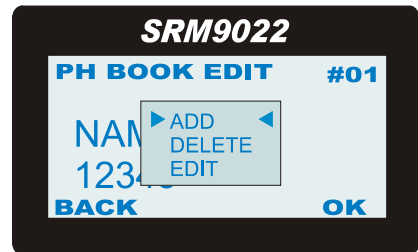
The Phone book Edit Screen allows you to Add, Delete or Edit phone book entries.

6.1.7.1 ADD A NEW ENTRY

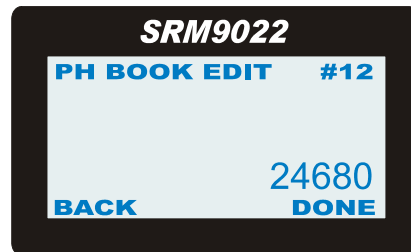
From the main Phone Book Edit Screen (at any Phonebook Entry), just press **OK**.



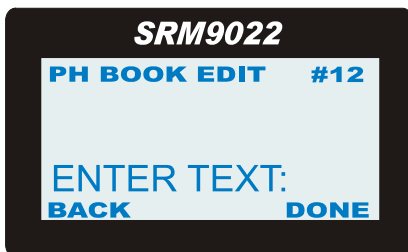
Use the ▲ and ▼ buttons to select "Add" and press **OK**.



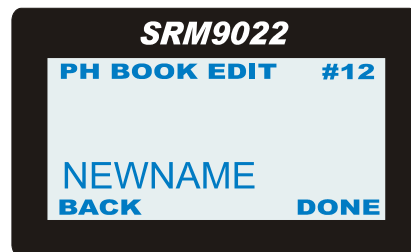
Enter the new Entry number using the keypad.



.....and press **OK**.



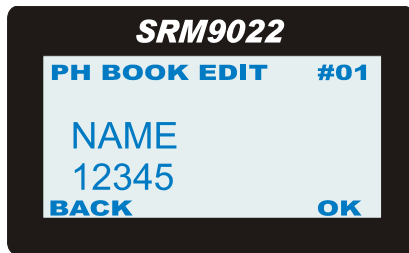
Next, enter new Entry text using the *ABC keypad* (see 6.1.7.4 below),



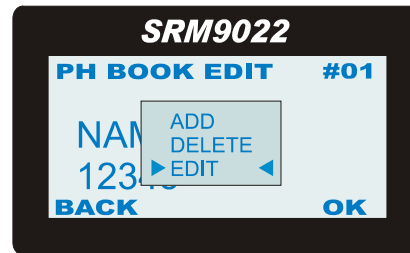
.....and press **OK** again to exit back to the Idle Screen.

SRM9022 ~ PMR MOBILE RADIO USER GUIDE

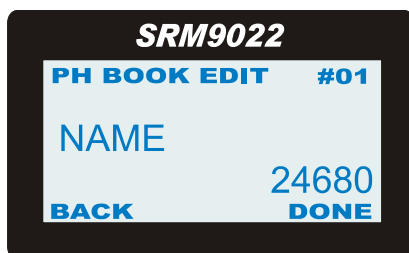
6.1.7.2 EDIT AN EXISTING ENTRY



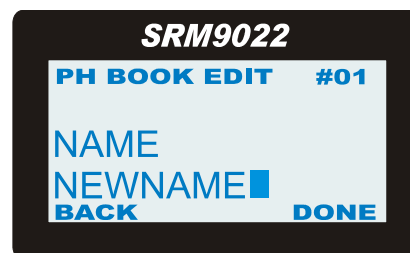
Use the ▲ and ▼ buttons to select the required Phonebook Entry, then Press **OK**.



Use the ▲ and ▼ buttons to select “Edit” and then press **OK**..



Next, edit the number using the **F6** key and keypad and press **OK**.

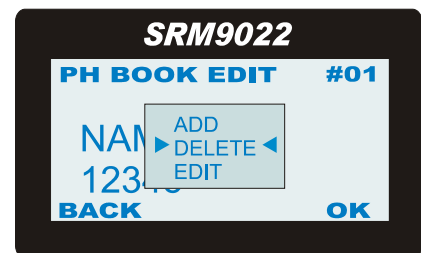


Edit text using the **ABC keypad** (see 6.1.7.4 below) and press **OK** to exit back to the Idle Screen

6.1.7.3 DELETE AN ENTRY

Use the ▲ and ▼ buttons to select the required Phonebook Entry, then press **OK**.

Use the ▲ and ▼ buttons to select “Delete”, then press **OK** to delete the Entry and exit back to the Idle Screen.



6.1.7.4 USING THE KEYPAD FOR TEXT

When using the keypad to type text:

- press the appropriate keypad button a number of times until the desired character or number is selected,
- the current character position is identified by a flashing block cursor,
- use '#' to select lower/upper case letters,
- use the ▲ and ▼ buttons to move to the next or previous character space to be entered/modified, and...
- press **OK** to accept changes.

6.1.8 Mode Selection

The Mode Screen allows you to switch operation between;

- Trunk Network 1
- Trunk Network 2
- PMR mode, or ...
- P25 mode.

Use the ▲ and ▼ buttons to make your selection, and press **OK** to accept.

Press **Back** to return to the Menu Select Screen without changing modes.

Note: Refer to the relevant Operating Instructions for Trunk or P25 operation.



7. SPECIAL FUNCTION BUTTONS

This section lists Functions that may be programmed to the F1, F2, F3, F4, F5 or F6 buttons.

Consult your TMC Radio Dealer for which functions have been programmed in to your radio.

7.1 MONITOR

Opens/Closes the audio (signalling) mute.

Only valid on Non-Community Repeater type channels and/or Closed Selcall channels without Receiver Lock-out programmed.

7.2 SQUELCH DEFEAT

Opens/Closes the squelch (carrier) mute.

7.3 RESET

Closes the audio (signalling) mute on closed Selcall Channels.

7.4 SCAN

Activates Scanning, refer to Section 5.5.

7.5 AUXILIARY

Toggles the external output, refer to Section 5.8.

7.6 SEND-2

Sends a specific selcall sequence.

7.7 TRANSPOND

Enables/Disables Individual Call Acknowledge.

7.8 CTCSS

Defeats the CTCSS mute on the channel

Only valid on Non-Community Repeater type channels and/or Open Selcall channels.

7.9 MUTE

Provides direct access to the Mute Setup screen (refer to Section 6.1.2) and allows the user to change the mute level from that screen.

7.10 EXTERNAL ALERT

Enables/Disables control of External Output via Selcall Decodes, refer to Section 5.4.

7.11 GOTO CHAN A, B, C, D

Selects predefined Channel A, B, C or D, and (*may*) return on the second press.

The Defined Channel *may be* redefined if held for approximately 2 seconds.

7.12 SPECIAL ENC 1...8

Sends Special Encode 1, 2, ... 8

7.13 ALARM

Put the mobile into Alarm mode.

7.14 REPEATER DEFEAT

Allows the radio to transmit on the reverse frequency on a Repeater Channel.

When the button is pressed again (or the Channel is changed) the transmit frequency reverts to the original setting.

7.15 LOW POWER

Forces the radio to low power.

Pressing again puts the radio back to the power level defined for the current channel. This is not affected by Channel changes.

7.16 DTMF MODE

This function places the numeric keypad into DTMF mode. refer to Section 5.6.

7.17 SCRAMBLER ON/OFF

This function toggles the operation of the frequency inversion voice scrambler.

7.18 SEND DTMF1/2

This function sends a pre-programmed string of up to 16 DTMF digits.

7.19 LOCK / UNLOCK KEY

This function unlocks the keypad by holding down the programmed function buttons for 2 seconds.

8. OPTIONS

The following options are available, contact your dealer for further information.

8.1 QUICK RELEASE TRANSCEIVER KIT (MA-QRCRADLE)

This kit provides a mounting cradle to allow the Transceiver to be quickly removed without having to undo unnecessary screws.

8.2 MICROPHONE/CONTROL HEAD EXTENSION LEAD

This lead allows the Transceiver to be placed up to 4.5 metres from the Control Head.

8.3 TYPE 1 PARALLEL I/O EXPANSION OPTION

This option provides eight I/O lines and pre/de-emphasised audio to allow external interfacing to the radio.

8.4 INTERNAL GPS OPTION

This provides Global Position reporting for Trunk and PMR applications.

8.5 CROSS-LINKED CABLE

This is used with various applications to cross-connect or interconnect Transceivers or Control Heads.

8.6 600 OHM INTERFACE OPTION

This provides a balanced 600 Ohm 2/4 wires audio interface and opto-isolated E and M lines.

8.7 TYPE 2 I/O OPTION

This interface board is designed for multiple Transceivers or Control Heads.

8.8 DUAL CONTROL HEAD OPTION

This allows two Control Heads to be used from one Transceiver.

8.9 DUAL TRANSCEIVER OPTION

This allows two transceivers to be used with one Control Head.

8.10 DESK TOP BASE KIT

This provides a housing for the radio and incorporates an 8 Amp Power Supply Unit and speaker.

9. TROUBLESHOOTING

If, after reading this guide, you are unable to switch the radio on, check the following:

- A fuse has not blown.
Your installer should advise you of the location of the two main fuses,
- The power supply cables and their connections are secure, and
- The vehicle battery is charged.
- If these checks are OK, contact your dealer or TMC Radio representative for further advice.

APPENDIX A - ALERT TONES AND MESSAGES

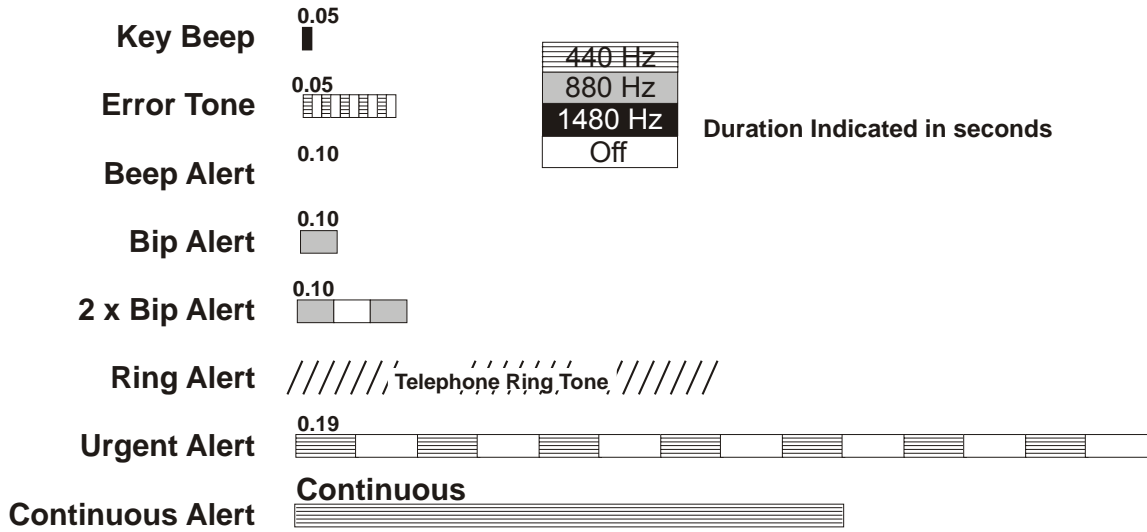


Figure 2 – Alert Tones

These messages are displayed on the Message Line to give the user additional information.

Called	Indicates Selcall state (for flashing * icon).
On Call	Indicates Selcall state (for solid * icon).
Queued	A Selcall is queued waiting to be sent.
Voting	Additional information about the Channel type.
MultiAx	Additional information about the Channel type.
Scanning	Additional information about the Channel type.
Dual Watch	Dual Watch function is enabled.
Member	Scan Edit: Indicates that the displayed channel is a member of the current Scan Group.
Priority	Scan Edit: Indicates that the displayed channel is the Priority Channel in the current Scan Group.

APPENDIX B - GLOSSARY

A summary of common radio terms and some other terms used in this document, and their meanings, are given below.

Alert tones	The transceiver emits these tones to indicate an invalid operator or error.
Cradle	The bracket that holds the microphone when it is not in use (on hook).
Current Phonebook Entry	Name that would be shown were the Phonebook screen shown.
DSP	Digital Signal Processor.
DTMF	Dual Tone Multi-Frequency (Signaling Method).
LCD	Liquid crystal display.
MIC	Abbreviation for microphone.
MPT1327	Refers to the UK Ministry for Post and Telecommunications specification defining the low level protocol for public trunking systems.
MPT1343	Refers to the UK Ministry for Post and Telecommunications specification defining the User Interface for radios operating on MPT1327 public trunking systems.
Network	The system infrastructure, eg a Trunked Network.
PMR	Private Mobile Radio
PTT	Press-to-Talk. Hold down the Press-to-talk switch on the microphone for the duration of the transmission.
RF	Radio Frequency.
RSSI	Received Signal Strength Indicator
Selcall	Selective Call. A signalling system that identifies users.
Saved Status Value	The last Status that was sent, entered or optionally received.
TMR	Trunked Mobile Radio