T3000*II* Programming Software
User's Manual

PGM3000

(T3000-5000-006)

439-35000-02

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About this Guide

Welcome to PGM3000, the Tait radio programming software for T3000 Series II handportable radios. This software provides an easy way to enter settings and features into T3000 series radios, using a standard IBM PC (or compatible). This introductory section provides background information that you should read before using this guide.

Overview

This guide is intended as an installation guide and overall reference to the programming software. It provides the following information:

■ An overview of the software

■ Installation instructions and hardware setup

■ Basic usage instructions

■ A reference guide to all parameters and settings

Who Should Read this Guide?

This guide is designed for use by Tait retailers and distributors who are programming handportable radios for customers. Other audiences include radio fleet managers and network managers who may need to know the specific settings available for Tait T3000 Series II handportable radios.

What Do You Need to Know?

Users of the Tait radio programming software should be familiar with the following:

■ Trunked and conventional radio systems

■ Radio system and radio network settings and parameters

■ General PC operation

What's Included?

This guide has six chapters, one appendix, and the Tait Software License Agreement.

Chapter	Description
Chapter 1	Introduces the software and provides installation and connection instructions.
Chapter 2	Provides general usage information for the software, including navigation, file saving, and printing.
Chapter 3	Provides a complete reference to T3010*II* conventional handportable radio settings.
Chapter 4	Provides a complete reference to T3020*II* conventional handportable radio settings.
Chapter 5	Provides a complete reference to T3030*II*, T3035*II* and T3040*II* trunked handportable radio settings.
Appendix A	Gives details on CTCSS/DCS coding.
License	Tait Software License Agreement

Conventions

This guide uses the following conventions:

Convention	Description
Initial Capitals	Screen fields, field names and screen buttons.
Italic	Specific entries and available settings for screen fields.
[ ]	Radio keys
ALL CAPITALS	Specific radio mode settings, the names of computer files and directories, and PC keys.

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Appendix A Valid CTCSS/DCS Codes

1 Getting Started

About this Chapter

This chapter introduces the Tait Programming Package for T3000 Series II trunked and conventional handportable radios, and provides an overview of its features. It covers the following topics:

■ An Overview of the Software

■ Software Compatibility

■ Features and Capabilities

■ Components

■ System Requirements

■ Installing the Software

■ Installing a Mouse

■ Connecting the Radio

An Overview of the Software

PGM3000 is a collection of software programs, each of which is targeted to specific radio models in the T3000*II* product range. These programs permit you to tailor a radio to your customer's specifications, and to maintain a record of settings. This record can be used to program other radios in the fleet to the same settings.

The programming package incorporates a standard Graphical User Interface (GUI) or optional text-based user interface, with item selection by keyboard or mouse. It is supported by a complete Help system.

Software Compatibility

For the latest information on the versions of radio software which the PGM3000 tools included with this package are designed to program please see the README.TXT file included on the program disks.

At the time of printing, the following information was available about compatibility of the PGM3000 tools with radio software versions:

■ PGM3010 v2.11 - compatible with T3010*II* radio software versions v1.02, and later.

■ PGM3020 v2.00 - compatible with all T3020*II* radio software versions.

■ PGM30TR v2.14 - compatible with T3000*II* trunked radio software version v2.00, and later.

Features and Capabilities

The Tait programming package provides the following:

■ Programming of all supported Tait T3000*II* models.

■ A complete GUI environment that does not require Microsoft Windows, or an optional text interface.

■ Context-sensitive Help.

■ Capability to save a reference copy of all radio settings into a data file, for later use.

■ Full printing capability to maintain a hardcopy of your settings.

Components

Your programming package should contain:

■ A 3.5" high density (1.44MB capacity) program install disk.

■ A T3000-5300 programming cable with a special radio connector at one end and a telephone style socket at the other.

■ A computer interface cable with a 25 pin serial plug at one end and a telephone style plug at the other.

If any of these components are missing, contact your Tait supplier.

System Requirements

The PGM3000 software requires the following:

■ An IBM compatible PC with an 80386 microprocessor.

■ MS-DOS version 5.0 or higher.

■ 2MB of RAM. DOS and any TSRs should be loaded in high memory (consult your DOS manual for how to do this).

■ A VGA colour graphics display.

■ A hard disk drive with 2MB of free space.

■ A single floppy disk drive (1.44MB capacity or higher).

■ A printer (if hardcopy output is required).

■ A Microsoft or compatible mouse and driver (optional).

Installing the Software

Installation Requirements

PGM3000 cannot be run directly from the distribution disks. It must be installed, either on a hard disk (full or partial installation).

To perform a full installation on a hard disk you need approximately 2MB of free disk space.

Running the Install software

To begin installation, place the program disk in the floppy disk drive and type A:INSTALL (if the disk is in drive A) or B:INSTALL (if the disk is in drive B) at the DOS prompt. Press ENTER.

The installation program guides you through the installation process. Read the information presented on the screen carefully.

After installing the software, place the original distribution disk in a safe place.

Drive and Path options

You will be asked to enter the drive and path to which you want the software installed. If you do not change the default then the files will be placed in the \TAITPGM directory on the target drive.

We recommend that you use the default directory setting, especially if you have already installed, or intend to install, other Tait programming and support software packages.

If you are installing the programs on a hard disk you may wish to include the \TAITPGM directory in the DOS search path. This permits you to start PGM3000 from any directory. If this is not the first time you have installed PGM3000 on your computer you can check whether or not the directory is already in the search path by typing PATH at the DOS prompt (look for C:\TAITPGM).

Consult your DOS manual for information on how to add the directory to the search path if it is not already present.

Installing a Mouse

Some computers do not have a mouse driver loaded at the MS-DOS prompt. This means the mouse will not function while running the PGM3000 software.

To install the mouse, use the installation disks provided with your mouse to install the correct mouse driver. Some installation programs add a line to your AUTOEXEC.BAT file, so that the mouse driver is loaded automatically, while some programs leave this to the user.

Once the mouse driver is loaded into memory, the mouse will work in the PGM3000 software. Although the mouse is not required for use in the software, it is recommended.

Connecting the Radio

The programming kit contains two interface cables which connect together to form the link between the radio and the PC. One cable plugs into the serial port on your computer, and the other onto the accessory connector on your radio. You can plug the connector into either the COM1: or COM2: port on your computer. (If you select COM2:, you must change the software configuration. See "Setup" in Chapter 2.)

The connector is supplied with a 25 pin serial connector. If your computer has a 9 pin serial port, you need an adaptor cable. This is generally available from your PC dealer.

Before fitting the connector to the radio, turn the radio off. Hold the connector above the top of the radio as shown.
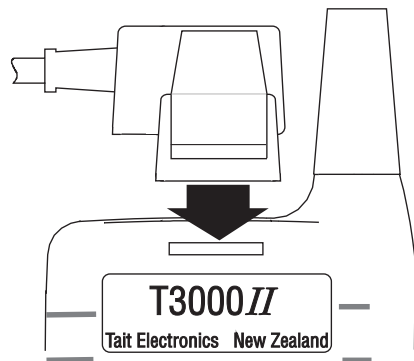
Locate the tongue on the rear leg in the slot at the top rear of the radio (above the identification label). Tilt the connector down at the front, until the tongue on the front engages securely with the slot above the radio's speaker grill.

When the radio is attached, it can be programmed. Make sure you turn it on first, since it must be operating for the memory to be read. You should also make sure that the battery is charged, or use a battery eliminator, to ensure the radio does not turn itself off during the programming session.

To remove the connector after you have finished programming the radio, first turn the radio off. Hold the radio firmly with the back facing you, and press forward on the thumb-tag at the rear of the connector. (Do not squeeze it against the front of the connector as this will prevent it from releasing.)
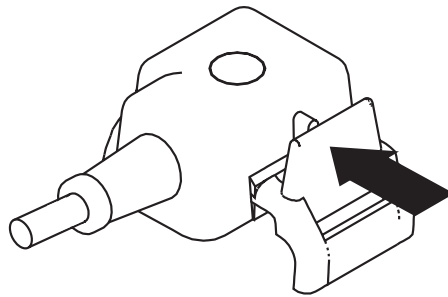
The front of the connector will release and lift from the radio and the entire connector will then lift clear.

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2 General Operations

About this Chapter

This chapter describes the basic operation of the Tait programming software. The operations detailed here are common to both the trunked and conventional packages. These operations are as follows:

- Program Operation Under Windows 95
- Setting Up Windows 95 Desktop Short-Cuts
- Starting the Program
- Navigation
- Loading and Saving Files
- Setting Up Your System
- Reading and Programming the Radio
- Exiting the Program

Program Operation Under Windows 95

To run the PGM3000 software, it is first necessary to exit Windows 95, as follows.

In Windows 95, click on the Start button, and the Shut Down Windows window appears. Choose the option *Restart the computer in MS-DOS mode*, then Windows 95 will exit and restart at the DOS prompt. The software can now be run as described in the section "Starting the Program".

Note: If Windows 95 is exited by choosing 'Programs' then 'MS-DOS Prompt' from the Start button, PGM3000 will not run reliably.

Setting Up Windows 95 Desktop Short-Cuts

Windows 95 desktop short-cuts to the PGM3000 programs can be used, provided the short-cut is configured as follows.

Click on the short-cut with the right mouse button, select Properties, then TAB to the program. Click on the Advanced button and select the MS-DOS Mode box.

When the short-cut is activated, the PGM3000 program will run, after first exiting Windows 95. Windows 95 will restart when the PGM3000 program is exited.

Starting the Program

Change to the Tait programming software directory by typing CD\TAITPGM at the DOS prompt and press ENTER, then type PGM3000 and press ENTER.

- To program T3010*II* radios, press *1*.

- To program T3020*II* radios, press *2*.

- To program T3000*II* trunking radios (T3030*II*, T3035*II* and T3040*II*), press *T*.

- To quit without running any programming software, press *Q*.

Note: If you have modified the DOS path as described in the Installation section, then you do not need to change to the TAITPGM directory first.

By default the program provides a graphical user interface. If you do not have a graphics screen, or would prefer a text display, you can force the program to start in text mode by adding /T after the program name (such as PGM3010 /T). There must be a space between the program name and the slash (/).

When you enter the program name, the startup screen appears, displaying information about the program. You should quote the software version number shown there when consulting with your Tait supplier about programming issues.

When starting up PGM303X or PGM3040 you are asked to enter a password. This password determines which of the programming items you are allowed to change. Refer to the chapter on Trunked Settings for more information.

Navigation

This programming package can be used with a mouse or a keyboard or both. To navigate through the program using a mouse, simply place the arrow on the screen onto the menu option you wish to choose (or the option button you wish to press), and click the left mouse button once.

All functions can be selected using the keyboard, according to the following table:

General Operations

Key	Function
F1	Access Help. A single press calls Help for the current field. A double press calls general Help.
F2	Insert a row into an array box
F3	Delete a row from an array box
F5	Refresh the display
Alt-F1	Help
Alt-F5	Restore window size to normal
Alt-F7	Move window
Alt-F8	Re-size window
Alt-F10	Maximise window
Alt-Space	Open a keyword drop-down menu

Edit Functions

Key	Function
Insert	Toggle insert/overtype mode (default is insert)
Delete	Delete character to the right
Backspace	Delete character to the left
Enter	End edit and validate new value
Esc	Close a window
Alt	Select the window menu bar. Access menu bar keywords by pressing the underlined character ('hot key').

Navigation

Key	Function
Tab	Move to next window object
Shift-Tab	Move to previous window object
Home	Go to top of screen
End	Go to bottom of screen
Ctrl-Home	Go to beginning of line
Ctrl-End	Go to end of line
Page Down	Go down one page in current screen
Page Up	Go up one page in current screen
⇧	Scroll up in a vertical list or pop up menu
⇩	Scroll down in a vertical list or pop up menu
⇦	Move left along menu items in the menu bar
⇨	Move right along menu items in the menu bar

Control Keys

Key	Function
Ctrl-F2	Insert an element into an array box
Ctrl-F3	Delete an element from an array box
Ctrl-Break	Immediate exit from program
Ctrl-C	Exit from program
Ctrl-Arrow	Moves scroll bars within an array

Using the Menu Bar

Most of the software features are available from the keywords on the menu bar. The File keyword lets you create, save and load files, the Radio keyword lets you read and program a handportable radio, the Edit keyword lets you change programmable options, and the Utility keyword lets you print results and change some of the facilities in this program.

The Quit keyword takes you out of the program and back to the DOS prompt. The keywords on the Menu bar can be selected by clicking on them with the mouse, or by holding the ALT key and pressing the underlined letter (*F* for File, for example).

There is extensive online help available by pressing the F1 key. Help is "context sensitive," meaning that the type of information displayed is always relevant to the point in the program where you pressed the F1 key. Pressing F1 twice provides general help information, including an overview of keyboard commands.

The box that appears in the centre of the screen when you first start the program tells you the version number of this software. If you experience any problems while using the software, you should note this number before contacting your Tait dealer for assistance.

Using Text Fields

Text fields appear as simple boxes on the screen. To enter data into a text box, select the box either by using the TAB key, or by clicking on it with the mouse. The text cursor appears within the box. Type in the data, and press the ENTER key to set the new value.

Using Screen Buttons

Some options use screen buttons for settings. A screen button is simply a grey box on an option screen containing a default setting such as *Enabled*.

These buttons simply toggle between two settings. Click once on the button, and it changes to the alternate value.

Control menus and dialog boxes also use screen buttons for commands. These are easily recognisable, and contain such entries as OK and Clear. Click on the button to activate the command, or select it with the TAB key and press the ENTER key.

Using List Boxes

Many of the options screens provide a range of available settings in a list box. A list box is a field on the screen that has an arrow at the right side, as in the following example.

```
┌──────────────────────┐  ┌───┐
│ Disabled             │  │ ↓ │
└──────────────────────┘  └───┘
```
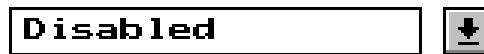
To use a list box with a mouse, click on the arrow to the right of the field to obtain a drop-down menu containing selections. Click on the appropriate selection to set the new value.

To use the keyboard, move to the list box with the TAB key. Press the ENTER key to obtain the drop-down menu. Use the arrow keys to scroll to the required value and press the ENTER key to set the selection.

Using Array Boxes

Option screens that require entry of many lines of data, each containing the same type of information, often use array boxes. An array box consists of lines of other types of data entry fields and appears on the screen as in the following example.

| ! | ⬇ | ! |

Where a line of data entry fields is shown with exclamation points in each, it means that there is currently no data in the array box.

To enter data into an array box, you must first add a new line by pressing the F2 key. This inserts a line into the array and reveals its default settings. Some fields will become list boxes or screen buttons, while others will become text entry fields. You can delete a line from an array by selecting any field on the line and pressing F3.

Loading and Saving Files

The File keyword menu enables you to store and retrieve the options you program into a particular handportable.

This lets you keep a copy of a customer's requirements in an easily reusable form if you are required to program more of the same type of handportables at a later date. The files may be stored on hard disk or on a floppy disk that you can store in a safe place for future use.

All filenames are automatically given the extension ".DAT" unless you specify something else.

Note: The use of filenames greater than 8 characters is not supported.

Creating a New Specification File

Use the New option from the File keyword menu to create a new specification file. This sets all fields to their default values, so it is important that you save any work you have entered first.

Loading Specification Files

Use the Load option from the File keyword menu to retrieve a handportable specification file from disk. Click on Load, and the File window appears.
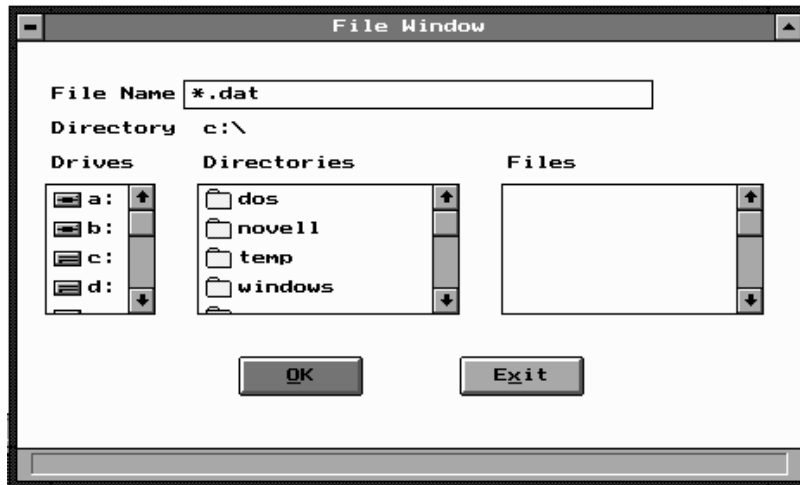
From this window, you can enter a filename directly in the Filename box or search for a file to load. The Files list displays the files in the current directory in alphabetical order. To search for a filename use the scroll arrows. You can use the DOS wildcard characters "*" and "?" to aid in your search.

The Drives list box allows you to search all of the drives attached to your computer. Select the drive to be used for file searches by using the cursor keys or mouse.

The Directories list box shows all of the directories immediately available. If you select a directory, the next (included) level of directories appears. The previous level of directories is marked by the ".." symbol. Selecting this with the mouse or cursor then the ENTER key returns you to the previous directory level.

Saving Specification Files

Use the Save option from the File keyword menu to save the handportable specification file that you are currently working on. If the file has been saved to disk already, the program saves it with the same filename, overwriting the original file. If it has not been previously saved, the File window appears, permitting you to specify a name for the file.

In either case, the Validation window appears, asking whether you wish to validate the file. You should select Yes to avoid saving a file which may cause the handportable to malfunction as a result of illogical or impossible options.

It is especially important to run a final validation check if you have not run validation after completing work in the Edit windows.

The Save As option calls up the File window so that you can save your file by a different name. This is useful if you wish to use an existing specification file as a template for other files.

Setting Up Your System

The Tait programming software permits you to alter certain settings to match your computer setup and operations. These settings are the file and port defaults, and the screen appearance and colour. Changes are made using the menu from the Utility keyword. The Default menu item lets you change port and file location settings; the Colours item lets you set the overall appearance of your screen.

The Print option on the Utility keyword menu lets you print the data you have entered.

Setting Defaults

The file location and extension can help you organise your programming data. The port locations are most important because they determine the location of your printer and the specific hardware connection used in attaching a radio to your system for programming.

File and port settings can be changed by using the Defaults window, which appears when you click on Default from the Utility keyword menu.
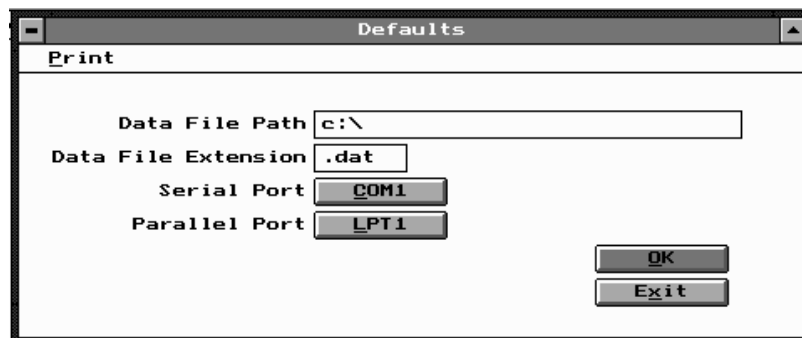
Available settings are as follows:

Option	Description
Data File Path	The data file path determines the default directory on your hard disk that will be used for storing radio data files.
Data File Extension	The data file extension determines the default filename extension for data files.
Serial Port	The serial port is the hardware connection to which all data will be sent for programming radios. It can be either COM1: or COM2:. The default is COM2:. If your mouse or a modem is using COM2:, you may need to change this setting. To change the setting, click on the Serial Port button.
Parallel Port	The parallel port setting here determines where data to be printed is sent. The default setting is LPT1. If you are using several printers, you may wish to change this setting to send data to the preferred printer. To change the setting, click on the Parallel Port button.

Setting Screen Colours

Each PGM3000 package permits you to change the appearance of the screen to suit your own preferences. Screen changes are made through the Screen Colour Manager, which you access from the Utility keyword menu by selecting Colours.

You can change the palette or background colour. A sample of the current setting appears in the Sample Window. Use the Palette and Background keyword menus to make your changes. To complete your colour changes, click on the OK button.
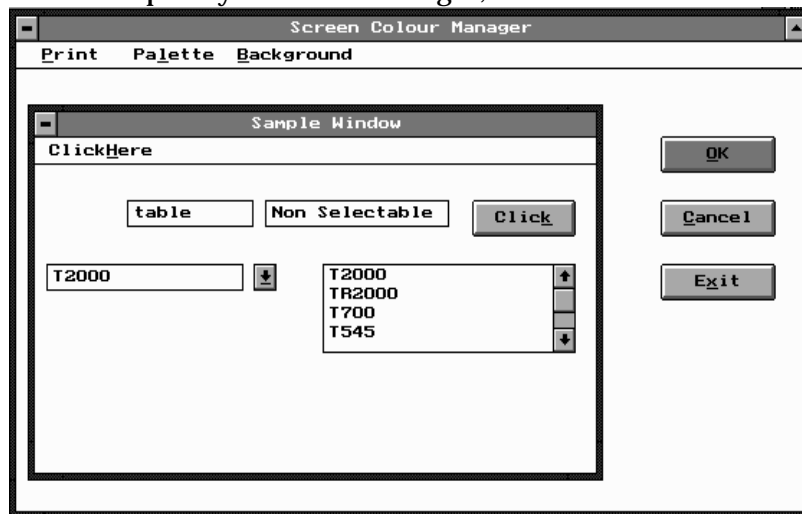
Printing Current Data

Select the Print option from the Utility keyword menu to print all of the radio settings that you have stored. Printing cycles through all of the settings windows and sends the settings in plain ASCII form to the default parallel port. (See "Setting Defaults" earlier in this section if you need to change the port).

Note that the text is printed as a simple ASCII stream. You may have to change your printer settings to accept plain ASCII text.

Reading and Programming the Radio

The Radio keyword enables you to store the operating information you create in this programming package in the handportable with the Program command. It also enables you to retrieve that information from a handportable in order to change it, with the Read command.

Reading Radio Settings

Select the Read option from the Radio keyword menu to read current settings from the handportable using the serial communications port specified in the Utility menu.

The Radio window appears with the message "*Establishing Serial Link to Radio...*" in the status bar. A box is provided for some information specific to the handportable but this will remain blank until the program has successfully read the file from the handportable.

For the program link to be established, the following items must be correct:

■ The correct serial port must be selected using the Utility menu.

■ The radio programming cable must be connected to the correct serial port.

■ The radio programming cable must be connected to the accessory connector on the handportable.

■ The radio type must match the software being used.

■ The radio must be turned on.

When the communications link is established, the display on the handportable shows a "P" (T3010*II*) or "Programming Mode" (T3020*II,* T3030*II*, T3035*II* or T3040*II*).

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Programming the Radio

Select the Program option from the Radio keyword menu to transfer the settings to your radio. When you select this option, the Validation window appears first.

```
┌─────────────────────────────────────┐
│ ■         Validation                │
├─────────────────────────────────────┤
│                                     │
│         Perform Validation?         │
│                                     │
│    ┌─────────┐      ┌─────────┐     │
│    │   Yes   │      │   No    │     │
│    └─────────┘      └─────────┘     │
└─────────────────────────────────────┘
```
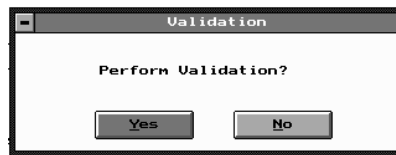
Select Yes to run a final validation of your settings. This is important because it avoids the problems that can occur with impossible or conflicting radio settings.

During validation, the program cycles through all of the settings screens, then loads the data into the radio.

Exiting the Program

To leave the program, escape from the current menu, then click on the Quit keyword. A window appears, asking whether you wish to quit. Click on Yes or press ENTER, and you will return to the DOS prompt.

3 T3010*II* Settings

About this Chapter

This chapter describes the settings that may be selected for a T3010*II* handportable radio using PGM3010. Settings are divided into the following groupings under the Edit keyword:

■ Specifications

■ Options I

■ Options II

■ Channels

■ Selcall Identity I

■ Selcall Identity II

■ Selcall Setup

The Selcall options are disabled (grey) and cannot be used until Selcall Option (on the Specifications screen) has been set to *Fitted*.

See the information on Specifications Settings for more details.

Specifications

Use the Specifications screen to select the required radio model and frequency band, and to make any necessary changes to basic programming settings. To open this screen, click on Specifications on the Edit keyword menu.

The Specifications screen, with default settings, appears as follows:

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```
┌─────────────────────────────────────────────────────────────┐
│ [-]                    Specifications                     [▲] │
│  Print                                                        │
│                                                               │
│                                                               │
│        Chassis Serial Number        [ 00000000   ]            │
│        Factory Model Identity       [ 0000000000 ]            │
│                                                               │
│        Radio Type                   [T3010-31XX(136-154 MHz)][▼]│
│                                                               │
│        Transmit Timer Duration      [60  ] sec                │
│        Transmit Lockout Duration    [0   ] sec                │
│        Cloning From This Radio      [Disabled  ] [▼]          │
│                                                               │
│        All Confidence Beeps         [Enabled   ] [▼]          │
│        Keypress Confidence Beeps    [Enabled   ] [▼]          │
│                                                               │
│        SELCALL Option               [Not Fitted ] [▼]         │
│                                                               │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

The Specifications settings are as follows:

Field	Description	Settings
Chassis Serial Number	(read only)	
Factory Model Identity	(read only)	
Radio Type	Selects the radio model and its frequency band. This software is designed to program the Tait T3010 handportable radio. **Note:** *The T3010-51XX (400-440MHz) may be set as high as 450MHz on receive channels.*	Select one of the following *T3010-31XX(136-154MHz)* *T3010-32XX(146-174MHz)* *T3010-41XX(174-195MHz)* *T3010-42XX(184-208MHz)* *T3010-51XX(400-440MHz)* *T3010-52XX(440-470MHz)* *T3010-53XX(470-520MHz)* *T3010-55XX(450-470MHz)* *T3010-56XX(470-490MHz)* *T3010-70XX(336-366MHz)* *T3010-71XX(360-400MHz)* *T3010-72XX(300-360MHz)*
Transmit Timer Duration	Sets the longest allowable continuous transmission by the handportable. When this time has almost ended, the handportable emits warning tones.	Enter a time between *10* and *240* seconds. Enter *0* and no limit is placed on the duration of a transmission.
Transmit Lockout Duration	Transmit Lockout Duration Determines how long the handportable will be prevented from transmitting after the transmit timer has expired. This setting has no effect if the transmit timer has been disabled.	Enter a time between *0* and *60* seconds. Enter *0* to disable this function.
Cloning From This Radio	Not available.	

continued on next page

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Specifications Settings - continued

Field	Description	Settings
All Confidence Beeps	If enabled, audible confidence indicators will sound.	Select *Enabled* or *Disabled*. If disabled, all audible confidence indicators (including keypress beeps) are suppressed.
Keypress Confidence Beeps	If enabled, audible keypress confidence indicators will sound.	Select *Enabled* or *Disabled*. If enabled, audible keypress beeps sound when any key is pressed.
		This field is not selectable if All Confidence Beeps has been set to *Disabled*.
Selcall Option	Determines whether on-board selective calling hardware has been fitted to the handportable.	Select *Fitted* or *Not Fitted*. If Selcall is not fitted, then Selcall Identity and Selcall Setup screens will not be available and the Selcall facilities will be disabled.

> **CAUTION**
> Do not set this field to *Fitted* if you do not have Selcall hardware fitted in the radio

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Options I

Use the Options I screen to set CTCSS/DCS characteristics, programmable function keys, muting, and Monitor functions. To open this screen, click on Options I in the Edit keyword menu.

The Options I screen, with default settings, appears as follow:

```
┌──────────────────────── Options (I) ────────────────────────┐
│ Print                                                        │
│                                                              │
│      Tx DCS Polarity                    [Normal    ] [▼]     │
│      Rx DCS Polarity                    [Normal    ] [▼]     │
│                                                              │
│      Tx CTCSS Reverse Tone Burst        [Disabled  ] [▼]     │
│      Rx CTCSS/DCS Filter Enabled For    [All Channels] [▼]   │
│                                                              │
│      [.] Function Key         [Disabled          ]  [▼]     │
│      [ ] Function Key         [Disabled          ]  [▼]     │
│      [-] Function Key         [Disabled          ]  [▼]     │
│                                                              │
│      SELCALL Muting                     [Disabled  ] [▼]     │
│      Automatic Monitor with Call Setup  [Disabled  ] [▼]     │
│      Automatic Monitor with Call Answered [Disabled] [▼]     │
│      Monitor Function Disables          [None      ]  [▼]    │
│                                                              │
│      Monitor State at Power Up          [Inactive  ] [▼]     │
│      [MON] Button Brief Press           [Disabled  ] [▼]     │
│      [MON] Button Long Press            [Disabled  ] [▼]     │
│      Call Alert Tones                   [BEEP      ] [▼]     │
│                                                              │
└──────────────────────────────────────────────────────────────┘
```

The Options I settings are as follows

Field	Description	Settings
Tx DCS Polarity	Sets the Polarity of all transmitted DCS codes defined in the Channels screen. Some systems may require the DCS code to be inverted when transmitted.	Select *Normal* or *Inverted.*
Rx DCS Polarity	Controls the polarity of all received DCS codes defined in the Channels screen.	Select *Normal* or *Inverted.*
Tx CTCSS Reverse Tone Burst	If enabled, permits transmission of a CTCSS reverse tone burst. This increases the speed of shutdown in some repeaters and associated equipment.	Select *Enabled* or *Disabled.*
Rx CTCSS DCS Filter Enabled For	Determines channel settings for the audio filter contained in the handportable. This filter removes any CTCSS or DCS tones which may be present on the received audio. It can be switched off automatically for channels that do not have CTCSS or DCS.	Select *All Channels, CTCSS/DCS Channels* or *No Channels.* If set for *All Channels,* the CTCSS/DCS filter does not switch and is active continuously. If set for *CTCSS/DCS Channels,* the filter is active only on channels which have CTCSS or DCS programmed on receive. If set for *No Channels,* the CTCSS/DCS filter is disabled.

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Options I Settings - continued

Field	Description	Settings
Function Keys **[•] [ ] [-]**	Selects programmed settings for the three available function keys.	The function keys can be set as follows
		Disabled: Key does nothing.
		Low Power: Key toggles the transmit power between HIGH and LOW settings.
		Handset Mode: Key toggles the Handportable between HANDSET and NORMAL modes.
		AUX Momentary: Key activates the internal AUX output line on the options connector while the key is being pressed.
		AUX Latching: Key toggles the internal AUX output line on the options connector.
		Monitor Key: Key operates according to the definition of Monitor Function Disables.
		Call: Key initiates a call if the Selcall option is fitted.
		Keypad Lock: Key turns the handportable keypad lock on. When on, all keys except [ON], [VOL+], [VOL-], and the [PTT] are dis*abled*. The [ON] key must be pressed to turn the keypad lock off.
		Backlighting: Key turns on keypad backlighting for the duration specified in Backlight Timer.
		Scan: Key toggles the scanning operation on and off.

Options I Settings - continued

Field	Description	Settings
Selcall Muting	If enabled and the Selcall option is fitted, this feature mutes the handportable audio when the Monitor function is inactive. The Selcall mute is disabled when the Monitor function becomes active.	Select *Enabled* or *Disabled*.
Automatic Monitor With Call Setup	Sets the handportable to automatically activate the Monitor function when an outgoing Selcall is transmitted. **Note:** *If enabled, some way to deactivate the Monitor facility should be provided. This can be done by assigning the Monitor function to one of the function keys on the keypad, or by using the Auto Quiet Timer.*	Select *Enabled* to activate the handportable Monitor facility if a Selcall call is successfully transmitted. Select *Disabled* to permit the handportable to transmit a Selcall call without activating the Monitor.
Automatic Monitor With Call Answered	Set the handportable to automatically activate the Monitor function upon receiving its Selcall identity. **Note:** *If enabled, some way to deactivate the Monitor facility should be provided. This can be done by assigning the Monitor key to one of the function keys on the keypad, or by using the Auto Quiet Timer.*	Select *Enabled* to activate the handportable Monitor facility upon receiving a group call or when the user answers an individual call. Select *Disabled* to prevent the handportable from activating the Monitor facility upon receiving a group or individual call.

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Options I Settings - continued

Field	Description	Settings
Monitor Function Disables	Determines which handportable mutes are disabled when the Monitor function is active.'	Set this field as follows:
		All Mutes: When the Monitor function is activated, both the Selcall mute and any sub- audible coding mute (CTCSS or DCS) are disabled.
		Selcall Mute: When the Monitor function becomes active, only the Selcall mute is disabled. This can only be selected if Selcall muting is enabled.
Monitor State At Power Up	Sets the handportable to automatically activate the Monitor facility when the handportable is turned on.	Select *Active* to activate the Monitor when the handportable is turned on.
		Select *Inactive* to ensure that the Monitor facility is inactive when the handportable is turned on.
[MON] Button Brief Key Press	If enabled, a brief press of the Monitor key activates the Monitor function (defined by Monitor Function Disables). A brief press of the Monitor key always deactivates the Monitor function if it is active.	Select *Enabled* or *Disabled*.

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Options I Settings - continued

Field	Description	Settings
[MON] Button Long Key Press	If enabled, a long press of the Monitor key activates the squelch override. This overrides the handportable preset squelch, permitting the user to monitor all activity on a channel. This is useful where there is activity in marginal areas, and the signal is too weak to be heard reliably.	Select *Enabled* or *Disable*.
Call Alert Tone	Sets the type of tone used to indicate an incoming Selcall.	Select *Ring* for a dual tone telephone-type ringing tone to indicate the call.
		Select *Beep* for a repeating two beep tone to indicate the call.

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Options II

Use the Options II screen to set a variety of optional features for the handportable. To open this screen, click on Options II in the Edit keyword menu.

The Options II screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────┐
│ ▬                    Options (II)                     ▲  │
│  Print                                                   │
│                                                          │
│     AUX Active State            │High        │  │▼│      │
│                                                          │
│     Tx Inhibit                  │None        │  │▼│      │
│                                                          │
│     Backlighting                │Day         │  │▼│      │
│     Backlighting Timer          │3   │ sec              │
│                                                          │
│     Power Save Off Time         │Med         │  │▼│      │
│                                                          │
│     Auto Quiet Time             │30  │ sec              │
│                                                          │
│     Handset Active Timer        │0   │ sec              │
│                                                          │
│     Scan Hold Time              │5   │ sec              │
│                                                          │
│                                                          │
│                                                          │
└─────────────────────────────────────────────────────────┘
```

The Options II settings are as follows:

Field	Description	Settings
Aux Active State	Determines the active state of the auxiliary control line on the internal options connector.	Select *High* (+5 volts) or *Low* (0 volts).
Tx Inhibit	Prevents the handportable from transmitting under some radio traffic conditions	Select *None, Busy* or *Mute* as follows: *Busy*: Prevents the handportable from transmitting when there is any activity on the channel. *Mute*: Prevents the handportable from transmitting when there is channel activity, but the radio remains muted. This could be caused by: - An invalid CTCSS or /DCS code - An active Selcall mute - An active external device If you turn off the mute with the Monitor function, then transmission is allowed before the handportable returns to the muted state. *None*: No Tx Inhibit of any kind.

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Field	Description	Settings
Backlighting	Sets automatic backlighting of the radio keypad and display for the duration entered in Backlight Timer. Backlighting is triggered by user activity according to this mode. **Note:** *This is independent of any function key programmed to Backlighting.*	Select *Day* and user activity will not switch on backlighting. Select *Night* and a keypress or the radio unmuting will switch on backlighting.
Backlighting Timer	The duration for which backlighting is activated.	Enter a time from *3* to *15* seconds.
Power Save Off Time	Sets your handportable to minimise power consumption by switching off unnecessary circuitry when there is no traffic on the selected channel. This circuitry remains off for the duration of the Power Save Off Time, after which it is switched on briefly so that channel activity can be detected. If there is activity the circuitry remains powered up and communication can proceed.	Select *Low, Medium* (*Med*)*, High,* or *Disabled*.
Auto Quiet Time	Sets a timer to return the handportable to a muted state by resetting the Monitor function. If this timer is set to *0* the Auto Quiet function is *disabled* and the Monitor function must be reset manually by pressing the [MON] key.	Enter *0* to disable, or a time from *5* to *240* seconds.

Options II Settings - continued

Field	Description	Settings
Handset Active Timer	Determines the amount of time Handset Mode remains active after the last user or handportable activity.	Enter a time from *10* to *240* seconds in steps of 10, or disable by entering *0.* If disabled, the user must manually turn Handset Mode off.
Scan Hold Time	Determines how long the handportable remains on a channel after communication ceases, before resuming scanning.	Enter a time from *1* to *25* seconds.

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Channels

Use the Channels screen to set a list of available channels and settings for the handportable. To open this screen, click on Channels in the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Channels screen appears as follows:

Chan	Rx.Freq	Tx.Freq	DCS/CTCSS		TxCd	Rep	Tx Pwr	Sqlch	Scan
	(MHz)	(MHz)	Rx	Tx	Num	Num	Level	Set	
1	0.00000	0.00000			1	N	Off	City	No

Note: The screen is shown with a data line inserted, with default settings.

The Channels settings are as follows:

Field	Description	Settings
Chan	Sets the channel number.	A valid (unique) channel number is from *1* to *9*.
Rx. Freq (MHz)	Sets the receive frequency. A frequency must be entered between the upper and lower frequency limits defined by the handportable type in the Specifications screen. **Note:** *There are physical constraints on the frequencies which the T3010 can receive. While the model selected may operate outside of its specified limits, operation is not guaranteed.*	Enter a frequency. This must be a multiple of either 5kHz or 6.25kHz. If a value of *0* is entered, the channel will be disabled.
Tx. Freq (MHz)	Sets the transmit frequency. A frequency must be entered between the upper and lower frequency limits defined by the handportable type in the Specifications screen. **Note:** *There are physical constraints on the frequencies which the T3010III can transmit. While the model selected may operate outside of its specified limits, operation is not guaranteed.*	Enter a frequency. This must be a multiple of either 5kHz or 6.25kHz. If a value of *0* is entered, the transmitter is disabled on this channel.

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Channels Settings - continued

Field	Description	Settings
DCS/CTCSS Rx	Sets the Receive Sub Audible Coding. This is the DCS code or CTCSS code which the handportable must receive before the activity will be regarded as valid.	Enter a valid CTCSS frequency or a valid DCS code. Leave blank to indicate no sub-audible tone to be used on receive.
		(See Appendix A, "Valid CTCSS/ DCS Codes.")
DCS/CTCSS Tx	Sets the Transmit Sub Audible Coding. This is the DCS code or CTCSS tone accompanying each transmission.	Enter a valid CTCSS frequency or a valid DCS code. Leave blank to indicate no sub-audible tone to be used on transmit.
		(See Appendix A, "Valid CTCSS/ DCS Codes.")
TxCd Num	Selects a transmit Selcall sequence from those specified in the Selcall ID II screen. This is the required preset transmit call sequence allocated to this channel.	Set this to one of nine defined sequences by entering a number from *1* to *9.*
Rep Num	Selects a repeater Selcall sequence from those specified in the Selcall ID I screen. This is the required repeater sequence allocated to this channel.	Set this to one of four defined sequences by entering a number from *1* to *4.* If no repeater sequence is required, enter *N.*
Tx Pwr Level	Sets the transmit power level. This is the power level of the transmitter on this channel.	Select *Low, High,* or *Off.*
		The low power setting is preset internally to 1 Watt.
		The high power setting is nominally 4 Watts for UHF and 5 Watts for VHF.
		If *Off* is selected, transmission for this channel is disabled.

Channels Settings - continued

Field	Description	Settings
Sqlch	Sets the preset squelch setting to control the muting of unwanted noise in the absence of an on-channel signal.	Select *City* or *Ctry.* *City*: Makes the handportable less sensitive to interference. *Ctry* (*Country*): Use in weaker signal areas, where maximum range is desirable.
Scan Option	Identifies the channel with the handportable's scanning group.	Select *No* to exclude the channel from being used in the scanning operation. Select *Yes* to include the channel in the group of handportable channels to be scanned. Select *Start* to include the channel in the group of channels to be scanned and also activate scanning operation automatically whenever the channel is selected.

PGM3010

Selcall Identity I

Use the Selcall Identity I screen to set general Selcall formats. To open this screen, click on Selcall Identity I in the Edit keyword menu.

The Selcall Identity I screen, with default settings, appears as follows:

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The Selcall Identity I settings are as follows:

Field	Description	Settings
Tx Format	Defines the required transmit format.	The format uses the following character codes
		B: Repeater ID *C*: Caller ID *R*: Receiver ID -: Format gaps (no tone) *S* :Status
		Set the format string according to the following rules:
		1. There can be up to 7 bursts of characters made up of a group of the same character (such as *RRRRR*). The *R* burst type must always be included in the sequence.
		2. The *B*, *R*, *C*, and *S* burst types can occur only once in a sequence, but the gap (-) burst can occur more than once.
		3. There can be no more than 8 characters in a row without a gap burst (-). There must be at least one gap between the *C* burst and the *R* burst.
		4. The status (*S*) burst has a maximum length of 2 characters.
		5. If defined, the repeater burst (*B*) must be placed at the beginning of the sequence and the status burst must always be placed at the end of the sequence.
		6. The number of characters in a single burst defines the number of digits of that burst for all calls (e.g. *RRR* defines a 3 digit receiver identity).

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Selcall Identity I Settings - continued

Field	Description	Settings
Rx Format	Defines the required receive format.	The format uses the following character codes:
		C: Caller ID
		R: Receiver ID
		-: Format gaps
		S: Status
		Set the format string as follows
		1. There can be up to 5 bursts of characters made up of a group of the same character (such as *RRRRR*). The *R* burst (called party ID) must always be included in the sequence.
		2. All burst types except the gap (-) can occur only once in the sequence.
		3. The total number of Caller ID (*C*) characters must be less than or equal to the number of Receiver ID (*R*) characters in Tx Format.
		4. There can be no more than 8 characters in a row without a gap burst (-). There must be at least one gap between the *C* burst and the *R* burst.
		5. If included, status must always be placed at the end of the sequence and must have the length defined in Tx Format. If there is no status in Tx Format, the length of the status burst can be up to two characters (*SS*).
		6. The number of characters in a single burst defines the number of digits of that burst to which all incoming calls must conform.

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Selcall Identity I Settings - continued

Field	Description	Settings
Auto Acknowledge Format	Defines the required auto acknowledge format.	This format uses the following character codes: *B*: Repeater ID *A*: Auto Acknowledge -: Format gaps *S*: Status Set the format string according to the following rules: 1. There can be up to 5 bursts of characters where a burst is made up of a group of the same character (such as *AAA*). The A burst type must always be included in the sequence. 2. The *B, A,* and *S* burst types can occur only once in a sequence, but the gap (-) burst can occur more than once. 3. There can be no more than 8 characters in a row without a gap burst (-). 4. The status (*S*) burst has a maximum length of 2 characters. 5. The number of characters in a single burst defines the number of digits of that burst (*AAA* defines a 3 digit receiver identity).
Repeater Sequence	Sets sequences for four repeaters. The repeater address length must be as defined in Tx Format (above) by the number of *Bs*.	Enter the repeater address using the characters *0* to *9, B,* C, *D,* or *F.*

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Selcall Identity I Settings - continued

Field	Description	Settings
RXDECODE Sequence	Sets the RXDECODE sequence ie the identity of this radio. The Selcall address length must be as defined in the Rx Format by the number of *Rs*.	Enter the receive Selcall address using the characters *0* to *9*, *B*, *C*, *D*, or *F*.
ANI Sequence	Sets the handportable to send an ANI (Automatic Number Identification) Selcall sequence during transmissions. This may be decoded to identify the handportable. This sequence can be sent at various times during a transmission, depending on ANI Position. The ANI Position fields are made non-selectable if no ANI sequence is specified. **Note:** *Normally this address would be set to be the same as the Auto Acknowledge and Caller Identification Sequence addresses.*	Enter *None* or a valid five digit Selcall sequence, where each Selcall digit is a character from *0* to *9*, *B*, *C*, *D*, *F* or *G*. For the sixth digit, enter a valid Selcall status digit. This can be any one of the Selcall digits in the ranges *0* to *9*, *A* to *F*. If no status Selcall digit is required then that position should be left blank.

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Selcall Identity I Settings - continued

Field	Description	Settings
Auto Acknowledge Sequence	Defines a Selcall address plus optional status message which the handportable will return automatically when it is called. The sequence may provide a simple 'beep' response instead of a status message. The address length must be as defined in Tx Format by the number of Rs **Note:** *Normally the address in this sequence would be the same as the ANI and Caller ID Sequence addresses.*	Enter the auto acknowledge Selcall address using the characters *0* to *9, B, C, D, F* or *G.* If status is required, define it at the end of the sequence, separating it from the Selcall address by a gap (-). If there is one status digit in Tx Format then the values *0* to *15* can be entered. If two digits are used then the values *0* to *99* can be entered. If variable status is required, enter *V* in place of the number. If no auto acknowledge sequence is required, enter *Beep* for a beep acknowledge instead, or enter *None*
Caller Identification Sequence	Defines the caller identification transmit Selcall address. This address is automatically inserted into the caller ID (C) burst of any manually dialled transmit sequences. The length of this address must be as defined in the Tx Format by the number of *Cs.* **Note:** *Normally the address in this sequence would be the same as the ANI and Auto Acknowledge Sequence addresses.*	Enter the caller identification transmit Selcall address using the characters *0* to *9, B, C, D,* or *F.*

PGM3010

Selcall Identity II

Use the Selcall Identity II screen to set a list of TXCALL Sequences. To open this screen, click on Selcall Identity II in the Edit keyword menu.

The Selcall Identity II screen, with default settings, appears as follows:

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```
┌──────────────────────────────────────────────────────────────┐
│ ▬                        SELCALL Identity (II)              ▲ │
│  Print                                                         │
│                                                                │
│    TXCALL Sequence 1          ┌─────────┐                      │
│                               │ 00000-0 │                      │
│    TXCALL Sequence 2          │ 00000-0 │                      │
│    TXCALL Sequence 3          │ 00000-0 │                      │
│    TXCALL Sequence 4          │ 00000-0 │                      │
│    TXCALL Sequence 5          │ 00000-0 │                      │
│    TXCALL Sequence 6          │ 00000-0 │                      │
│    TXCALL Sequence 7          │ 00000-0 │                      │
│    TXCALL Sequence 8          │ 00000-0 │                      │
│    TXCALL Sequence 9          │ 00000-0 │                      │
│                                                                │
└──────────────────────────────────────────────────────────────┘
```

The Selcall Identity II settings are as follows:

Field	Description	Settings
TXCALL Sequence	Determines the TXCALL sequence. The address length must be as defined in Tx Format (see the Selcall Identity I screen) by the number of *Rs*.	Enter the transmit Selcall address using *0* to *9*, *B*, *C*, *D*, *F* or *G* for group. If status is required, define it at the end of the sequence separating it from the Selcall address by a gap (-).
		Enter the status number after the gap. A valid number is limited by the maximum number of status digits defined. If there is one status digit in Tx Format then the values *0* to *15* can be entered. If two digits are used then the values *0* to *99* can be entered.

PGM3010

Selcall Setup

Use the Selcall Setup screen to set basic Selcall characteristics. To open this screen, click on Selcall Setup in the Edit keyword menu.

The Selcall Setup screen, with default settings, appears as follows:

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```
┌──────────────────────────────────────────────────────────┐
│ ■                   SELCALL Setup                      ▲  │
│  Print                                                     │
│                                                            │
│      Tone Set                     CCIR      ▼              │
│      Tone Period                  40    ▼  ms             │
│                                                            │
│      Lead In Tone                 N     ▼                 │
│      Lead In Delay                500   ms               │
│                                                            │
│      Group Format                 Sigtec       ▼          │
│      Tone Blanking                Enabled   ▼            │
│                                                            │
│      Auto Acknowledge             Enabled   ▼            │
│      Auto Acknowledge Delay       0.5   sec             │
│                                                            │
│      Leading A.N.I.               Disabled      ▼         │
│      Random A.N.I.                Disabled      ▼         │
│      Trailing A.N.I.              Disabled      ▼         │
│                                                            │
│      A.N.I. Suppression Time      30    sec             │
│      Alert Duration               0     sec             │
│                                                            │
│                                                            │
└──────────────────────────────────────────────────────────┘
```

The Selcall Setup settings are as follows

Field	Description	Settings
Tone Set	Determines the tone set which will be used when all Selcall sequences are encoded or decoded. The particular tone set chosen will depend on the 'set-up' of the system in use.	Select one of the following tone sets: *CCIRZVEI-II* *EIADZVEI* *EEAPZVEI* *ZVEI-I*
Tone Period	Defines the duration of each tone in the Selcall sequence. This must be the same value for all handportables in the system.	Select one of the following time periods (milliseconds) *20, 33, 40, 50, 60, 70, 100*. The 20ms tone period is not available for the EIA tone set.
Lead In Tone	Defines the tone sent during the lead in delay before the TXCALL sequence and the leading edge of the ANI sequence. If no tone is defined, the hand-portable transmits for the lead in delay time without sending any tone.	Enter a value from *0* to *9* or from *A* to *F*. Enter *N* for no Tone.
Lead In Delay	Defines the duration of the lead in tone. If no lead in tone is defined, the handportable trans-mits for this time period but does not send a tone.	Enter a time between *0* and *5000* ms in steps of 20.

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Selcall Setup Settings - continued

Field	Description	Settings
Group Format	Determines the group format. The 'International' and 'Sigtec' group formats differ in the way they encode group calls. The format used depends on the system in use. All handportables in the system should use the same format. The International group format is not defined for some Selcall tone periods and, if a non-standard tone period is used, the Selcall units may not function correctly. **CAUTION** Do not select "International" if the Selcall unit does not support this format. Otherwise the handportable function is undetermined.	Select *International* or *Sigtec*.
Tone Blanking	If enabled, mutes received Selcall tones so that they are not audible to the user (sometimes the first one or two tones will be heard as the radio takes a short time to respond). This has no other effect on the Selcall operation.	Select *Enabled* or *Disabled*.

Selcall Setup Settings - continued

Field	Description	Settings
Auto Acknowledge	Sets the handportable to transmit an auto acknowledge when it receives a valid call. This sequence is transmitted immediately after a Selcall is received and is followed by the internal alert sound. It notifies the person originating the call that the call was received by the handportable. **Note:** *This acknowledge is not sent in response to a group call.*	Select *Enabled* or *Disabled*.
Auto Acknowledge Delay	Specifies the time delay required between the receiving of a call and transmission of the Auto Acknowledge Sequence.	Enter a value from *0.2* to *8* seconds in steps of 0.1.
Leading ANI	Specifies where during a transmission the ANI sequence is sent. When leading is enabled (and the ANI suppression time has expired or is disabled) this feature is active. When the [PTT] is pressed, the handportable waits for the specified lead-in delay and then sends the ANI sequence. After this, the operator may talk as normal. **Note:** *An ANI Sequence must have been defined in the Selcall Identity I screen.*	Select *Enabled* or *Disabled*. **Note:** *This field can only be set to Enabled if a valid sequence is defined in ANI Sequence.*
Random ANI	If enabled, an ANI sequence is sent randomly during a transmission. **Note:** *An ANI Sequence must have been defined in the Selcall Identity screen.*	Select *Enabled* or *Disabled*. **Note:** *This field can only be set to Enabled if a valid sequence is defined in ANI Sequence.*

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Selcall Setup Settings - continued

Field	Description	Settings
Trailing ANI	Specifies when during a transmission the ANI sequence is sent. When trailing is *enabled* (and the ANI suppression time has expired or is *disabled*), the ANI is sent immediately after [PTT] is released. **Note:** *An ANI Sequence must have been defined in the Selcall Identity screen.*	Select *Enabled* or *Disabled*. **Note:** *This field can only be set to Enabled if a valid sequence is defined in ANI Sequence.*
ANI Suppression Time	Sets the ANI suppression timer, which determines the minimum time allowed between transmissions of the ANI sequence. This does not affect the handportable in any other way and normal transmissions are not altered. This field is not selectable if the ANI sequence is not specified.	Enter a time from *0* to *240* seconds.
Alert Duration	Sets the duration of the internal alert, which sounds when the handportable receives an individual Selcall. This alert sounds until either the timer expires or the call is answered. This duration has no effect on the internal alert that is sounded when a group call is received - the handportable will ring only once.	Enter a time from *0* to *30* seconds, in steps of two. Set to *0*, for a continuous timer. The alert will sound until the call is answered.

PGM3010

4 T3020*II* Settings

About this Chapter

This Chapter describes the settings that may be selected for a non-trunked T3020*II* handportable radio using PGM3020. Settings are divided into the following groupings under the Edit keyword:

- Specifications

- Options I

- Options II

- Options III

- Channels (I and II)

- Scan Groups

- Alpha Symbols

- DTMF

- Selcall Identity

- Selcall Setup

- Selcall Features

- Status Display

- Preset Channel Signalling

- Radio Calibration Parameters

The Selcall, Scan Groups, Alpha Symbols and DTMF keywords are disabled (grey) and cannot be used until other options have been set to enable them. See the sections covering each one for more information.

PGM3020

Specifications

Use the Specifications screen to view the type of radio that this software was built to program, and to make any necessary changes to basic programming settings. To open this screen, click on Specifications on the Edit keyword menu.

The Specifications screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────────┐
│ ■                        Specifications                        ▲ │
│ Print                                                            │
│                                                                  │
│   Radio Type                    T3020-31XX(136-154 MHz)  ▼       │
│   Radio Message Language        English          ▼               │
│   Chassis Serial Number         00000000                         │
│   CBSN                          Not Set                          │
│                                                                  │
│   Configuration                 Not Set       ▼                  │
│                                                                  │
│   Transmit Timer Duration       60      seconds                  │
│   Transmit Lockout Duration     30      seconds                  │
│                                                                  │
│   SELCALL Option                Not Fitted      ▼                │
│   DTMF Option                   Not Fitted      ▼                │
│   Hidden Channels               Disabled        ▼                │
│   Repeater Talk Around          Disabled        ▼                │
│                                                                  │
│   Number of Channels in Page 1  1                                │
│   Number of Channels in Page 2  0                                │
│   Number of Groups              0                                │
│   Number of Symbols             0                                │
│                                                                  │
└─────────────────────────────────────────────────────────────────┘
```

PGM3020

The Specifications settings are as follows:

Field	Description	Settings
Radio Type	Selects the type of radio and its frequency band. This software is designed to program the Tait T3020 model handportable. **Note:** *The T3020-51XX(400-440MHz) may go up to 450MHz on receive channels.*	This field accepts the following values: *T3020-31XX(136-154MHz)* *T3020-32XX(146-174MHz)* *T3020-41XX(174-195MHz)* *T3020-42XX(184-208MHz)* *T3020-51XX(400-440MHz)* *T3020-52XX(440-470MHz)* *T3020-53XX(470-520MHz)* *T3020-55XX(450-470MHz)* *T3020-56XX(470-490MHz)* *T3020-70XX(336-366MHz)* *T3020-71XX(360-400MHz)* *T3020-72XX(300-340MHz)*
Radio Message Language	Specifies the language in which display messages are presented.	Select one of the following: *- English* *- German* *- French*
Chassis Serial Number	(read only)	
CBSN	(read only)	
Configuration	(read only)	
Transmit Timer Duration	Sets the longest allowable continuous transmission by the handportable. When this time is almost ended, the handportable emits warning tones.	Enter a time from *10* to *250* seconds. Enter *0* and no limit is placed on the duration of a call. The recommended value is 60.
Lockout Timer Duration	Determines how long the handportable will be prevented from transmitting after the Transmit Timer Duration has expired. This setting has no effect if the transmit timer has been disabled.	Enter *0* and no limit is placed on the duration of a transmission. Enter a time from *0* to *250* seconds. The recommended value is 30. Enter *0* to disable this function.

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Specifications Settings - continued

Field	Description	Settings
Selcall Option	Determines whether on-board selective calling hardware has been fitted to the handportable.	Select *Fitted* or *Not Fitted*. **Note:** *This must be set to fitted to enable the Selcall Identity, Selcall Setup, Selcall Features and Status Display keywords in the Edit menu.*
	CAUTION Do not set this field to Fitted if you do not have Selcall hardware fitted in the radio	
DTMF Option	Determines whether the Dual Tone Multi-Frequency option has been installed. This may be used for access to the Public Switched Telephone Network (PSTN) or for remote control or paging functions.	Select *Fitted* or *Not Fitted*.
	CAUTION Do not set this field to Fitted if you do not have DTMF hardware fitted in the radio	
Hidden Channels	If enabled, any channel which appears in a scan group is hidden from the user, and may not be selected individually.	Select *Enabled* or *Disabled*.

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Specifications Settings - continued

Field	Description	Settings
Repeater Talk Around	If enabled, repeater talk around (with the transmit frequency set to be the same as the receive frequency) can be selected by a long press of the [CHAN] key during normal radio operation.	Select *Enabled* or *Disabled.*
Number of Channels in Page 1	Sets the number of page one radio channels. (Channels I screen.)	Enter a value from *1* to *50.*
Number of Channels in Page 2	Sets the number of page two radio channels. (Channels II screen.)	Enter a value from *0* to *50.*
Number of Groups	Sets the number of scan groups. (There must be at least two channels to form a group.)	Enter a value from *0* to *20.* **Note:** *This must be set to* 1 *or greater to enable the Scan Groups keyword in the Edit menu.*
Number of Symbols	Sets the number of alphanumeric symbols listed in the Alpha Symbols screen.	Enter a value from *0* to *20.* **Note:** *This must be set to* 1 *or greater to enable the Alpha Symbols keyword in the Edit menu.*

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Options I

Use the Options I screen to set options such as CTCSS/DCS characteristics, muting, and Monitor functions, and AUX operation. To open this screen, click on Options I in the Edit keyword menu.

The Options I screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ [-]                      Options (I)                      [▲] │
│  Print                                                        │
│                                                               │
│       Tx DCS Polarity                    │Normal   │ [▼]      │
│       Rx DCS Polarity                    │Normal   │ [▼]      │
│       Tx CTCSS Reverse Tone Burst        │Disabled  │   [▼]   │
│       Rx CTCSS/DCS Filter Enabled For    │All      │ [▼]  Channels │
│                                                               │
│       [CALL] Key                         │Enabled  │   [▼]    │
│       SELCALL Muting                     │Disabled │   [▼]    │
│       Automatic Monitor with Call Setup  │Disabled │   [▼]    │
│       Monitor Function Disables          │All Mutes │  [▼]    │
│       Monitor State at Power Up          │Inactive │ [▼]      │
│                                                               │
│       [MON] Button Brief Press           │Enabled  │   [▼]    │
│       [MON] Button Long Press            │Enabled  │   [▼]    │
│       Tx Inhibit                         │NONE   │ [▼]        │
│       Auto Quiet Time                    │0    │  sec         │
│                                                               │
│       [AUX] Key Operation                │Momentary │ [▼]     │
│       AUX Active State                   │High     │ [▼]      │
│                                                               │
│       Backlighting Timer                 │3    │  sec         │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

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The Options I settings are as follows:

Field	Description	Settings
Tx DCS Polarity	Defines the polarity of all transmitted DCS codes defined in the Channels screen. Some systems may require the DCS code to be inverted when transmitted.	Select *Normal* or *Inverted.*
Rx DCS Polarity	Controls the polarity of all received DCS codes defined in the Channels screen.	Select *Normal* or *Inverted.*
Tx CTCSS Reverse Tone Burst	If enabled, permits transmission of a CTCSS reverse tone burst. This increases the speed of receiver shutdown in some repeaters and associated equipment.	Select *Enabled* or *Disabled.*
Rx CTCSS DCS Filter Enabled For	Determines channel settings for the audio filter contained in the handportable. This filter removes any CTCSS or DCS tones which may be present on a channel. It can be switched off for channels that do not have CTCSS or DCS.	Select *All Channels* or *CTCSS/DCS Channels.* If set for *All Channels,* the CTCSS/DCS filter does not switch and is active continuously. If set for *CTCSS/DCS Channels,* the filter is active only on channels which have CTCSS or DCS programmed to receive.

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continued on next page

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Options I Settings - continued

Field	Description	Settings
Call Key	If enabled, the call key may be used to select Selcall dialling mode. If the Selcall option is fitted, this should be set to enabled. If disabled, Selcall dialling is not possible.	Select *Enabled* or *Disabled*.
Selcall Muting	If enabled and the Selcall option is fitted, this feature mutes the handportable audio and inhibits transmission of non-Selcall calls when the Monitor function is inactive. The Selcall mute is disabled when the Monitor function becomes active. **Note:** *Some way to deactivate the Monitor facility should be provided so that the radio can be returned to the muted state after a received call is ended. This can be done by assigning the Monitor key to one of the function keys, or by using the Auto Quiet Time setting.*	Select *Enabled* or *Disabled*. **Note:** *IF Selcall Mute is enabled, and Group Hold Time is set to* 0 *then Monitor State at Powerup must be set to* Active.
AutomaticMonitor With Call Setup	Sets the handportable to automatically activate the Monitor function when an outgoing Selcall is transmitted. **Note:** *If enabled, some way to deactivate the Monitor facility should be provided. This can be done by assigning the Monitor key to one of the function keys, or by using the Auto Quiet Time setting.*	Select *Enabled* to activate the Monitor facility if a Selcall call is successfully transmitted. Select *Disabled* to enable transmission of a Selcall call without activating the Monitor.

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Options I Settings - continued

Field	Description	Settings
Monitor Function Disables	Determines which handportable mutes are disabled when the Monitor function is active.	Set this field as follows: *All Mutes*: When the Monitor function is activated, both the Selcall mute and any sub-audible coding mute (such as CTCSS or DCS) is disabled. *Selcall Mute only*: When the Monitor function becomes active, only the Selcall mute is disabled.
Monitor State At Power Up	Sets automatic activation of the Monitor facility when the handportable is turned on. **Note:** *If set to* Active, *some way to deactivate the Monitor facility should be provided. This can be done by assigning the Monitor key to one of the function keys, or by using the Auto Quiet Time setting.*	Select *Active* to activate the Monitor when the radio turns on. Select *Inactive* to ensure that the Monitor facility is inactive when the handportable is turned on. **Note:** *IF Selcall Mute is enabled, and Group Hold Time is set to* 0 *then Monitor State at Powerup must be set to* Active.
[MON] Key Brief Keypress	If enabled, a brief press of the Monitor key activates the Monitor function (defined by Monitor Function Disables) A brief press of the Monitor key always deactivates the Monitor function if it is active.	Select *Enabled* or *Disabled*.
[MON] Key Long Keypress (Squelch defeat)	If enabled, a long press of the Monitor key activates the squelch override permitting the user to monitor all activity on a channel. This is useful where there is activity in marginal areas, and the signal is too weak to be heard reliably.	Select *Enabled* or *Disabled*.

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Options I Settings - continued

Field	Description	Settings
Tx Inhibit	Prevents the radio from interrupting other users of the channel.	Select *None, Busy,* or *Mute.*
		None: The radio can always transmit.
	If a transmission is inhibited, a tone sounds to indicate when the channel becomes free again.	*Busy:* The radio does not transmit if the channel is busy (a carrier is detected on the current receive frequency).
	In all cases transmission can be inhibited on a per channel basis by setting the transmit power level on the radio to OFF.	*Mute:* The radio does not transmit if the channel is busy and the radio is muted (when CTCSS/DCS is invalid, for example).
Auto Quiet Time	Sets a time limit on the monitor function remaining active. When the time is exceeded the radio will resume quiet operation.	Enter a value from *1* to *255* seconds.
		Enter *0* to disable.
	The detection of traffic on the channel or transmitting before the time limit is reached will defer the resumption of quiet operation.	
	This can be used to ensure that the unit is not accidentally left monitoring a channel indefinitely.	

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Options I Settings - continued

Field	Description	Settings
AUX Key Operation	Controls operation of the auxiliary control line on the internal 'options' connector.	Enter *Momentary* or *Latching* as follows:
		Momentary: The line remains active for as long as the function key is pressed.
		Latching: The line toggles every time the function key is pressed.
AUX Active State	Determines the active state of the auxiliary control line on the internal 'options' connector.	Select *High* (+5 volts) or *Low* (0 volts). The correct active state is determined by the installed option.
Backlighting Timer	Duration for which backlighting is active when turned on by Night mode or by a function key.	Enter a value between *3* and *15* seconds.

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Options II

Use the Options II screen to set a variety of optional features, including the power up message. To open this screen, click on Options II in the Edit keyword menu.

The Options II screen, with default settings, appears as follows:

The Options II settings are as follows:

Field	Description	Settings
Power Up Message (Line 1 and 2)	Defines the message which appears on the radio display upon power-up.	Enter a message. Useable characters are: A-Z 0-9 * / - + < > ! @ # $ % & ( ) ' ", . : ; = ? \ space.
Power Save Off Time	Sets your handportable to mini-mise power consumption by switching off unnecessary cir-cuitry when there is no traffic on the selected channel. This cir-cuitry remains off for the dura-tion of the Power Save Off Time, after which it is switched on briefly so that channel activity can be detected. If there is activity the circuitry remains powered up and communica-tion can proceed. If there is no activity it returns to the off state.	Select *Low, Medium, High,* or *Disa-bled.*
Power Save Start Up State	If set to *On,* the power save operation commences as soon as the radio is turned on. Other-wise, it is started when selected from the radio's options menu. Power save can always be turned off from the options menu.	Select *On* or *Off.*

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Options II Settings - continued

Field	Description	Settings
Default Mode	Determines the operating mode in which the radio powers up. The radio is also set to this mode after 10 seconds of user inactivity. No default (*None*) allows the radio to remain in the currently selected mode indefinitely.	Select one of the following: - *Channel* - *DTMF* - *Selcall* - *Status* - *Alpha Symbol* - *Menu* - *None* Default settings must conform to the following rules: 1. If Selcall is disabled or the [CALL] key is disabled, *Selcall* mode cannot be the default. 2. If DTMF is disabled or DTMF manual dialling is disabled, *DTMF* mode cannot be the default. 3. If there is no variable status or Selcall is disabled, then *Status* mode cannot be the default. 4. If there are no alphanumeric symbols, then *AlphaSymbol* mode cannot be the default.
Group Hold Time	Determines the pause time before scanning resumes after valid channel activity ceases. **Note:** *IF Group Hold Time is set to* 0 *and Selcall Mute is enabled, then Monitor State at Powerup must be set to* Active.	Enter a value between *0* and *15* seconds.

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Options II Settings - continued

Field	Description	Settings
Voting Lead In Delay	Determines the delay between the radio detecting activity on a voting channel and voting taking place.	Enter a value between *0* and *2550* milliseconds, in steps of 10 milliseconds.
Voting Polling Interval	Determines the time between (revalidation) votes when the system is busy but carrying invalid sub-audible signalling.	Enter a value between *1* and *250* seconds.
All Confidence Beeps	If enabled, audible confidence indicators will sound.	Set this field to *Enabled* or *Disabled*. If disabled, all audible confidence indicators (including keypress beeps) are suppressed.
Scrolling Lists Operation	Defines scrolling list operation. This applies to all selection lists other than volume selection.	Set to *Wrap Around* or *End Stop* as follows: *Wrap Around*: List cycles to the top when the bottom entry is reached and vice versa. *End Stop*: The list movement stops when the first or last entry is reached.
Squelch Setting Control in Menu	If enabled the user will be able to select either of the Country or City squelch settings for all channels from the options menu.	Select either *Enabled* or *Disabled*.
Handset Timer Value	Enables or disables radio handset operation. Handset mode, when selected on the radio, only remains operative with no user activity for the duration set here.	Enter one of the following values: *10, 20, 30, 40, 50, 60, 90, 120, 180,* or *240* seconds. Enter *0* to disable Handset operation.

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Options III

Use the Options III screen to set programmable function keys for the handportable. To open this screen, click on Options III in the Edit keyword menu.

The Options III screen, with default values, appears as follows:

```
┌─────────────────────────────────────────────────────────────────┐
│ ■                        Options (III)                        ▲ │
├─────────────────────────────────────────────────────────────────┤
│ Print                                                             │
│      [ ] Function Key              Disabled              ▼         │
│           Key Press Action         Normal          ▼              │
│               Preset Call Strings                                 │
│           Channel or Group ID      O                              │
│           New Status               N                              │
│           Signal Type              None            ▼              │
│           Signal number            [              ]               │
│      [-] Function Key              Disabled              ▼         │
│           Key Press Action         Normal          ▼              │
│               Preset Call Strings                                 │
│           Channel or Group ID      O                              │
│           New Status               N                              │
│           Signal Type              None            ▼              │
│           Signal number            [              ]               │
│      External Function Key         Disabled             ▼         │
│           Key Press Action         Normal          ▼              │
│               Preset Call Strings                                 │
│           Channel or Group ID      O                              │
│           New Status               N                              │
│           Signal Type              None            ▼              │
│           Signal number            [              ]               │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

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The Options III settings are as follows:

Field	Description	Settings
Function Keys [ ] [-] [External]	Programmed settings for the [ ] (no dash) and [-] (dash) function keys and the external function key. *Auxiliary Output* cannot be selected if Selcall or DTMF is fitted. Selcall must be fitted before emergency mode (*Preset Call String*) can be selected.	The function keys can be set as follows: *Disabled*: Key does nothing. *Handset*: Key toggles the handset operation on and off. *Low Power*: Key toggles low power operation on and off. *Light*: Key momentarily switches on the backlighting. *Auxiliary Output*: Key controls any installed auxiliary device according to the programmed Aux Key Operation and Aux Active State settings. *Monitor*: Key toggles the channel Monitor function on and off. *Preset Call String*: Normal key provides one touch initiation of a defined preset call or emergency preset call.
Function Key Key Press Action	Determines the press action of the function key. A function key which has been defined to be a *Preset Call String* may be required to be held pressed for one second before the call is made to prevent accidental activation.	Select *Normal* to allow the key to initiate the function or call immediately. Select *Long* to require the key to be held for about 1 second before acting.

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Options III Settings - continued

Field	Description	Settings
Preset Call Sequence Channel or Group ID	Sets a channel or group identity for a function key to transmit its preset call sequence. This field must be set to *0* if no function key is set to *Preset Call String*.	Enter a valid channel or group identity, or *0* for the call to be sent on the current channel.
Preset Call Sequence New Status	Sets a new status which is selected when the function key is pressed. This field must be set to *N* if no function key is set to *Preset Call String*.	Enter a value from *0* to one less than the maximum status digit, or enter *N* for no status change (ie the current status will be sent).
Preset Call Sequence Signal Type	Permits the function key to place a signalling option call. An appropriate DTMF or Selcall (when fitted) sequence may be programmed for transmission when the function key is pressed. DTMF and Selcall can only be selected if their option has been set to fitted in the Specifications screen. This field must be set to *None* if the function key is not set to *Preset Call String*.	Enter *None*, *SELCALL*, or *DTMF.*

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Options III Settings - continued

Field	Description	Settings
Preset Call Sequence Signal Number	Sets the signalling sequence to be transmitted when the function key is to place a signalling call. This field must be empty if no function key is set to *Preset Call String*.	Enter the signalling sequence as follows: *Selcall*: The sequence must be of the same format as the Tx Format in the Selcall Identity screen. The sequence may contain the characters 0 to 9, B to D and F. The letters A and E cannot normally be used as they have special meanings. Group ('G') digits may also be used. No status message is permitted in the sequence. *DTMF*: A valid sequence consists of between one and thirty-two digits. Valid digits for each are *0* to *9*, *A* to *D*, *#*, and ***.

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Channels (I and II)

Use the Channels screens to set a list of available channels and settings for the handportable. To open these screens, click on Channels I or Channels II in the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Channels I and Channels II screens are identical, and appear as follows:

Note: The screen is shown with a data line inserted with default settings.

The Channels settings are as follows:

Description	Field	Settings
Chan ID	Sets the channel number. Channel numbers must be unique. Make sure that no channels or groups share the same identity number since they are both accessed the same way.	Enter a number from *1* to *255*.
Chan Name	Sets the channel name displayed on the radio front panel when the radio is in CHAN mode. A default name is generated from the Chan Id. For example, the first channel defaults to Chan1.	Enter a name of up to 8 characters. Useable characters are: A-Z 0-9 * / - + < > ! @ # $ % & ( ) ' ", . : ; = ? \ space.
Rx. Freq (MHz)	Sets the receive frequency. For each channel a frequency must be entered between the upper and lower frequency limits defined by the handportable type in the Specifications screen.	Enter a frequency. This must be a multiple of either 5kHz or 6.25kHz.

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Channels (I and II) Settings - continued

Field	Description	Settings
Tx. Freq (MHz)	Sets the transmit frequency. For each channel a frequency must be entered between the upper and lower frequency limits defined by the handportable type in the Specifications screen. **Note:** *There are physical constraints on the frequencies which the T3020II can use to receive and transmit. While the model selected may operate outside of its specified limits, operation is not guaranteed.*	Enter a frequency. This must be a multiple of either 5kHz or 6.25kHz.
DCS/CTCSS Rx	Sets the receive sub audible coding. This is the code which the handportable must receive on this channel before the activity will be regarded as valid and the mute opened. **Note:** *This setting can be overwritten for any channel later if the user selects a Preset Channel Signalling label.*	Enter either: - a valid CTCSS frequency (e.g. 156.7), or - a valid DCS code (e.g. 043). (See Appendix A, "Valid CTCSS/ DCS Codes.") Leave blank to indicate no sub-audible code to be used on this channel.
DCS/CTCSS Tx	Sets the transmit sub audible coding. This is the code which will accompany each transmission on this channel. **Note:** *This setting can be overwritten for any channel later if the user selects a Preset Channel Signalling label.*	Enter either: - a valid CTCSS frequency (e.g. 156.7), or - a valid DCS code (e.g. 043). (See Appendix A, "Valid CTCSS/ DCS Codes.") Leave blank to indicate no sub-audible code to be used on this channel.

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Channels (I and II) Settings - continued

Field	Description	Settings
TxCd Num	Sets the transmit Selcall code number. This is the preset transmit call sequence allocated to the [CALL] key when this channel is selected.	Set this to one of the five sequences defined in the TXCALL Sequence field of the Selcall Identity screen by entering a number from *1* to *5*.
	Note: *If no transmit call sequence is allocated for a channel, the [CALL] key cannot make a Selcall call on that channel.*	To set no call sequence enter *0*.
Rptr Num	Sets the repeater Selcall code number. This is the required repeater sequence allocated to this channel.	Set this to one of five sequences defined in the Repeater Sequence field of the Selcall Identity screen by entering a number from *1* to *5*.

If no repeater sequence is required, enter *N*. |
| **Pwr Lvl** | Sets the transmit power level. This is the power level of the transmitter on this channel. | Select *L, H,* or *O*.

The low power (*L*) setting is preset internally to 1 Watt.

The high (*H*) power setting is nominally 4 Watts for UHF and 5 Watts for VHF.

If Off (*O*) is selected, transmission on this channel is disabled. |

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Channels (I and II) Settings - continued

Field	Description	Settings
Sql Lvl	Sets the preset Squelch level to control the muting of unwanted noise in the absence of an on-channel signal. **Note:** *If the squelch setting is selectable in the menu, any setting selected there will take precedence over this setting.*	Select *T* or *C*. (*CITY*): Makes the handportable less sensitive to interference i.e. stronger (valid) signals will be required before it unmutes. (*COUNTRY*): Use in weaker signal areas, where maximum range is desirable.
Bandwidth	Sets the transmitter deviation and receiver audio sensitivity for systems using different channel spacings. Each channel must be programmed with its appropriate bandwidth and each radio may be programmed with a mixture of bandwidths. **Note:** *Only narrow bandwidth radios (T3020-XX2X) may be programmed in this way. T3020-XX1X types must be programmed as wide (W) and T3020-XX3X as medium (M)*	Select *W*, *M*, or *N*. The wide bandwidth (*W*) setting is for radios to be used in systems with 25kHz channel spacing. The medium bandwidth (*M*) setting is for radios to be used in systems with 20kHz channel spacing. The narrow bandwidth (*N*) setting is for radios to be used in systems with 12.5kHz channel spacing.
Birdie Killer	Set to *Yes* if the radio microprocessor is causing interference on the receive frequency. The microprocessor frequency will then shift to eliminate the interference.	Select *Yes* or *No*.

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Scan Groups

Use the Scan Groups screen to set a list of groups of channels available for scanning. To open this screen, click on Scan Groups in the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert a line for data entry and CTRL-F2 to add a group member.

The Scan Groups screen appears as follows:

Note: The screen is shown with a data line inserted with default settings.

The Scan Groups settings are as follows:

Field	Description	Settings
Group Id	Defines an ID number for a group of channels. Group numbers must be unique. Make sure that no channels or groups share the same identity number since they are both accessed in the same way.	Enter a unique number from *1* to *255*.
Group Name	Sets the name displayed on the radio front panel when the radio is in CHAN mode. A default name is generated from the Group Id. For example, the first group defaults to GROUP1.	The name is limited to eight characters in length and useable characters are: A-Z 0-9 * / - + < > ! @ # $ % & ( ) ' ", . : ; = ? \ space.
T	Sets the group scan type: Scan (S): The radio will scan all group members to find a channel which is busy and has valid signalling then make that channel current. Scanning resumes when the current channel is no longer busy. Priority (P): The first channel in the group is the priority channel which continues to be scanned periodically even after another (non-priority) channel becomes current. (continued over)	Enter one of the following group types: - *S* for scan - *P* for priority scan, - *DP* for dual priority scan, - *V* for voting, - *VS* for voting with sub-audible signalling, - *D* for double vote, - *DS* for double vote with sub-audible signalling.

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Scan Groups Settings - continued

Field	Description	Settings
T (continued)	Dual Priority (DP): The first two channels in the group are priority channels which both continue to be scanned even after another (non-priority) channel becomes current. If the second priority channel becomes current the first continues to be scanned but if the first becomes current, no further scanning takes place until the first is no longer busy.	Enter one of the following group types: - *S* for scan - *P* for priority scan, - *DP* for dual priority scan, - *V* for voting, - *VS* for voting with sub-audible signalling, - *D* for double vote, - *DS* for double vote with sub-audible signalling.
	Voting (V): The radio will scan all group members to find a busy channel. It then measures the signal strengths of all channels and makes the channel with the strongest signal strength current. Scanning resumes when the current channel is no longer busy.	
	Voting with Signalling (VS): The radio behaves as for voting, but for a channel to be a candidate, it must have valid signalling.	
	Double Voting (D): The radio behaves as for voting but the signal strength of each channel is measured twice.	
	Double Voting with Signalling (DS): The radio behaves as for voting but candidate channels must carry valid signalling and the signal strength of each channel will be measured twice.	

Scan Groups Settings - continued

Field	Description	Settings
P	Sets a user programmable group. Only one group can be selected as programmable.	Enter *Y* (Yes) or *N* (No).
GroupMembership	Defines group members by their channel (Chan ID) number. It can include any current channel IDs. Any channel may only appear once in the group. **Note:** *Use CTRL-F2 to insert a new Group Member.*	Enter a list of valid channel numbers. There must be at least 2 and not more than 16 entries. The first channel listed is taken to be the home channel, or, for priority scanning, the priority channel.

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Alpha Symbols

Use the Alpha Symbols screen to set a list of symbols and as-sociated channels and dialling settings for the handportable. To open this screen, click on Alpha Symbols in the Edit key-word menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Alpha Symbols screen appears as follows:

Note: The screen is shown with a data line inserted with de-fault settings.

The Alpha Symbols settings are as follows:

Field	Description	Settings
Symbol Name	Sets an alphanumeric name for the symbol.	Enter an eight character name. Names must be unique. Useable characters are in 10 groups. Characters in each group are regarded as identical, so that the symbol 'AGE' is the same as the symbol 'BID'. The groups are as follows: *1,Q,Z,-* *2,A,B,C* *3,D,E,F* *4,G,H,I* *5,J,K,L* *6,M,N,O* *7,P,R,S* *8,T,U,V* *9,W,X,Y* *0*
Symbol New Channel	Sets the channel (Chan ID) or group (Group ID) number to be selected with this symbol.	Enter *0* if the channel is not to be changed, or enter a valid channel identity.
Symbol New Status	Sets a new status to be selected by this symbol. **Note:** *If Selcall is not fitted, you must select* N.	Enter a value from *0* to one less than the Maximum Number of Status Digits specified in the Selcall Setup screen. Enter *N* for no status change.
Symbol Signalling Type	Sets a call signalling type for this symbol. This type is then used by the Symbol Signalling Sequence when this symbol is selected.	Enter *Selcall*, *DTMF*, or *None*.

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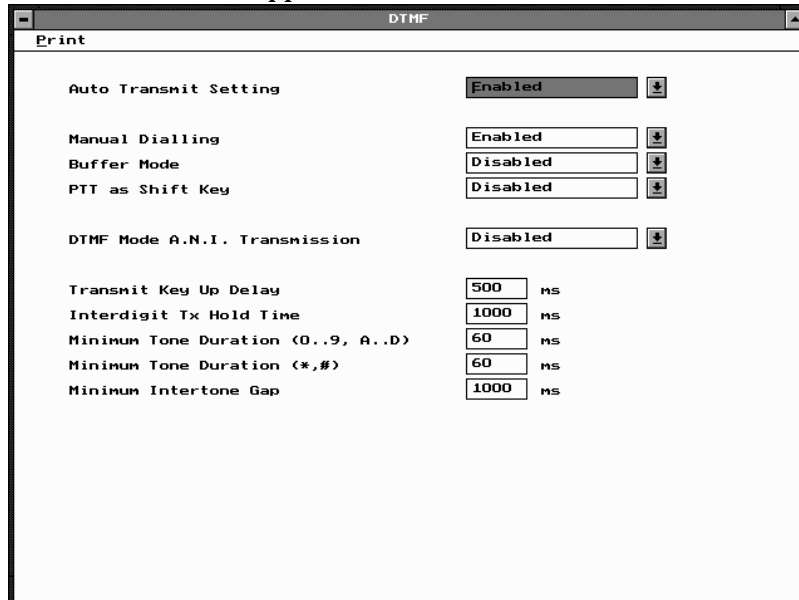
Alpha Symbols Settings - *continued*

Field	Description	Settings
Symbol Signalling Sequence	Defines the signalling sequence to be transmitted. If no Symbol Signalling Type is entered, this field must be left blank.	Enter the signalling sequence as follows: - *Selcall*:The sequence must be of the same format as Tx Format in the Selcall Identity screen. The sequence may contain the characters 0 to 9, B to D and F.The letters A and E cannot normally be used as they have special meanings. Group ('G') digits may also be used. No status message is permitted in the sequence. - *DTMF*:The sequence consists of 1 to 32 characters, each from 0 to 9, A to D, #, or *.

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DTMF

Use the DTMF screen to enter settings for DTMF mode functions. To open this screen, click on DTMF in the Edit keyword menu.

The DTMF screen appears as follows:

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The DTMF settings are as follows:

Field	Description	Settings
Auto Transmit Setting	If enabled, the radio will transmit each tone directly as the user dials it.	Select *Enabled* or *Disabled*.
	If disabled, tones can only be sent by holding the PTT key pressed, in which case it cannot be used as a shift key to generate tones A to D.	
	Note: *This setting will not have any effect unless Manual Dialling is enabled and the Buffer Mode is disabled.*	
Manual Dialling	If enabled, DTMF dialling is permitted from the numeric keys on the radio front panel.	Select *Enabled* or *Disabled*.
	If disabled, the radio can only send preset tone strings.	
Buffer Mode	If enabled, the dialled DTMF sequence is encoded/transmitted only after the Enter (↵) key has been pressed to confirm the entry. If disabled, the DTMF tones are encoded/transmitted as the digits are entered.'	Select *Enabled* or *Disabled*.

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DTMF Settings - continued

Field	Description	Settings
PTT as Shift Key	If enabled, the radio [PTT] key is used as a 'shift key' to access the DTMF tones A to D. This is done by pressing and holding down the [PTT] key, then pressing the numeric keys [2], [5], [8] and [0] to access the digits A, B, C, and D respectively. Enter *Disabled* if Auto Transmit Setting is disabled or tones A to D are not required.'	Select *Enabled* or *Disabled*.
DTMF Mode ANI Transmission	If enabled, ANI transmission is available when in DTMF dialling mode. Selcall ANI transmissions are usually disabled when the radio is in DTMF dialling mode.	Select *Enabled* or *Disabled*.
Transmit Key Up Delay	Delays the start of tone transmissions to allow a repeater time to stabilise.	Enter a delay value from *10* to *2550* milliseconds, in steps of 10.
Interdigit Tx Hold Time	Defines the period the transmitter remains on between the encoding of each digit during manual dialling. This provides a delay for the user to dial the next digit without transmission stopping and restarting again. **Note:** *This setting will not have any effect unless Manual Dialling is enabled and the Buffer Mode is disabled.*	Enter a value from *10* to *2550* milliseconds, in steps of 10.
Minimum Tone Duration(0 to 9, A to D)	Sets the minimum transmission duration for each DTMF tone.	Enter a value from *8* to *1020* milliseconds in steps of 4.

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DTMF Settings - continued

Field	Description	Settings
Minimum Tone Duration (*, #)	Sets the minimum duration for the * and # tones for a keypress.	Enter a value from *8* to *1020* milliseconds in steps of 4.
Minimum Intertone Gap	Sets the minimum gap time between tones.	Enter a value from *10* to *2550* milliseconds in steps of 10.

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Selcall Identity

Use the Selcall Identity screen to set Selcall formats. To open this screen, click on Selcall Identity in the Edit keyword menu.

The Selcall Identity screen appears as follows:

```
┌─┬──────────────────── SELCALL Identity ──────────────────────┬─┐
│-│                                                            │▲│
│  Print                                                        │
│  Tx Format            [RRRRR--S]                              │
│  Rx Format            │RRRRR--S                           │   │
│                                                              │
│  TXCALL Sequence 1    │00000-0 │                            │
│  TXCALL Sequence 2    │00000-0 │                            │
│  TXCALL Sequence 3    │00000-0 │                            │
│  TXCALL Sequence 4    │00000-0 │                            │
│  TXCALL Sequence 5    │00000-0 │                            │
│  Repeater Sequence 1  │NONE    │                            │
│  Repeater Sequence 2  │NONE    │                            │
│  Repeater Sequence 3  │NONE    │                            │
│  Repeater Sequence 4  │NONE    │                            │
│  Repeater Sequence 5  │NONE    │                            │
│                                                              │
│  RXDECODE Sequence    │00000   │                            │
│                                                              │
│  A.N.I. Sequence              │NONE    │                    │
│  Auto Acknowledge Sequence    │NONE    │                    │
│  Radio Monitor Reset Sequence │NONE    │                    │
│  Caller Identification Sequence │NONE  │                    │
│                                                              │
└──────────────────────────────────────────────────────────────┘
```

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The Selcall Identity settings are as follows.

Field	Description	Settings
Tx Format	Defines the required format of all transmitted Selcall sequences. **Note:** *The tone period of the digits is not defined here.*	The format uses the following character codes: *B*: Repeater ID *C*: Caller ID *R*: Receiver ID - : Format gaps *S*: Status Set the format string as follows: 1. There can be up to 7 bursts of characters made up of a group of the same character (e.g. RRRRR). The R burst type (called party ID) must always be included in the sequence. 2. The B, R, C, and S burst types can occur only once in a sequence but the gap (-) burst can occur more than once. 3. There can be no more than 8 characters in a row without a gap burst (-). 4. The status (S) burst has a maximum length of 2 characters and must always be placed at the end of the sequence. 5. If defined, the repeater burst (B) must be placed at the beginning of the sequence. 6. The number of characters in a single burst defines the number of digits of that burst for all calls (e.g. *RRR* defines a 3 digit receiver identity).

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Selcall Identity Settings - continued

Field	Description	Settings
Rx Format	Defines the required format of all received Selcall sequences. **Note:** *The tone period of the digits is not defined here.*	The format uses the following character codes: *C*: Caller ID *R*: Receiver ID - : Format gaps *S*: Status Set the format string as follows: 1. There can be up to 5 bursts of characters made up of a group of the same character (such as RRRRR). The R burst type (called party ID) must always be included in the sequence. 2. All burst types except the gap (-) can occur only once in the sequence. 3. The total number of Caller ID (*C*) characters must be less than or equal to the number of Receiver ID (*R*) characters in Tx Format. 4. There can be no more than 8 characters in a row without a gap burst (-). There must be at least one gap between the *C* burst and the *R* burst. 5. If included, status must be placed at the end of the sequence and must have the length defined in Tx Format. If there is no status in Tx Format, the length of the status burst can be up to two characters (SS). 6. The number of characters in a single burst defines the number of digits of that burst to which all incoming calls must conform.

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Selcall Identity Settings - continued

Field	Description	Settings
TXCALL Sequence	Sets five preset transmit sequences for Selcall addresses.	Define the transmit Selcall address using *0* to *9*, *B, C, D, F* or *G* for group. The Selcall address length must be as defined above in Tx Format by the number of Rs.
		If Status is required, define it at the end of the sequence, separating it from the Selcall address by a gap (-). A valid Status number is limited by the maximum number of Status digits defined.
		If there is one Status digit in the Tx Format then the values *0* to *15* can be entered. If two digits are used then the values *0* to *99* can be entered. If variable Status is required, enter *V* in place of the number. If no Status is required, terminate the entry immediately after the Selcall address.
Repeater Sequence	Sets sequences for five repeaters. The repeater address length must be as defined in the Tx Format by the number of Bs.	Enter the repeater address using 0 to *9, B, C, D* or *F*.
RXDECODE Sequence	Sets the RXDECODE sequence i.e. the identity of the radio being programmed. The Selcall address length must be as defined in the Rx Format by the number of Rs.	Enter the receive Selcall address using *0 to 9, B, C, D,* or *F*.

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Selcall Identity Settings - continued

Field	Description	Settings
ANI Sequence	Sets the handportable to send an ANI (Automatic Number Identification) Selcall sequence during transmissions. This may be decoded by the base or called radio to identify the hand-portable. This sequence can be sent at various times during a transmission, depending on the setting of the ANI Position field. The ANI Position fields are made non-selectable if no ANI sequence is specified. **Note:** *Normally this address would be set to be the same as the Auto Acknowledge and Caller Identification Sequence addresses.*	Define the ANI Selcall address using 0 to 9, B, C, D, or F, or G for group. The Selcall address length must be as defined in Tx Format by the number of Rs. If status is required, define it at the end of the sequence separating it from the Selcall address by a dash. A valid status number is limited by the maximum number of status digits defined. If there is one status digit in Tx Format then the values *0* to *15* can be entered. If two digits are used then the values *0* to *99* can be entered. If variable status is required, enter *V* in place of the number. If no ANI sequence is required, enter *Beep* for a beep acknowledge instead, or enter *None*.

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Selcall Identity Settings - continued

Field	Description	Settings
Auto Acknowledge Sequence	Defines a Selcall address plus optional status message which the handportable will return automatically when it is called. The sequence may provide a simple 'beep' response instead of a status message. The address length must be as defined in Tx Format by the number of *R*s **Note:** *Normally the address in this sequence would be the same as the ANI and Caller ID Sequence addresses.*	Enter the auto acknowledge Selcall address using *0* to *9, B, C, D, or F,* or *G* for group. If status is required, define it at the end of the sequence separating it from the Selcall address by a gap(-). A valid status number is limited to a value from 0 to one less than the Maximum Number of Status Digits specified in the Selcall Setup screen. If variable status is required, enter *V* in place of the number. If no auto acknowledge sequence is required, enter *Beep* for a beep acknowledge instead, or enter *None*.
Radio Monitor Reset Sequence	Defines a Selcall sequence which the handportable will recognise when received from another radio as a command to deactivate its monitor function.	Enter a sequence using *0* to *9, B, C, D,* or *F.* The length of the address must be as defined in Rx Format by the number of Rs.
Caller Identification Sequence	Defines the caller identification transmit Selcall address. This address is automatically inserted into the caller ID (C) burst of any manually dialled transmit sequences. The length of this address must be as defined in the Tx Format by the number of *C*s. **Note:** *Normally the address in this sequence would be the same as the ANI and Auto Acknowledge Sequence addresses.*	Enter the caller identification transmit Selcall address using the characters *0* to *9, B, C, D,* or *F.*.

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Selcall Setup

Use the Selcall Setup screen to enter settings for Selcall functions. To open this screen, click on Selcall Setup in the Edit keyword menu.

The Selcall Setup screen, with defaults, appears as follows:

```
┌─────────────────────────────────────────────────────────────────┐
│ ▬            SELCALL Setup                                     ▲ │
├─────────────────────────────────────────────────────────────────┤
│ Print                                                           │
│                                                                 │
│                                                                 │
│   Tone Set                        CCIR        ▼                 │
│   Tone Period                     20    ▼ ms                    │
│   Lead In Tone                    N                             │
│   Lead In Delay                   500   ms                      │
│                                                                 │
│                                                                 │
│   Group Format                    Sigtec        ▼               │
│   Tone Blanking                   Enabled       ▼               │
│   Car To Car Dialling Length      3       digits                │
│                                                                 │
│                                                                 │
│   Leading A.N.I.                  Disabled      ▼               │
│   Random A.N.I.                   Disabled      ▼               │
│   Trailing A.N.I.                 Disabled      ▼               │
│   A.N.I. Suppression Time         30     sec                    │
│                                                                 │
│   Internal Alert Duration         30     sec                    │
│                                                                 │
│   Auto Acknowledge Delay          1.00   sec                    │
│                                                                 │
│   Maximum Number Of Status Digits 0                             │
│                                                                 │
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

The Selcall Setup screen settings are as follows:

Field	Description	Settings
Tone Set	Defines the standard set of Selcall tones to be used by the radio. The particular tone set chosen will depend on the 'set-up' of the system in use.	Select one of the following tone sets: *CCIRZVEI-II* *EIADZVEI* *EEAPZVEI* *ZVEI-I*
Tone Period	Defines the duration of each tone in the Selcall sequence. This must be the same value for all handportables in the system.	Select one of the following time periods (milliseconds): *20, 33, 40, 50, 60, 70, 100*. The 20ms tone period is not available for the EIA tone set.
Lead In Tone	Defines a Selcall lead in tone sent during the lead in delay before the TXCALL sequence and the leading edge of the ANI sequence. It is used to halt scanning or initiate tone blanking on a called radio before critical tones are sent. If no tone is defined, the handportable transmits for the lead in delay time without sending any tone.	Enter a value from *0* to *9* or from *A* to *F*. Enter *N* for no Tone.
Lead In Delay	Defines the duration of the lead in tone. If no lead in tone is defined, the handportable transmits for this time period but does not send a tone.	Enter a value from *0* to *5000* milliseconds in steps of 20.

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Selcall Setup Settings - continued

Field	Description	Settings
Group Format	Determines the group format. The 'International' and 'Sigtec' group formats differ in the way they encode group calls.	Select *International* or *Sigtec*.
	The format used depends on the system in use. All handportables in the system should use the same format.	
	The International group format is not defined for some Selcall tone periods and, if a non-standard tone period is used, the Selcall units may not function correctly.	
	CAUTION Do not select "International" if the Selcall unit does not support this format. Otherwise the handportable function is undetermined.	
Tone Blanking	If enabled, mutes received Selcall tones so that they are not audible to the user (sometimes the first one or two tones will be heard as the radio takes a short time to respond).	Select *Enabled* or *Disabled*.
	This has no other effect on the Selcall operation.	

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Selcall Setup Settings - continued

Field	Description	Settings
Car To Car Dialling Length	Defines the number of digits that can be dialled from the radio front panel. (Remaining digits are taken from the beginning of the TXCALL sequence set for the channel and inserted before the dialled digits.)	Enter a value from *0* up to the total number of Rs defined in the Tx Format field of the Selcall Identity screen.
Leading ANI	Specifies when during a transmission the ANI sequence is sent. When leading is enabled (and the ANI suppression time has expired or is disabled) this feature is active. When the [PTT] is pressed, the handportable waits for the specified lead-in delay and then sends the ANI sequence. After this, the operator may talk as normal. **Note:** *An ANI Sequence must have been defined in the Selcall Identity screen.*	Select *Enabled* or *Disabled.*
Random ANI	Specifies when during a transmission the ANI sequence is sent. If enabled, an ANI sequence is sent randomly during a transmission. **Note:** *An ANI Sequence must have been defined in the Selcall Identity screen.*	Select *Enabled* or *Disabled.*

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Selcall Setup Settings - continued

Field	Description	Settings
Trailing ANI	Specifies when during a transmission the ANI sequence is sent. When trailing is *enabled* (and the ANI suppression time has expired or is *disabled*), the ANI is sent immediately after [PTT] is released. **Note:** *An ANI Sequence must have been defined in the Selcall Identity screen.*	Select *Enabled* or *Disabled*.
ANI Suppression Time	Sets a minimum time which must elapse after one ANI sequence is sent before another can be sent.	Enter a value from *0* to *155* in steps of 5.
Internal Alert Duration	Sets the duration of the internal alert, which sounds when the handportable receives an individual Selcall. This alert sounds until either the timer expires or the call is answered. This duration has no effect on the internal alert that is sounded when a group call is received - the handportable will ring only once.	Enter a value from *1* to *250*. Enter *0* to set the alert to sound until the call is answered.
Auto Acknowledge Delay Time	Specifies the time delay required between the receiving of a call and transmission of the Auto Acknowledge Sequence.	Enter a value from *0.2* to *8* seconds in steps of 0.1.

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Selcall Setup Settings - continued

Field	Description	Settings
Maximum Number Of Status Digits	Determines the maximum number of status digits for which a label may be defined in the Status Display screen. **Note:** *This field may only be edited if a Tx Sequence or ANI Sequence or Auto Acknowledge Sequence with variable status has been defined in the Selcall Identity screen.*	Enter a value from *1* to *16* if one S character is specified in the Tx Format field of the Selcall Identity screen. Enter a value from *1* to *100* if two S characters are specified in the Tx Format field of the Selcall Identity screen.

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Selcall Features

Use the Selcall Features screen to enter settings for Selcall features. To open this screen, click on Selcall Features in the Edit keyword menu.

The Selcall Features screen appears as follows:

```
┌─┬──────────────────── SELCALL Features ────────────────────┬─▲─┐
│ Print                                                          │
│                                                                │
│    Group Dialling                  ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Deferred Calling                ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Third Tone Reset                ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Automatic Caller Identification ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    A.N.I. Decoding                 ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Called Unit Status Display      ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Received Call Queuing           ┌─Disabled─────┐ ┌▼┐       │
│                                                                │
│    Diversion Channel               ┌─NONE─┐                   │
│    Diversion Status                ┌─NONE─┐                   │
│                                                                │
│    Quiet Interrogation Control Status ┌─NONE─┐                │
│                                                                │
│    Activate Stun Control Status    ┌─NONE─┐                   │
│    Deactivate Stun Control Status  ┌─NONE─┐                   │
│                                                                │
└────────────────────────────────────────────────────────────┘
```

The Selcall Features screen settings are as follows:

Field	Description	Settings
Group Dialling	If enabled, group calls are permitted. **Note:** *To be enabled the Car to Car Dialling Length must have been set to 1 or greater.*	Select *Enabled* or *Disabled.*
Deferred Calling	If enabled, a Selcall call attempted on a busy channel will be stored and redialled as soon as the channel becomes free. **Note:** *To be enabled the Tx Inhibit setting in the Options I screen must have also been enabled.*	Select *Enabled* or *Disabled.*
Third Tone Reset	If enabled, any call which carries tones matching just the first three tones of the RXDECODE Sequence of the handportable will deactivate its monitor function if it is active (e.g. after receiving a group call). **Note:** *This can only be enabled if the number of Rs in Rx Format is more than 3.*	Select *Enabled* or *Disabled.*

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Selcall Features Settings - continued

Field	Description	Settings
Automatic Caller Identification	If enabled, the identity of the caller is displayed whenever an address which matches the *RXDECODE Sequence* is received. **Note:** *This can only be enabled if Rx Format contains a C burst.*	Select *Enabled* or *Disabled*.
ANI Decoding	If enabled, the identity of any caller which matches the Rx Format will be displayed. **Note:** *This cannot be enabled if Rx Format contains a C burst.*	Select *Enabled* or *Disabled*.
Called Unit Status Display	If enabled, the radio will display any status message returned with an auto-acknowledge sequence from a called radio. **Note:** *This cannot be enabled if Rx Format contains no status (S) burst.*	Select *Enabled* or *Disabled*.
Received Call Queuing	Sets a queue to hold unanswered Selcall calls (see the Operators' Manual).	Select *Enabled* or *Disabled*.
Diversion Channel	Sets the channel to which the handportable will switch to when a called radio returns a Diversion Status message.	Enter a channel identity to be used as the diversion channel. If the diversion is to be carried out on the current channel, enter *None*.

continued on next page

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Selcall Features Settings - continued

Field	Description	Settings
Diversion Status	Sets the status value which the handportable is to respond to by carrying out the call diversion procedure. **Note:** *This cannot be enabled if Rx Format contains no status (S) burst.*	Enter a value from *0* to *15* if a single status digit, or *0* to *99* if a double digit is defined in Rx Format. The status value must not be the same as those set for Quiet Interrogation Call Status, Activate Stun Control Status or Deactivate Stun Control Status. Enter *None* to disable.
Quiet Interrogation Call Status	Enables the radio to return a status message whenever a Quiet Interrogation Call Status is received. The radio gives no audible or visible indication except for the LCD annunciators that it is returning the message. **Note:** *This cannot be enabled if Rx Format contains no status (S) burst.*	Enter a value from *0* to *15* if a single status digit, or *0* to *99* if a double digit is defined in Rx Format. The status value must not be the same as those set for Diversion Status, Activate Stun Control Status or Deactivate Stun Control Status. Enter *None* to disable.
Activate Stun Control Status	If enabled, when the radio receives an RXDECODE Sequence with a stun status appended, the radio will send the Auto Acknowledge Sequence defined in the Selcall Identity screen and then enter the stun activated state. **Note:** *This cannot be enabled if Rx Format contains no status (S) burst.*	Enter a value from *0* to *15* if a single status digit, or *0* to *99* if a double digit is defined in Rx Format. The status value must not be the same as those set for Quiet Interrogation Call Status, Diversion Status or Deactivate Stun Control Status. Enter *None* to disable.

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Selcall Features Settings - continued
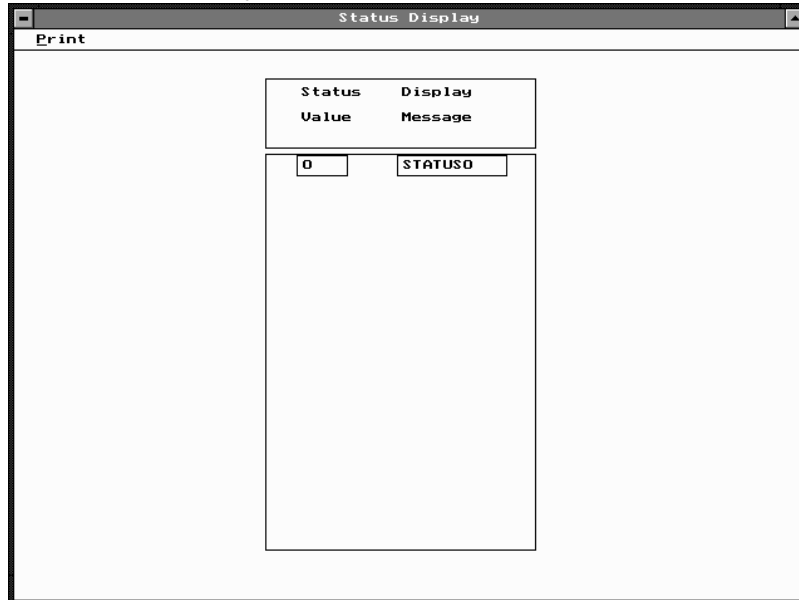
Field	Description	Settings
Deactivate Stun Control Status	If Activate Stun Control Status is enabled this must also be enabled to allow the radio to recover from the stun activated state. **Note:** *This cannot be enabled if Rx Format contains no status (S) burst.*	Enter a value from *0* to *15* if a single status digit, or *0* to *99* if a double digit is defined in Rx Format. The status value must not be the same as those set for Quiet Interrogation Call Status, Diversion Status or Activate Stun Control Status. Enter *None* to disable.

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Status Display

Use the Status Display screen to enter settings for status display messages. To open this screen, click on Status Display in the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Status Display screen appears as follows:


```
┌─┬───────────────────────────────────────────┬─┐
│■│             Status Display                │▲│
├─┴───────────────────────────────────────────┴─┤
│ Print                                          │
│                                                │
│        ┌───────────────────────────┐          │
│        │  Status      Display      │          │
│        │  Value       Message      │          │
│        └───────────────────────────┘          │
│        ┌───────────────────────────┐          │
│        │ ┌────┐      ┌─────────┐   │          │
│        │ │0   │      │STATUS0  │   │          │
│        │ └────┘      └─────────┘   │          │
│        │                           │          │
│        │                           │          │
│        │                           │          │
│        │                           │          │
│        │                           │          │
│        └───────────────────────────┘          │
└────────────────────────────────────────────────┘
```

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Note: The screen is shown with a data line inserted with default settings.

The Status Display settings are as follows:

Field	Description	Settings
Status Values	Define numbers between 0 and one less than the Maximum Number of Status Digits specified in the Selcall Setup screen.	A default number is generated in increasing order starting from *0*.
Display Message	Define a simple 8-character message to correspond to each of the status message values.	Enter a name using any of the characters:
		A-Z 0-9 * / - + < > ! @ # $ % & ( ) ' ", . : ; = ? \ space.

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Preset Channel Signalling

Use the Preset Channel Signalling screen to enter settings for signalling. To open this screen, click on Preset Chan Signalling in the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Preset Channel Signalling screen appears as follows:

Note: The screen is shown with a data line inserted with default settings.

The Preset Channel Signalling settings are as follows

Field	Description	Settings
Number	Sets the Preset Channel Signalling number. Each numbers must be unique.	Enter a number from *0* to *19*. A default number is generated in increasing order starting from *0*.
Label	Sets an alphanumeric name to label each Tx/Rx pair of signalling codes. When the user selects this label on whatever channel is current, this signalling becomes permanently associated with that channel. Each label must be unique	Enter a name of up to 8 characters. Useable characters are: A-Z 0-9 * / - + < > ! @ # $ % & ( ) ' ", . : ; = ? \ space.
Rx Signal	Sets the receive sub audible coding associated with this label. This is the code which the handportable must receive on the channel once the preset signalling label has been selected before the activity will be regarded as valid and the mute opened.	Enter either: - a valid CTCSS frequency (e.g. 156.7), or - a valid DCS code (eg 043). (See Appendix A, "Valid CTCSS/ DCS Codes.") Leave blank to indicate no subaudible code to be used on the channel.
Tx Signal	Sets the transmit sub audible coding associated with this label. This is the code which will accompany each transmission on the channel once the preset signalling label has been selected.	Enter either: - a valid CTCSS frequency (eg 156.7), or - a valid DCS code (eg 043). (See Appendix A, "Valid CTCSS/ DCS Codes.") Leave blank to indicate no subaudible code to be used on the channel.

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Radio Calibration Parameters

Use the Radio Calibration Parameters screen to define transmit time after a Selcall transmission and CTCSS reverse tone burst duration. To open this screen, click on Radio Calibration Parameters in the Edit keyword menu.

The Radio Calibration Parameters screen appears as follows:

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The Radio Calibration Parameters settings are as follows

Field	Description	Settings
Selcall Tx Tolerance Factor	This adjusts the Tx tail time after Selcall.	Enter a number between *0* (shortest) and *12* (longest).
		The default setting is 12.
CTCSS Reverse Tone Burst Duration	Determines the length of the reverse tone burst transmitted at the end of a CTCSS call. **Note:** *The Tx CTCSS Reverse Tone Burst field in the Options I screen must first be set to* Enabled*.*	Enter a number between *0* and *255* milliseconds.
		The default setting is 150 milliseconds.
		If *0* is entered, then 14 cycles of reverse tone burst are transmitted.

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5 T3030*II*, T3035*II* & T3040*II* Settings

About this Chapter

This chapter provides trunked program notes, and describes settings that may be selected for trunked T3030*II*, T3035*II* and T3040*II* handportable radios using PGM30TR. Trunked program notes are provided for the following areas:

■ Using Passwords

■ Programming Sequence

■ Programming Multiple Networks

Fields are divided into the following groupings under the PGM30TR Edit keyword:

■ Specifications

■ Unit - Identity

■ Unit - Acquisition Data

■ Unit - Preset Calls

■ Unit - Status Labels (T3040*II* only)

■ Unit - Conventional Channels

■ Unit - Dialling Facilities (T3040*II* only)

■ Unit - Miscellaneous Controls

■ Unit - Lookup Table for 5 Digit Interfleet Calls (T3040*II* only)

■ Unit - DTMF Parameters (T3040*II* only)

■ Unit- Data Parameters

■ Own Fleet Identity

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- Own Fleet Parameters
- Network - Identity
- Network - Parameters
- Network - Hunt Parameters
- Network - Trunked Channel Blocks

Using Passwords

When you start PGM30TR you are asked to enter a password. This password determines which screens and fields you will be able to select and change. It is suggested that you always use the lowest level of password which provides access to the fields you need to change. This helps ensure that you do not accidentally change other data.

Passwords and access levels are as follows:

(None)	No password (just press ENTER). Lowest level access. Allows you to change selected Unit data. Denies access to Fleet and Network fields.
K1W1	Network level access. Allows you to change all Unit, Fleet and Network data.
TECHNICIAN	Highest level access (T3040*II* only). Allows you to enable technician calls.

Programming Sequence

When programming a T3000*II* trunked radios, you will find that possible entries and availability of certain features often depends upon settings in other screens. The order in which the screen data is entered is, therefore, important. Following is the recommended order for T3030*II*, T3035*II* and T3040*II* settings.

1. Network

Although few users will need to alter network information, if used, it should be entered first and saved independently to disk. A recommended extension for any network file saved is '.NET'. Before any fleet or unit information is added, you can load the appropriate network file to ensure that all your network settings are the same.

2. Fleet

With the network file loaded from disk, add values to the Own Fleet Identity screen.

3. Unit

After editing the Own Fleet Identity screen, proceed to add entries to the unit screens.

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Programming Multiple Networks

The T3035*II* and T3040*II* handportables can store up to four network identities, enabling the user to access different networks, belong to different fleets or belong to fleets with different prefixes.

It is important to realise that this involves programming each fleet or identity into the radio as a completely separate database. To do this you must nominate a database number from one to four in This Database Number field of the Specifications screen. This ensures that any database programmed earlier is not overwritten by the current one.

Similarly, when reading a database from a handportable, it is necessary to identify which database you require and then enter its number in This Database Number field of the Specification screen before selecting Read from the Radio menu.

The database numbers correspond to the key sequence for selecting each network and the Network Number as follows:

Key Sequence	Database Number	Network Number
✷701	1	One
✷702	2	Two
✷703	3	Three
✷704	4	Four

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Specifications

Use the Specifications screen to view the type of radio that this software was built to program, and to make any necessary changes in basic programming parameters. To open this screen, click on the Specifications option from the Edit keyword menu.

The Specifications screen appears as follows:

Specifications	
Print	
Radio Model	Not Set ⬇
Radio Type	T30XX-31XX(136-154 MHz) ⬇
CBSN	Not Set
ESSN	Not Set
Configuration	Not Set ⬇
ESN	
Manufacturer's Code	4
Model Code	3
Serial Number	0
Chassis Serial Number	0
Radio Language	English ⬇
Network Name	NETWORK ONE
Network One State	Enabled
Network Two State	Disabled
Network Three State	Disabled
Network Four State	Disabled
This Database Number	1

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The Specifications settings are as follows:

Field	Description	Settings
Radio Model	Displays the radio model. When a new file is opened, this field is set to *Not Set*. A radio model must be selected before any other fields are edited.	Select *T3030II*, *T3035II* or T3040*II*.
Radio Type	Select the radio model and its frequency band. This software is designed to program Tait trunked handportables. Make sure the selected type matches the radio chassis label. **Note:** *The T3030-51XX, T3035-51XX and T3040-51XX (400-440MHz) may go up to 450MHz on receive channels.*	The T3030*II*, T3035*II* & T3040*II* values are: T30XX-31XX (136-154MHz) T30XX-32XX (146-174MHz) T30XX-41XX (174-195MHz) T30XX-42XX (184-208MHz) T30XX-51XX (400-440MHz) T30XX-52XX (440-470MHz) T30XX-53XX (470-520MHz) T30XX-70XX (336-360MHz) T30XX-71XX (360-400MHz) T30XX-72XX (300-340MHz) T30XX-81XX (806-870MHz)
CBSN	Control Board Serial Number (read only)	
ESSN	Electronic Serial Number (read only)	
Configuration	Configuration Setting (read only)	
ESN: Manufacturer Code	(read only)	
ESN: Model Code	(read only)	
ESN: Serial Number	(read only)	
Chassis Serial Number	(read only)	

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Specifications Settings - continued

Field	Description	Settings
Radio Language	Sets the language for all display messages. This does not effect labels and messages programmed directly in this software.	Select *English*, *French*, or *German*.
Network Name	Sets the name of the network which is displayed during the radio's power-up sequence.	Enter a name. Usable characters are *A-Z 0-9 ✱ / - + < > ! @ # $ % & ( ) ' ' , . : ; = ? |, space*.
Network One State . . . . **Network Four State**	Sets the network parameters defined in database numbers one, two, three or four to be active or inactive. Normally only networks for which there is no database programmed should be set to *Disabled*. **Note:** *This field is overwritten during each programming sessions no matter what database number is selected.*	Set to *Enabled* or *Disabled*. **Note:** *If you open this screen with Radio Model set to T3035II or T3040II and change it to T3030II, all these fields except Network One State will automatically be set to Disabled.*
	T3035*II* and T3040*II* only	
This Database Number	Select a database number for this set of network parameters. Database number one corresponds to Network One and so on.	Select *1*, *2*, *3* or *4*.

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Unit - Identity

Use the Unit-Identity screen to set the individual and group addresses for this handportable. To open this screen, click on the Unit - Identity option from the Edit keyword menu.

The Unit - Identity screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────────────┐
│ ▬                       Unit - Identity                            ▲ │
│ Print                                                                │
│                                                                      │
│   Own Individual Number          20                                  │
│   Own Group Address                                                  │
│   Number or   Prefix/Ident (MPT1327 Format)      User Programmable   │
│   ┌──────────┐ ┌──┐ ┌──┐                          ┌──────────┐  ↑    │
│   │0         │ │0 │/│0 │                          │   No     │       │
│   ┌──────────┐ ┌──┐ ┌──┐                          ┌──────────┐       │
│   │0         │ │0 │/│0 │                          │   No     │       │
│   ┌──────────┐ ┌──┐ ┌──┐                          ┌──────────┐       │
│   │0         │ │0 │/│0 │                          │   No     │       │
│   ┌──────────┐ ┌──┐ ┌──┐                                       ↓    │
│   │0         │ │0 │/│0 │                                            │
│                                                                      │
│                                                                      │
│   Max Number of Group Addresses        8                             │
│                                                                      │
│   Control Category           A  ▼                                    │
│   Call Queuing             ┌──────────┐                              │
│                            │   Full   │                              │
│                                                                      │
│   Number Range For Individual Calls    20    -    89                 │
│   Number Range For Group Calls          0    -     0                 │
│                                                                      │
│                                                                      │
└─────────────────────────────────────────────────────────────────────┘
```

The Unit - Identity settings are as follows:

Field	Description	Settings
Own Individual Number	Sets the MPT1343 number which uniquely identifies this radio within its fleet. The entry may be made as just the two or three digit unit identity, or the complete prefix, fleet number and unit identity may be entered as a single string. **Note:** *Setting the Own Individual Number here automatically updates the Interprefix String for Individual Fleet, Fleet Number Prefix and Fleet Individual Number fields as appropriate in the Own Fleet Identity screen.*	Enter a value from 20 to Highest Individual Number in Fleet or from 200 to Highest Individual Number in Fleet depending on whether Highest Individual Number in Fleet contains two or three digits. See the Own Fleet Identity screen for the Highest Individual Number in Fleet setting and information on prefix and fleet numbers.

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Unit - Identity Settings - continued

Field	Description	Settings
Own Group Address Number or Prefix/Ident	Sets the group address number. Each group address is a number defining a group to which the radio unit belongs. Up to 8 group numbers may be assigned for use on a Network depending on the setting in Max Number of Group Addresses.	**NUMBER FORMAT**

Enter *0* if no group number is required, or if a group address is to be specified in MPT1327 Format. |
| | Group addresses may be entered in MPT1343 (number) or MPT1327 (Prefix/Ident) format. If you enter a value in one of these formats, the other must be left blank. | If group numbers are entered, each number must be from 90 to Highest Group Number in Fleet, or from 900 to Highest Group Number in Fleet, depending on whether Highest Group Number in Fleet contains two or three digits. |
| | Own Group Address 1 may be made as just the two or three digit group identity, or the complete fleet number and unit identity may be entered as a single string. The other Own Group Address fields will only accept a two or three digit entry. | See the Own Fleet Identity screen for the Highest Group Number in Fleet setting.

PREFIX/IDENT (MPT1327 FORMAT) |
	Note: *Setting the Own Group Address Number here automatically updates the Interfleet String for Group Fleet and Fleet Group Number fields as appropriate in the Own Fleet Identity screen.*	Enter a Prefix (from *0* to *127*) and an Ident (from *1* to *8100*). If no group address is required enter *0* in both fields.
Own Group Address - User Programmable	Defines whether the radio user may add the group to, or delete it from their own list of groups via the radio menu.	Select *Yes* or *No*.
Max Number of Group Addresses	Read only.	

Unit - Identity Settings - continued

Field	Description	Settings
Control Category	Governs the radio unit's rights of access to a network's control channels. A radio unit can only access a control channel when it agrees with the value of the LAB field in the system identity code.	Select one of the categories *A*, *B*, *C*, or *D*
Call Queuing	Sets queue to hold unanswered calls, automatically queued calls, and status calls. *Full* provides full queuing functions (see your Operators' Manual).	Select *Full*, *None*, or *Unanswered*.
	If *Unanswered* is selected, only unanswered calls and status calls are queued.	
Number Range For Individual Calls	Defines a range of allowable individual numbers to restrict calls a radio unit can make to radios in its fleet.	Enter a value from *20* to Highest Individual Number in Fleet, or from *200* to Highest Individual Number in Fleet, depending on whether Highest Individual Number in Fleet contains two or three digits.
		See the Own Fleet Identity screen for the Highest Individual Number in Fleet setting.
		Enter *0* in both fields to prevent the radio from making individual calls to other radios in its fleet.

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Unit - Identity Settings - continued

Field	Description	Settings
Number Range For Group Calls	Defines a range of allowable group numbers to restrict calls a radio unit can make to radios in its fleet.	Enter a value from *90* to Highest Group Number in Fleet, or from *900* to Highest Group Number in Fleet, depending on whether Highest Group Number in Fleet contains two or three digits.
		See the Own Fleet Identity screen for the Highest Group Number in Fleet setting.
		Enter *0* in both fields to prevent the radio from making group calls to other radios in its fleet.

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Unit - Acquisition Data

Use the Unit - Acquisition Data screen to set acquisition authorization and NDD preference data. To open this screen, click on the Unit - Acquisition Data option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Unit - Acquisition Data screen, with default settings, appears as follows:

```
┌─┬──────────────────────────── Unit - Acquisition Data ────────────────────────┬─┐
│■│                                                                              │▲│
│ │ Print                                                                        │ │
│ │                                                                              │ │
│ │  ┌─────────────────────────────┐    ┌──────────────────────────────────┐    │ │
│ │  │ Acquisition Authorisation   │    │        NDD Preference Data        │    │ │
│ │  │ (maximum of 8 definitions)  │    │     (maximum of 4 definitions)    │    │ │
│ │  │    Type        Code         │    │  Field Length    Priority   Value │    │ │
│ │  ├─────────────────────────────┤    ├──────────────────────────────────┤    │ │
│ │  │ ┌────────┬─┐  ┌───────┐      │    │    ┌───┐        ┌────┐     ┌───┐  │    │ │
│ │  │ │ Full   │▼│  │ 0     │      │    │    │ 1 │        │ 10 │     │ 1 │  │    │ │
│ │  │ └────────┴─┘  └───────┘      │    │    └───┘        └────┘     └───┘  │    │ │
│ │  │                             │    │                                  │    │ │
│ │  │                             │    │                                  │    │ │
│ │  │                             │    └──────────────────────────────────┘    │ │
│ │  │                             │                                            │ │
│ │  │                             │                                            │ │
│ │  └─────────────────────────────┘                                            │ │
│ │                                                                              │ │
│ │      Home Zone         ┌───────┐                                            │ │
│ │                        │ 0     │                                            │ │
│ │                        └───────┘                                            │ │
│ │                                                                              │ │
│ │                                                                              │ │
│ │                                                                              │ │
└─┴──────────────────────────────────────────────────────────────────────────────┴─┘
```

Note: The screen is shown with a data line inserted, with default settings.

The Unit - Acquisition Data settings are as follows:

Field	Description	Settings
Acquisition Authorisation Type	Specifies the areas of the trunking network in which the radio may operate. These entries specify values for network control channel fields.	Select *Full*, *Area* or *Zone*. Consult the network operator for the correct entry.
Acquisition Authorisation Code	Sets the specific code for acquisition authorisation. On some networks, this field is left blank. Possible entries are constrained by Area Field Length and Zone Field Length (see the Network - Identity screen).	Enter a value from *0* to *511* if Network Type is *National*, or *0* to *15* if Network Type is set to *Regional*. See the Network - Identity screen for the Network Type setting.
NDD Preference Data	Used to encourage the radio unit to acquire certain control channels during a preferential hunt. Up to four entries can be made.	Preference is defined by three fields as follows: **Preferred NDD Field Length:** Specifies the number of relevant bits of the NDD field in a control channel. The maximum number is dependent on Network Type: if *National*, the field length is from *1-9*; if *Regional* the field length is from *1-4*. **Priority**: Specifies the priority of the entry, from *1* (high) to *10*. **Value**: The value must be storable in the number of bits specified by the field length.

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Unit - Acquisition Data Settings - continued

Field	Description	Settings
Home Zone	Specifies the network zone in which the radio is normally working. Home Zone is used by the radio to determine whether re-registration is required on a Network when registration records for the Network have only been maintained on a temporary basis.	The maximum value depends on the value of Zone Field Length. See the Network - Identity screen for the Zone Field Length setting.

Unit - Preset Calls

Use the Unit - Preset Calls screen to set a list of preset calls for the handportable. To open this screen, click on the Unit - Preset Calls option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Unit - Preset Calls screen appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ ■              Unit - Preset Calls                        ▲  │
│  Print                                                       │
│  Quick Access Key 1 calls preset   [0]                       │
│  Quick Access Key 2 calls preset   [0]                       │
│  F2 to Insert a Row : F3 to delete a Row                     │
│                                                              │
│  ┌─────────────────────────────────────────────────────┐    │
│  │ Preset Call numbers (Maximum of 10/20/100 definitions)│   │
│  │                    T3030/T3035/T3040                  │    │
│  │  Preset Number      Label              Call String    │   │
│  └─────────────────────────────────────────────────────┘    │
│                                                              │
│       [1]            [BILL      ]  [34                    ]   │
│       [2 ]           [HOME      ]  [03556677              ]   │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

Note: The screen is shown with two example lines inserted, the first being a radio call and the second a PSTN call.

The Unit - Preset Calls settings are as follows:

Field	Description	Settings
Quick Access Key calls preset	Assigns one of the preset calls defined in the table below to each of the front panel call keys on a T3030 handportable.	Enter the Preset Number for the call string to be assigned.
	T3030*II* only	
Preset Call Number	Sets the number of the preset call. The radio can be pro-grammed with up to 10 (T3030*II*), 20 (T3035*II*) or 100 (T3040*II*) preset call strings.	Enter a value from 0 to 9 (T3030*II*), 0 to 19 (T3035*II*) or from 0 to 99 (T3040*II*).
	MPT1343 recommends that preset 0 be used for calls to a PABX operator and that presets 1 to 9 be used for despatchers.	
Preset Call Label	Sets an optional label for a pre-set call string.	Enter a string of from 1 to 8 charac-ters in any combination of the char-acters *A* to *Z*, *0* to *9*, or -. Labels must be unique. Usable characters are in 10 groups. Characters in each group are regarded as identi-cal, so that the Label *AGE* is the same as the label *BID*. The groups are as follows:
		1,Q,Z,- *6,M,N,O*
		2,A,B,C *7,P,R,S*
		3,D,E,F *8,T,U,V*
		4,G,H,I *9,W,X,Y*
		5,J,K,L *0*
		If a label is not required, leave this field blank.
Preset Call String	Sets the string that is dialled when the preset call is selected.	Enter any valid dialling sequence. Allowable characters are *0* to *9*, ✱ and *#*.

Unit - Status Labels

T3040*II* Only

Use the Unit - Status Labels screen to set a list of status labels for the handportable. To open this screen, click on the Unit - Status Labels option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Unit - Status Labels screen appears as follows:

```
┌─────────────────────────────────────────────────────────┐
│ �– │          Unit – Status Labels                │ ▲ │
├─────────────────────────────────────────────────────────┤
│  Print                                                   │
│                                                          │
│     F2 to Insert a Row : F3 to delete a Row              │
│                                                          │
│              ┌─────────────────────────┐                 │
│              │   Status                │                 │
│              │   Value     Labels      │                 │
│              │                         │                 │
│              └─────────────────────────┘                 │
│              ┌─────────────────────────┐                 │
│              │ ┌───┐       ┌─────────┐ │                 │
│              │ │ 1 │       │STATUS01 │ │                 │
│              │ └───┘       └─────────┘ │                 │
│              │                         │                 │
│              │                         │                 │
│              │                         │                 │
│              │                         │                 │
│              │                         │                 │
│              │                         │                 │
│              └─────────────────────────┘                 │
└─────────────────────────────────────────────────────────┘
```

Note: The screen is shown with a data line inserted with default settings.

The Unit - Status Labels settings are as follows:

Field	Description	Settings
Status Value	Sets the actual status value to be transmitted. The user selects a pre-arranged message (label). This sends the value, which the receiver interprets as the prearranged message.	Enter a value from *1* to *30*.
Status Labels	Defines the prearranged message associated with the value. The user can select the status value to send by picking the label from a list.	Enter a string between 1 and 8 characters in length in any combination of the characters *A* to *Z*, *0* to *9* or -.
	The label is displayed if an incoming call's status value matches the value assigned to the label.	Labels must be unique. Usable characters are in 10 groups. Characters in each group are regarded as identical, so that the label *AGE* is the same as the label *BID*. The groups are as follows:
	To send a status message, the status calls facility must be enabled.	*1,Q,Z,-* *2,A,B,C* *3,D,E,F* *4,G,H,I* *5,J,K,L* *6,M,N,O* *7,P,R,S* *8,T,U,V* *9,W,X,Y* *0*

Unit - Conventional Channels

Use the Unit - Conventional Channels screen to set a list of
conventional channels for the handportable. To open this
screen, click on the Unit - Conventional Channels option from
the Edit keyword menu.

*Note: This screen uses Array Boxes for settings. Remember to
press the F2 key to insert each line for data entry.*

The Unit - Conventional Channels screen appears as follows:

The Unit - Conventional Channels settings are as follows:

Field	Description	Settings
Tx Inhibit On Busy	If enabled, prevents the unit from transmitting when there is activity on a channel.	Set to *Enabled* or *Disabled*.
Conventional Channel Access Number	Defines the string entered on the front panel of the radio to change the unit to a predefined channel.	Enter a value from *101* to *110* (*101* to *109* for the ZVEI Dialling Scheme.)
	You can define up to 10 conventional channels.	See the Own Fleet Identity screen for the Dialling Scheme setting.
Conventional Channel Rx Frequency	Defines the receive frequency for the conventional channel.	Enter a frequency between the upper and lower frequency limits defined in Radio Type.
		The frequency must be a multiple of either 5kHz or 6.25kHz.
		See the Specification screen for the Radio Type setting.
Conventional Channel Tx Frequency	Defines the transmit frequency for the conventional channel.	Enter a frequency between the upper and lower frequency limits defined in Radio Type.
		The frequency must be a multiple of either 5kHz or 6.25kHz.
		See the Specification screen for the Radio Type setting.
Conventional Channel Tx Power	Defines the power level of the transmitter for each channel.	Enter *High*, *Low*, or *Off*.
		If *High* is selected, the user can still select low power using the radio controls.
		If *Low* is selected, the user cannot select high power for that channel.
		If *Off* is selected, transmission is inhibited for that channel.

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Unit - Conventional Channels Settings - continued

Field	Description	Settings
Conventional Channel Signalling	Defines the Signalling Interface. This requires an option board to be fitted and enabled when the channel is selected.	Set to *On* or *Off*.

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Unit - Dialling Facilities

T3040*II* Only

Use the Unit Dialling Facilities screen to set the types of calls that can be made. To open this screen, click on the Unit - Dialling Facilities option from the Edit keyword menu.

The Unit - Dialling Facilities screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ ■           Unit - Dialling Facilities                    ▲  │
│  Print                                                       │
│      PABX Calls                         │   Enabled  │        │
│      PSTN Calls                         │   Enabled  │        │
│      Interfleet Calls                   │  Disabled  │        │
│      Interfleet Group Calls             │  Disabled  │        │
│      ALLI Calls                         │  Disabled  │        │
│      Network Operator Service Calls     │  Disabled  │        │
│                                                              │
│      Abbreviated Dialling               │   Enabled  │        │
│                                                              │
│      Abbreviated Dialling Limit          │ 49 │              │
│                                                              │
│                                                              │
│      Status Calls                       │   Enabled  │        │
│                                                              │
│      Divert Own Calls                   │   Enabled  │        │
│      Divert Third Party Calls           │  Disabled  │        │
│                                                              │
│      Don't Disturb                      │   Enabled  │        │
│      Direct Despatcher Calls            │  Disabled  │        │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

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The Unit - Dialling Facilities settings are as follows:

Field	Description	Settings
PABX Calls	If enabled, permits the user to set up a PABX (Private Automatic Branch Exchange) call.	Select *Enabled* or *Disabled*.
PSTN Calls	If enabled, permits the user to set up a call to a PSTN (Public Switched Telephone Network) subscriber.	Select *Enabled* or *Disabled*.
Interfleet Calls	If enabled, permits the user to set up an interfleet call. Radio units on a network are grouped into 'fleets' of users. An 'interfleet call' is a call between two users who are members of different fleets.	Select *Enabled* or *Disabled*.
	This setting only makes individual interfleet calls available. Group interfleet calls can also be made if Interfleet Group Calls is enabled.	
	Unless there is a special reason to allow this type of call, disable this facility.	
Interfleet Group Calls	If enabled, permits the user to set up an interfleet group call.	Select *Enabled* or *Disabled*.
	This setting only makes group interfleet calls available. Individual interfleet calls can also be made if Interfleet Individual Calls is enabled.	
	Unless there is a special reason to allow this type of call, disable this facility.	

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Unit - Dialling Facilities Settings - continued

Field	Description	Settings
ALLI Calls	If enabled, permits the user to set up an "all idents" call. This facility would normally only be used by network technicians. **CAUTION** Do not enable this facility unless you are authorised to do so for this radio unit by the network operator	Select Enabled or Disabled.
Network Operator Service Calls	If enabled, permits the user to set up a network operator service call. This service may be provided by the network operator to report faults, for example.	Select *Enabled* or *Disabled*.
Abbreviated Dialling	If enabled, permits the user to set up a network based abbreviated dialling call. If abbreviated dialling is disabled then these calls may not be made and the Abbreviated Dialling Limit becomes meaningless.	Select *Enabled* or *Disabled*.
Abbreviated Dialling Limit	Defines the number of different abbreviated dialled calls a unit can make. The radio permits entry of up to 49 abbreviated dialling calls but the network may not provide that many.	Consult the network operator to determine how many abbreviated dialling calls are available.

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Unit - Dialling Facilities Settings - continued

Field	Description	Settings
Status Calls	If enabled, permits the user to send a status call. This is a coded message sent as a number from 1 to 30.	Select *Enabled* or *Disabled*.
	It is used between two parties where the number has a prearranged meaning.	
	If status calls are enabled, consider programming status labels with the prearranged messages used in this fleet. This will make interpreting and sending these messages much easier.	
Divert Own Calls	If enabled, permits the user to divert incoming calls to another unit.	Select *Enabled* or *Disabled*.
Divert Third Party Calls	If enabled, permits the user to divert another unit's incoming calls to a different destination.	Select *Enabled* or *Disabled*.
Don't Disturb	If enabled, permits the user to set the radio to ignore incoming calls while still allowing outgoing calls to be made as usual. This may be done using the T3040's user menu.	Select *Enabled* or *Disabled*.
	If disabled, the radio unit always receives calls while it is switched on and in range of the network. These calls may be accepted or queued.	

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Unit - Dialling Facilities Settings - continued

Field	Description	Settings
Direct Despatcher Calls	If disabled, normal speech calls to the despatcher cannot be made. The despatcher's number is defined in the Prime Despatcher Number field of the Own Fleet Identity screen. Users can still enter and leave the despatcher's queue (if available) using the dial strings "0#" and "#0#".	Select *Enabled* or *Disabled*.

Unit - Miscellaneous Controls

Use the Unit - Miscellaneous Controls screen to set function keys, tones, and other controls. To open this screen, click on the Unit - Miscellaneous Controls option from the Edit keyword menu.

The Unit - Miscellaneous Controls screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ [■]              Unit - Miscellaneous Controls            [▲] │
│ Print                                                         │
│      [ ] Function Key           Backlighting          [▼]     │
│          Key Press Action       Normal      [▼]               │
│          Preset Call String     [                    ]        │
│      [-] Function Key           Disabled              [▼]     │
│          Key Press Action       Normal      [▼]               │
│          Preset Call String     [                    ]        │
│      AUX Key Operation          Momentary   [▼]               │
│      AUX Active State           High        [▼]               │
│      ECR Call String            [                    ]        │
│      Callback Facility          Enabled       [▼]             │
│      Tone Set                   Tait          [▼]             │
│      All Confidence Beeps       Enabled       [▼]             │
│      Keypress Confidence Beeps  Enabled       [▼]             │
│      Power-up Message Line 1    TAIT ELECTRONICS              │
│      Power-up Message Line 2        T3040 II                  │
│      Test Mode on Power-up      Disabled      [▼]             │
│      Backlighting               Day         [▼]               │
│      Backlighting Timer         3                             │
│      Value of INFO in RQR       0                             │
│      Option Board Type          No Board Fitted   [▼]         │
│      Handset Timer Value        20 sec      [▼]               │
└─────────────────────────────────────────────────────────────┘
```

The Unit - Miscellaneous Controls settings are as follows:

Field	Description	Settings
Function Keys [ ] [-]	Programmed settings for the two available function keys [ ] (no dash) and [-] (dash).	You can set function keys as:
		Disabled: Key does nothing.
		Clear: Key operates the same as the keypad [CLR] key.
		Handset Mode: Key toggles the handset operation on and off.
		Backlighting: Key momentarily switches on the backlighting.
		Low Power: Key toggles low power operation on and off.
		Auxiliary Output: Key controls any installed option according to the programmed Aux Key Operation and Aux Active State.
		Monitor: In conventional mode, the key toggles the channel Monitor function on and off. This only works in conjunction with an installed option.
		Preset Call String: Key provides one touch activation of the defined preset call string.
		Keypress Confidence Beeps: Key toggles keypress confidence beeps on and off.
		Keypad Lock: Key turns keypad lock on.
		Quiet Mode: The radio automatically rejects any incoming calls.

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Unit - Miscellaneous Controls Settings - continued

Field	Description	Settings
Function Keys [ ] [-] (ctd)	Programmed settings for the two available function keys [ ] (no dash) and [-] (dash).	*Night Use*: Key turns on the display and keypad backlighting whenever the radio detects activity for the duration of the Backlighting Timer Value.
		Microphone / Speaker: Key activates the options connector to accept a remote microphone and speaker combined.
		Microphone: Key activates the options connector to accept a remote microphone.
		Speaker: Key activates the options connector to accept a remote speaker.
Function Key Key Press Action	Determines the press action of the function key. A function key which has been defined to be a Preset Call String may need to be held pressed for one second before the call is made to prevent accidental activation.	Select *Long* to enable this feature. With *Normal* action, the call is made as soon as the key is pressed.
Function Key Preset Call String	Sets a function key to initiate a dialling sequence. The programmable function key sequence is in addition to the preset call strings which may be programmed on the Unit - Preset Calls screen.	Enter any valid dialling sequence. Usable characters are *0* to *9*, ✶ 20 and #.

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Unit - Miscellaneous Controls Settings - continued

Field	Description	Settings
AUX Key Operation	Sets operation of the auxiliary output line on the internal options connector.	Select *Momentary* and the line remains on for as long as the function key is pressed.
	Operation of this line is dependant on the installed option. If no option is installed then this field should be set to Momentary. This prevents the AUXILIARY option from appearing in the T3040 user menu.	Select *Latching* and the line toggles every time the function key is pressed.
AUX Active State	Determines the active state logic of the auxiliary control line on the internal options connector.	Select *High* (+5 volts) or *Low* (0 volts). The correct active state is determined by the installed option.
ECR Call String	Sets the ECR call string. The ECR key is an 'External Call Request' for use on some external microphones. If an external microphone with an external call request (ECR) key is used, you can program an ECR call string. Otherwise, leave this field blank.	Enter any valid dialling sequence. Usable characters are *0* to *9*, ✶ and *#*.
Callback Facility	If enabled, when an answered incoming call 'clears down,' its number is displayed. This permits the user to call back the calling radio by pressing [PTT].	Select *Enabled* or *Disabled*.
Tone Set	Defines the style of audible indicators produced by the radio.	Select one of the following: - *Tait* - *MPT1343* The choice should be the same for all radios in the fleet.

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Unit - Miscellaneous Controls Settings - continued

Field	Description	Settings
All Confidence Beeps	If enabled, audible confidence indicators sound. In some applications, such as security, it may be desirable to operate the handportable silently. In this case, All Confidence Beeps should be disabled.	Select *Enabled* or *Disabled.*
Keypress Confidence Beeps	If enabled, a small beep sounds whenever a key is pressed. If disabled these tones will no longer sound, but all other tones sound as usual.	Select *Enabled* or *Disabled.*
Power Up Message (Line 1 and 2)	Defines the message which appears on the radio display upon power-up. Each line has 8 characters.	Enter a message. Usable characters are *A-Z 0-9 ∗ / - + < > ! @ # $ % & ( ) ' ' , . : ; = ?	, space.*
Test Mode On Power-up	If enabled, the radio powers-up (starts) in test mode. This may be used by radio technicians for testing or repair purposes. This field should normally be disabled so that the radio powers-up in normal mode.	Select *Enabled* or *Disabled.*

T3040*II*only

> **CAUTION**
> Unless there is a special reason to set test mode on power up to enabled then this field should be set to disabled, otherwise the radio will be inoperable.

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Unit - Miscellaneous Controls Settings - continued

Field	Description	Settings
Backlighting	Determines whether or not the keypad and display backlighting operates automatically.	Select *Day* to disable automatic backlighting.
		Select *Night* to enable automatic backlighting. Any keypress or incoming call turns backlighting on for the duration of the Backlighting Timer value.
Backlighting Timer	Determines the length of time Backlighting is activated.	Enter a value from *3* to *60* seconds.
Value of Info in RQR	Used to define a 15 bit value which is added to the INFO field when a radio requests registration. This INFO value is available for customisation by systems, to convey additional information to the Trunking System Controller (TSC).	Normally, set to zero. Consult your network operator if there is any doubt.
Option Board Type	Indicates what options board is fitted to the radio. The setting depends on the type of board which has been installed. If a type of board not listed here is fitted, consult your Tait dealer for a suitable setting.	Select one of the following: - *No board Fitted* - *CTCSS Signalling* - *VOX* - Scrambler - DTMF
Handset Timer Value	Determines the amount of time that the handset mode remains active after the last user or radio activity. If Handset Timer is disabled, the radio stays in handset mode until the user manually switches handset mode off.	Select a value from 10 to 240 seconds in steps of 10, or select Disabled.

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Unit-Lookup Table for 5 Digit Interfleet Calls

T3040*II* Only

Use the Unit - Lookup Table for 5 Digit Interfleet Calls screen to set a list of preset interfleet calls that can be dialled with a short (5 digit) form. To open this screen, click on the Unit - Lookup Table for 5 Digit Interfleet Calls option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Unit - Lookup Table for 5 Digit Interfleet Calls screen appears as follows:

Note: The screen is shown with a data line inserted, with default settings.

The Unit - Lookup Table for 5 Digit Interfleet Calls settings are as follows:

Field	Description	Settings
Lookup Table Number Prefix	Sets the lookup table number prefix. The interfleet Lookup Table is used to define up to 20 radio fleets that may be accessed using 5 digit dialling (rather than by longer sequences discussed in Interfleet Calls and Interfleet Group Calls in the Unit - Dialling Facilities screen). Before programming a lookup table for 5 digit interfleet dialling, either Interfleet Calls or Interfleet Group Calls (Unit - Dialling Facilities screen) must be enabled.	In MPT1343 the number prefix must be from *200* to *327*. If you do not know the number prefix of the fleet to be called, or the network is not MPT1343 compliant, consult the network operator.
Lookup Table Fleet Number	Sets the lookup table fleet number.	In MPT1343 the fleet number must be from *2001* to *6050*. If you do not know the fleet number of the fleet to be called, or the network is not MPT1343 compliant, consult the network operator.

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Unit-Lookup Table for 5 Digit Interfleet Calls Settings - continued

Field	Description	Settings
Lookup Table Fleet Type	Sets the lookup table fleet type. This specifies whether the call is an individual or a group call. The types are the same for interfleet calls as they are for normal in-fleet calls. Before individual interfleet calls may be made Interfleet Calls (Unit - Dialling Facilities screen) must be set to *Enabled*; before group interfleet calls may be made Interfleet Group Calls (Unit - Dialling Facilities screen) must be set to *Enabled*.	Select *Individual* or *Group*.
Lookup Table Highest No In Fleet	Defines the highest number in the fleet the user might wish to call.	In MPT1343, if this lookup entry is being defined for individual calls, then the number range is *20* to *89* or *200* to *899*. If the lookup entry is being defined for group calls then the number range is *90* to *99*, or *900* to *998*. If you are unsure as to the correct highest number in the fleet for the fleet to be called, or your network is not MPT1343 compliant, consult the network operator.
Lookup Table 5 Digit Access String	Defines the five digit, short form number to be dialled by the user.	Accept the default number selected by PGM30TR or enter your own access string. The first two digits must be unique and start with either *2* or *9*. MPT1343 recommends you use 2 as the first character of the access string for individual calls and 9 as the first character for group calls (this is not mandatory).

Unit - DTMF Parameters

T3040*II* Only

Use the Unit - DTMF Parameters screen to set fleet identity information for this handportable. To open this screen, click on the Unit - DTMF Parameters option from the Edit keyword menu.

The Unit - DTMF Parameters screen, with default settings, appears as follows:

```
┌─┬────────────────────Unit — DTMF Parameters───────────────────────┬─▲─┐
│ ▼ Print                                                           │   │
│      Transmit Key Up Delay            ┌───────┐                   │   │
│                                       │ 100   │ ms                │   │
│                                       └───────┘                   │   │
│                                                                   │   │
│      Interdigit Tx Hold Time          ┌───────┐                   │   │
│                                       │ 400   │ ms                │   │
│                                       └───────┘                   │   │
│                                                                   │   │
│      Minimum Tone Duration (0..9)     ┌───────┐                   │   │
│                                       │ 80    │ ms                │   │
│                                       └───────┘                   │   │
│                                                                   │   │
│      Minimum Tone Duration (*,#)      ┌───────┐                   │   │
│                                       │ 80    │ ms                │   │
│                                       └───────┘                   │   │
│                                                                   │   │
│      Minimum Intertone Gap            ┌───────┐                   │   │
│                                       │ 100   │ ms                │   │
│                                       └───────┘                   │   │
│                                                                   │   │
└───────────────────────────────────────────────────────────────────────┘
```

The Unit - DTMF Parameters settings are as follows

Field	Description	Settings
Transmit Key Up Delay	Delays the start of tone transmissions to allow a repeater time to stabilise.	Enter a delay value from *10* to *2550* milliseconds, in steps of 10.
Interdigit Tx Hold Time	Defines the period the transmitter remains on between the encoding of each digit during manual dialling. This provides a delay for the user to dial the next digit without transmission stopping and restarting again. **Note:** *This setting will not have any effect unless Manual Dialling is enabled and the Buffer Mode is disabled.*	Enter a value from *10* to *2550* milliseconds, in steps of 10.
Minimum Tone Duration (0 to 9)	Sets the minimum transmission duration for each DTMF tone.	Enter a value from *8* to *1020* milliseconds in steps of 4.
Minimum Tone Duration (✶, #)	Sets the minimum duration for the ✶ and # tones for a keypress.	Enter a value from *8* to *1020* milliseconds in steps of 4.
Minimum Intertone Gap	Sets the minimum gap time between tones.	Enter a value from *10* to *2550* milliseconds in steps of 10.

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Unit - Data Parameters

Use the Unit - Data Parameters screen to define the parameters that govern data exchange via the Short Data Message facility. To open this screen, click on the Unit - Data Parameters option from the Edit keyword menu.

The Unit - Data Parameters screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ ▬              Unit - Data Parameters                      ▲ │
│ Print                                                        │
│                                                              │
│   Short Data Messages              Enabled    ▼              │
│   SDM Timers:              TGI   5   sec    TGG  10   sec     │
│                                                              │
│   SDM Despatcher Call String           [                   ] │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

Note: This feature may not available with some radio software versions.

The Unit - Data Parameters settings are as follows

Field	Description	Settings
Short Data Messages (SDM)	If enabled, the radio can send and receive short data messages.	Select *Enabled* or *Disabled*.
SDM Timers: TGI Timer	Defines the length of time the radio waits for further signalling during individual short data calls. If the TGI time lapses, future short data signalling is assumed to be a new transmission.	Enter a value between *0* and *16* seconds. Default setting is 5 seconds.
SDM Timers: TGG Timer	Defines the length of time the radio waits for further signalling during group short data calls. If the TGG time lapses, future short data signalling is assumed to be a new transmission.	Enter a value between *0* and *30* seconds. Default setting is 10 seconds.
SDM Despatcher Call String	Defines the destination for a short data message terminated with '#'. **Note:** *Leave blank if this feature is not required.* T3040***III***only	Enter any valid dialling sequence. Allowable characters are *0* to *9*, ✶ and *#*.

PGM30TR

Own Fleet Identity

Use the Own Fleet Identity screen to set fleet identity information for this handportable. To open this screen, click on the Own Fleet Identity option from the Edit keyword menu.

The Own Fleet Identity screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────────┐
│ ▬                      Own Fleet Identity                      ▲ │
├─────────────────────────────────────────────────────────────────┤
│ Print                                                             │
│                                                                   │
│   Interprefix String for Individual Fleet  200200120             │
│      OR                                                           │
│   Fleet Number Prefix                      200                    │
│   Fleet Individual Number                  2001                   │
│   Highest Individual Number in Fleet       89                     │
│                                                                   │
│                                                                   │
│   Interfleet String for Group Fleet        0                      │
│      OR                                                           │
│   Fleet Group Number                       0                      │
│   Highest Group Number in Fleet            0                      │
│                                                                   │
│                                                                   │
│   Dialling Scheme                          MPT1343          ▼     │
│   ANN Numbering Model                      Small           ▼      │
│                                                                   │
│                                                                   │
│   Prime Despatcher Number ('*0')           0                      │
│                                                                   │
│                                                                   │
│                                            Number or  Prefix/Ident (MPT1327) │
│   Prime Emergency Address ('*9')           0        0    /  0     │
│                                                                   │
│                                                                   │
│ ◄ ▐                                                            ► │
└─────────────────────────────────────────────────────────────────┘
```

The Own Fleet Identity settings are as follows:

Field	Description	Settings
Interprefix String for Individual Fleet	Sets the complete interprefix string required to make an individual call to this handportable from another radio in a different fleet. Editing this field automatically updates the three separate fleet number fields immediately below as well as the Own Individual Number field in the Unit - Identity screen.	Enter a value between *200* and *327* for the first three digits (fleet prefix), a number between *2001* and *6050* for the next four digits (fleet number) and a value between *20* and *89* or between *200* and *898* for the last digits (individual number).
Fleet Number Prefix	Determines an MPT1343 value that must be common to all units in a fleet. This prefix forms part of the address of individual units. It is assigned by the network operator. Editing this field automatically updates the Interprefix String for Individual Fleet field.	Enter an assigned value from *200* to *327*.
Fleet Individual Number	Used with the Own Individual Number and Fleet Number Prefix to uniquely identify the unit within the network. Editing this field automatically updates the Interprefix String for Individual Fleet field.	In MPT1343 the Fleet Individual Number must be from *2001* to *6050*. It is assigned by the network operator.

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Own Fleet Identity Settings - continued

Field	Description	Settings
Highest Individual Number in Fleet	Defines the highest individual number that may be called by any unit within a fleet.	In MPT1343 this number is from *20* to *89*, or *200* to *899*. In Regionet 43, this number is from *20* to *79*, or *200* to *799*. This number is assigned by the network operator.
Interfleet String for Group Fleet	Sets the complete interfleet string required to make a group call to this handportable from another radio in a different fleet. Editing this field automatically updates the two separate fleet number fields immediately below.	Enter a value between *2001* and *6050* for the first four digits (fleet group number) and a value between *90* and *99* or between *900* and *998* for the last digits (group number).
Fleet Group Number	Used with Own Group Addresses and Fleet Number Prefix to identify groups of units within the network. Editing this field automatically updates the Interfleet String for Group Fleet field.	In MPT1343 the Fleet Group Number must be from *2001* to *6050*. It is assigned by the network operator. If the user is not allowed group calls, enter *0*.
Highest Group Number in Fleet	Defines the highest group number that may be called by any unit within a fleet.	If the value of Fleet Group Number is *0* then this field must also be *0*. In MPT1343 this number is from *90* to *99*, or *900* to *998*. In Regionet 43, this number is from *90* to *99*, or *900* to *999*. This number is assigned by the network operator.

continued on next page

Own Fleet Identity Settings - continued

Field	Description	Settings
Dialling Scheme	Defines the sequences that can be entered on the front panel.	Select one of the following: *MPT1343*: Suitable for all MPT1343 compliant networks. *ZVEI*: Suitable for Regionet 43 networks. *Number Presets*: Suitable for all MPT1343 networks. Dialling is limited to the preset calls preprogrammed into the radio (see the Unit - Preset Calls screen). *Nokia ANN*: Suitable for all Nokia Actionet networks. Consult the network operator for the appropriate choice.
ANN Numbering Model	Defines the number of digits required for interfleet calls. The *Small* numbering model provides 5-digit dialling (only fleets with prefix 0 are accessible). The *Medium* numbering model provides 6-digit dialling (fleets with prefixes from 0 to 9 are accessible). The *Large* numbering model provides 7-digit dialling (fleets with prefixes from 0 to 99 are accessible). The *Extended Large* numbering model provides 8-digit dialling (fleets with prefixes from 0 to 127 are accessible). In some cases dialling may be abbreviated to 7 digits.	Select *Small. Medium, Large* or *Extended Large*.

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Own Fleet Identity Settings - continued

Field	Description	Settings
Prime Despatcher Number ('0')	Defines the number which the unit defaults to when a despatcher call (✶ 0) is dialled without specifying a unit number.	Enter a valid unit number within the radio's own fleet. For fleets without a despatcher, enter *0*.
Prime Emergency Address ('9')	Defines the number which the unit defaults to when a emergency call (✶ 9) is dialled without specifying a radio number.	Enter a valid unit number within the radio's own fleet. If the prime emergency address is not a valid unit number within the radio's own fleet, then the number may be entered in MPT1327 format using the Prefix and Ident fields. (In this case, enter *0* here). The prime emergency address can be disabled by setting this field to *0*.

PGM30TR

Own Fleet Parameters

Use the Own Fleet Parameters screen to set fleet parameter information for the handportable. To open this screen, click on the Own Fleet Parameters option from the Edit keyword menu.

The Own Fleet Parameters screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ ■             Own Fleet Parameters                        ▲  │
│  Print                                                       │
│                                                              │
│     Full Off Air Call Set Up          Allowed        ▼      │
│                                                              │
│     Default Call Time Limit           60      sec           │
│     Emergency Call Time Limit         0       sec           │
│                                                              │
│     Call Timer Count-up               Enabled        ▼      │
│     Ignore TSC Call Time Limit        Enabled        ▼      │
│     ┌─────────────────────────────┐                         │
│     │   ANN Fleet Structure       │                         │
│     │ (maximum 128 blocks)        │                         │
│     │ Start   Stop   FPP    MEP   │                         │
│     │ Prefix  Prefix              │                         │
│     │                             │                         │
│     │ │0   │  │127 │  │0  │ │0  │ │                         │
│     │                             │                         │
│     │                             │                         │
│     └─────────────────────────────┘                         │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

Note: The screen is shown with a data line inserted, with default settings.

The Own Fleet Parameters settings are as follows:

Field	Description	Settings
Full Off Air Call Set Up	Defines whether acknowledgement is sought on systems where it is possible to seek acknowledgement from the called user before setting up a call.	Set to *Allowed* or *Disallowed*. If this field is set to *Disallowed*, calls are set up without acknowledgement from the called party. If set to *Allowed*, an acknowledgement is sought from the called party.
Default Call Time Limit	Defines the maximum time that a call may be set up for. In MPT1327 this value can be overwritten by a BROADCAST message from the system.	Enter any of the following values: - *0* (no limit on call time) - *10* to *254* seconds in steps of 1 - 300 to 780 seconds in steps of 60.
Emergency Call Time Limit	Determines the maximum time that an emergency call may be set up for.	Enter any of the following values: - *0* (no limit on call time) - *10* to *254* seconds in steps of 1 - *300* to *780* seconds in steps of 60
Call Timer Count-Up	If enabled, and if Default Call Time Limit is set to 0, the radio displays the current call time length.	Select *Enabled* or *Disabled*.
Ignore Tsc Call Time Limit	If enabled, the radio ignores any messages the system sends to adjust its call time limit. The radio uses the Default Call Time Limit value for calls at all times.	Select *Enabled* or *Disabled*.

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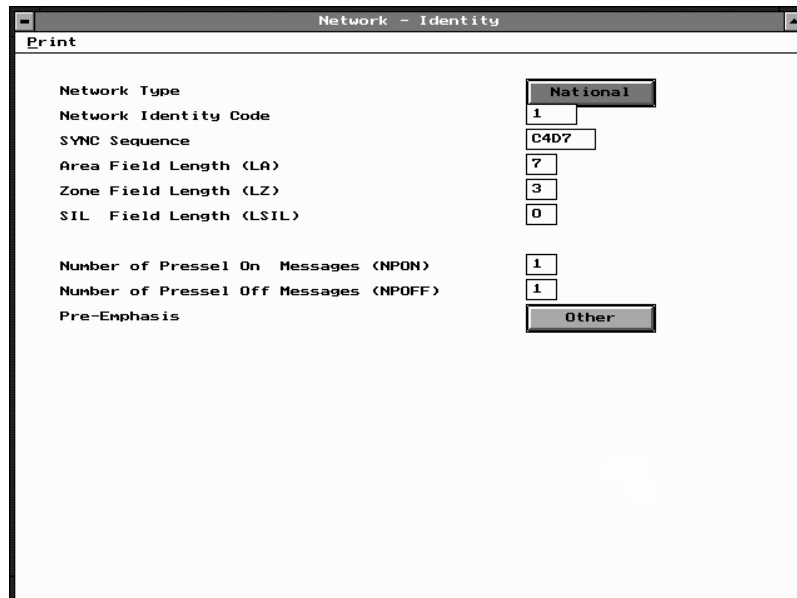
Own Fleet Parameters Settings - continued

Field	Description	Settings
ANN Fleet Structure Start Prefix	Defines the start of a block of prefixes to be restructured as medium fleets or mini-fleets.	Enter a value from *0* to *127.*
	Up to 128 blocks can be defined.	
	If the block you are defining is not the first, then the Start Prefix value must be at least one greater than the Stop Prefix value for the previously defined block.	
ANN Fleet Structure Stop Prefix	Defines the end of the block of prefixes to be restructured as small or medium fleets.	Enter a value from *0* to *127.*
	The Stop Prefix value must be greater than or equal to the Start Prefix value.	
ANN Fleet Structure Fleet Partition Parameter (FPP)	Defines the number of unit identity blocks (per prefix) to remain as large fleets (up to 700 units and 99 groups).	Enter a value from *0* to *10.*
	The remainder of the ten blocks will each be divided into sub-blocks as small fleets or mini-fleets (depending on the MEP setting).	
ANN Fleet Structure Miniaturisation Extent Parameter (MEP)	Defines the number of unit identity sub-blocks (per prefix) to be divided into mini-fleets (up to 22 units and 4 groups).	Enter a value from *0* to *10.*
	The remainder of the ten sub-blocks will remain as small fleets (up to 70 units and 10 groups).	

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Network - Identity

Use the Network - Identity screen to set network identity information for the handportable. To open this screen, click on the Unit - Network Identity option from the Edit keyword menu.

The Network - Identity screen, with default settings, appears as follows:

```
┌─────────────────────────────────────────────────────────────┐
│ [-]              Network - Identity                      [▲] │
│ Print                                                        │
│                                                              │
│    Network Type                          ┌──────────┐        │
│                                          │ National │        │
│    Network Identity Code                 ┌───┐       └──┘     │
│                                          │ 1 │              │
│    SYNC Sequence                         ┌──────┐           │
│                                          │ C4D7 │           │
│    Area Field Length (LA)                ┌───┐              │
│                                          │ 7 │              │
│    Zone Field Length (LZ)                ┌───┐              │
│                                          │ 3 │              │
│    SIL  Field Length (LSIL)              ┌───┐              │
│                                          │ 0 │              │
│                                                              │
│    Number of Pressel On  Messages (NPON)  ┌───┐             │
│                                           │ 1 │             │
│    Number of Pressel Off Messages (NPOFF) ┌───┐             │
│                                           │ 1 │             │
│    Pre-Emphasis                          ┌───────┐          │
│                                          │ Other │          │
│                                          └───────┘          │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

The Network - Identity settings are as follows:

Field	Description	Settings
Network Type	Determines the network type. In MPT1327 this can be either National, or Regional.	Select *National*, or *Regional*. The network operator will tell you the correct setting.
Network Identity Code	Sets the network's identity code.	In MPT1327, if the Network Type is *National*, enter a value from *0* to *3*; if Network Type is *Regional*, enter a value from *0* to *127*.
		Consult the network operator for the correct code value.
SYNC Sequence	Enter the bit sequence used to synchronise signalling on the channel.	Enter the SYNC sequence code in hexadecimal format. MPT1327 and Regionet 43 define SYNC as *C4D7*. PAA2424 defines SYNC as *B433*.
		Consult your network operator for the correct SYNC sequence.
Area Field Length (LA)	Used in a test carried out by the radio to see if it can acquire a control channel.	The value depends on the value of Network Type. In MPT1327, if the Network Type is *National* enter a value from *0* to *9*; if the Network Type is *Regional* enter a value from *0* to *4*.
		Consult the network operator for the correct field length value.
Zone Field Length (LZ)	Used in a test carried out by the radio to see if it can acquire a control channel.	The value depends on the value of Network Type. In MPT1327, if the Network Type is *National* enter a value from *0* to *9*; if the Network Type is *Regional* enter a value from *0* to *4*.
		Consult the network operator for the correct field length value.

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Network - Identity Settings - continued

Field	Description	Settings
SIL Field Length (LSIL)	Used in a test by the radio to check whether the clear down received is from the correct TSC (Trunking System Controller).	Consult the network operator for the correct field length value.
Number Of Pressel On Messages (NPON)	Determines how many Pressel On Messages are sent to the system when the [PTT] is pressed during a speech call.	Enter a value from *1* to *5*. Obtain the correct value from the network operator.
Number Of Pressel Off Messages (NPOFF)	Determines how many Pressel Off Messages are sent to the system when the [PTT] is released during a speech call.	Enter a value from *1* to *5*. Obtain the correct value from the network operator.
Pre-Emphasis	Determines whether or not pre-emphasis is enabled. Select *Other* to enable pre-emphasis and *French* to disable.	Select *Other* or *French*. The default setting is *Other*.

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Network - Parameters

Use the Network - Parameters screen to set specific network address and control data for the handportable. To open this screen, click on the Network - Parameters option from the Edit keyword menu.

The Network - Parameters screen, with default settings, appears as follows:

```
┌─┬──────────────────── Network – Parameters ────────────────────┬─┐
│─│                                                              │▲│
├─┴──────────────────────────────────────────────────────────────┴─┤
│ Print                                                             │
│ (1) Control Channel Aquisition/Retention                          │
│                                                                   │
│         Continuous  Time-shared                                   │
│  NC1      [ 20 ]      [ 6 ]        NZ1      [ 1 ]                  │
│  NC2      [ 15 ]      [ 54 ]       NZ2      [ 3 ]                  │
│  NU       [ 1 ]       [ 1 ]        TS       [ 10 ]   seconds       │
│  NX1      [ 15 ]      [ 2 ]                                        │
│  NX2      [ 5 ]       [ 3 ]                                        │
│                                                                   │
│                                                                   │
│ (2) Signalling Parameters                                         │
│  NW    [ 4 ]       TC  [ 60 ] seconds    TA  [ 60 ] seconds        │
│  ND1   [ 3 ]       TD  [ 60 ] minutes    TB  [ 2 ]  seconds        │
│  ND2   [ 5 ]       TJ  [ 60 ] seconds    TP  [ 5 ]  seconds        │
│  NE    [ 16 ]      TN  [ 7 ]  seconds    TW  [ 60 ] seconds        │
│  NR    [ 8 ]       TT  [ 60 ] seconds                             │
│                                                                   │
│ Background Search Sequence Parameters                             │
│  TL   [ 120 ] sec      LM1  [ 6 ] dB                              │
│  TH   [ 4 ] Slots      LM2  [ 6 ] dB                              │
│  NS   [ 2 ]            LM3  [ 6 ] dB                               │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

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The Network - Parameters settings are as follows:

Field	Description	Settings
NC1 Continuous	Sets the size of the error check sample (number of codewords) prior to confirmation for a continuous control channel.	Enter a value from *0* to *255*. Obtain the correct value from the network operator.
NC1 Timeshared	Sets the size of the error check sample (number of codewords) prior to confirmation for a time-shared control channel.	Enter a value from *0* to *255*. Obtain the correct value from the network operator.
NC2 Continuous	Sets the size of the error check sample (number of codewords) after confirmation for a continuous control channel.	Enter a value from *0* to *255*. Obtain the correct value from the network operator.
NC2 Timeshared	Sets the size of the error check sample (number of codewords) after confirmation for a time-shared control channel.	Enter a value from *0* to *255*. Obtain the correct value from the network operator.
NV Continuous	Sets the number of consecutive CCSCs (codewords) required to select a value of SYS for verification for a continuous control channel.	Enter a value from *1* to *16*. Obtain the correct value from the network operator.
NV Timeshared	Sets the number of consecutive CCSCs (codewords) required to select a value of SYS for verification for a timeshared control channel.	Enter a value from *1* to *16*. Obtain the correct value from the network operator.
NX1 Continuous	Determines the error codewords limit prior to confirmation for a continuous control channel.	Enter a value from *0* to the value used for NC1 Continuous. Obtain the correct value from the network operator.

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Network - Parameters Settings - continued

Field	Description	Settings
NX1 Timeshared	Determines the error codewords limit prior to confirmation for a time-shared control channel.	Enter a value from *0* to the value used for NC1 Timeshared.
		Obtain the correct value from the network operator.
NX2 Continuous	Determines the error codewords limit after confirmation for a continuous control channel.	Enter a value from *0* to the value used for NC2 Continuous.
		Obtain the correct value from the network operator.
NX2 Timeshared	Determines the error codewords limit after confirmation for a time-shared control channel.	Enter a value from *0* to the value used for NC2 Timeshared.
		Obtain the correct value from the network operator.
NZ1	Sets the number of contiguous error check samples containing no error events.	Enter a value from *1* to *255*.
		Obtain the correct value from the network operator.
NZ2	Sets the number of contiguous error check samples each generating a codeword error event following an initial error event.	Enter a value from *1* to *255*.
		Obtain the correct value from the network operator.
TS	Sets the delay before leaving a control channel.	Enter a value from *1* to *10* seconds.
		Obtain the correct value from the network operator.
NW	Sets the response delay (in slots).	Enter a value from *1* to *15*.
		Obtain the correct value from the network operator.
ND1	Sets the number of disconnect messages sent by an individually called radio unit.	Enter a value from *1* to *5*.
		Obtain the correct value from the network operator.

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Network - Parameters Settings - continued

Field	Description	Settings
ND2	Sets the number of disconnect messages sent by a calling radio unit.	Enter a value from *1* to *5*.
		Obtain the correct value from the network operator.
NE	Determines the maximum number of random access transmissions of RQE (emergency call request).	Enter a value from *1* to *255*.
		Obtain the correct value from the network operator.
NR	Determines the maximum number of random access transmission of RQS, RQD, RQX, RQT, RQR or RQQ (non-emergency call requests).	Enter a value from *1* to *255*.
		Obtain the correct value from the network operator.
TC	Sets the random access timeout.	Enter a value from *10* to *120* seconds. in steps of 10.
		Obtain the correct value from the network operator.
TD	Sets the registration record time-out.	Enter a value from *5* to *70* minutes. in steps of 5.
		Obtain the correct value from the network operator.
TJ	Sets the further signalling timeout.	Enter a value from *10* to *60* seconds, in steps of 10.
		Obtain the correct value from the network operator.
TN	Sets traffic channel inactivity time-out.	Enter a value from *1* to *10* seconds.
		Obtain the correct value from the network operator.
TT	Sets the maximum transmit duration.	Enter a value from *10* to *60* seconds, in steps of 10.
		Obtain the correct value from the network operator.

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Network - Parameters Settings - continued

Field	Description	Settings
TA	Sets the timeout for the radio unit after receiving an AHY.	Enter a value from *1* to *255* seconds.
		Obtain the correct value from the network operator.
TB	Determines the time barred from calling the same ident after ACK/ACKX/ACKV or any ident after a ACKT/ACKB.	Enter a value from *1* to *255* seconds.
		Obtain the correct value from the network operator.
TP	Determines the maximum interval between periodic messages (within speech items) to be assumed at switch-on.	Enter a value from *1* to *255* seconds.
		Obtain the correct value from the network operator.
TW	Sets the timeout for the radio unit waiting for a call.	Enter a value from *1* to *255* seconds.
		Obtain the correct value from the network operator.
TL	Sets the duration between successive background search sequence samples. The radio will take samples when it is idle on a confirmed control channel.	Enter a value from *0* to *320* seconds
		Obtain the correct value from the network operator.
		Note: *If Background Hunt Sequence in the Network - Hunt Parameters screen is set to* Disabled, *this parameter is set to* 0.

continued on next page

Network - Parameters Settings - continued

Field	Description	Settings
TH	Sets how long the radio will sample other control channels when it is performing a background search sequence sample.	Enter a value from *1* to *100*. Obtain the correct value from the network operator.
NS	NS sets the number of consecutive samples of a channel which must taken before it is identified as a candidate for acquisition as a control channel.	Enter a value from *1* to *10*. Obtain the correct value from the network operator.
LM1	Specifies how much stronger the signal level on a sampled channel must be than the current control channel for it to be considered during a background search sequence when neither channel is preferred (based on the NDD Preference Data in the Unit - Acquisition Data screen).	Enter a value from *3* to *40*dB. Obtain the correct value from the network operator.
LM2	Specifies how much stronger the signal level on a sampled channel must be than the current control channel for it to be considered during a background search sequence when both channels are equally preferred (based on the NDD Preference Data in the Unit - Acquisition Data screen).	Enter a value from *3* to *40*dB. Obtain the correct value from the network operator.
LM3	Specifies how much stronger than the squelch threshold, L0, a sampled control channel must be to be considered as a candidate for acquisition during a background search sequence when the channel is not preferred at all (based on the NDD Preference Data in the Unit - Acquisition Data screen). L0 is the signal level.	Enter a value from *0* to *40*dB. Obtain the correct value from the network operator.

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Network - Hunt Parameters

Use the Network - Hunt Parameters screen to set a list of channels for network hunt routines. To open this screen, click on the Network - Hunt Parameters option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Network - Hunt Parameters screen, with default settings, appears as follows:

```
+--------------------------------------------------------------+
| -            Network - Hunt Parameters                   [^] |
| Print                                                        |
|                                                              |
|   Nokia TS Channel Support              [  Disabled  ]       |
|   Background Hunt                       [  Enabled   ]       |
|                                                              |
|   Hunt Upon Expiry of NE or NR          [ Preferential ]     |
|   Comprehensive Hunt                    [  Enabled   ]       |
|                                                              |
|   Act On Vote Now                       [  Disabled  ]       |
|   Vote Now Advice Margin                [ 6  ]  dB           |
|  +-------------------------+        +-----------------------+ |
|  |  Normal Hunt Channels   |        | Non Applicable Channels| |
|  | (Maximum of 32 channels)|        | (Maximum of 10 blocks) | |
|  |   Channel     Type      |        |   From        To       | |
|  |                         |        |                        | |
|  |  [ 1 ]  [ Continuous ]  |        | [ 1 ]      [ 1 ]       | |
|  |                         |        |                        | |
|  |                         |        |                        | |
|  |                         |        |                        | |
|  +-------------------------+        +-----------------------+ |
+--------------------------------------------------------------+
```

Note: The screen is shown with a data line inserted, with default settings.

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The Network - Hunt Parameters settings are as follows:

Field	Description	Settings
Nokia Time Shared Channel Support	If disabled the the radio performs control channel hunts strictly in accordance with MPT1343. In order for the radio to recognise Nokia Actionet time-shared control channels, Nokia TS Channel Support must be enabled. This also causes the radio to ignore the preset L2 signal level when performing background search sequences. This will cause the radio to search for a new control channel no matter how strong the current signal is. **Note:** *With Nokia TS Channel Support enabled, the radio is no longer MPT1343 compliant.*	Select *Enabled* or *Disabled.*
Background Hunt	If enabled, the radio will periodically leave the current control channel and search for a better control channel from the list of Normal Hunt Channels. To prevent the radio carrying out background search sequences this parameter should be disabled. Parameters controlling the search sequence are found in the Network - Parameters screen.	Select *Enabled* or *Disabled.*

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Network - Hunt Parameters Settings - continued

Field	Description	Settings
Hunt Upon Expiry of NE or NR	Determines the type of control channel hunt performed when an attempt to set up a call is unsuccessful. For the handportable to be fully MPT1343 compliant *Disabled* should be selected. On some networks, selecting *Normal* or *Preferential* may improve the chances of successfully making the call on the next attempt.	Select *Disabled*, *Normal* or *Preferential*.
Comprehensive Hunt	Determines whether the handportable searches all legitimate, defined channels after a normal hunt has failed to locate a satisfactory control channel.	Select *Enabled* or *Disabled*.
Act On Vote Now	Allows the radio to search for a new control channel when told to do so by the trunking system.	Select *Enabled* or *Disabled*
Vote Now Advice Margin	Sets the signal strength margin by which a new control channel must exceed the current control channel before the new channel will be acquired by the radio after receiving a Vote Now Advice message.	Enter a value from *1* to *15*dB.

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Network - Hunt Parameters Settings - continued

Field	Description	Settings
Normal Hunt Channel Number	Defines a list of channels which are examined during a normal hunt sequence to see if they can be acquired as a control channel. This list may contain up to 32 channels, which are commonly used by the network as control channels. There must be at least one channel defined in the hunt list and Comprehensive Hunt must be either enabled or disabled.	Enter any channel number between the lowest and highest channel defined for the network. Obtain the correct values from the network operator.
Normal Hunt Channel Type	Identifies each channel in the Normal Hunt Channel list as either a prospective *Continuous* or *Timeshared* control channel.	Select *Continuous* or *Timeshared.* Obtain the correct values from the network operator.
Non Applicable Channel From	Defines the start of channel range not included in comprehensive hunt sequences.	Enter up to ten channel ranges. If Comprehensive Hunt is disabled, this list may be left blank. Obtain the correct values from the network operator.
Non Applicable Channel To	Defines the end of channel range not included in comprehensive hunt sequences.	Enter up to ten channel ranges.

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Network - Trunked Channel Blocks

Use the Network - Trunked Channel Blocks screen to set a list of trunked channel sets (blocks) for the handportable. To open this screen, click on the Network - Trunked Channel Blocks option from the Edit keyword menu.

Note: This screen uses Array Boxes for settings. Remember to press the F2 key to insert each line for data entry.

The Network - Trunked Channel Blocks screen appears as follows:

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The Network - Trunked Channel Blocks settings are as follows:

Field	Description	Settings
Channel: Block Start	Defines the first number of each trunked channel block.	Enter a value from *1* to *1023*.
		Obtain the correct values from the network operator.
	Trunked Channel Blocks specify the operating frequencies of all channels in a network. Up to 30 blocks can be defined.	
	Each channel block must define a number of evenly spaced channels.	
	For any blocks after the first one, the Channel Start value must be one greater than the Channel Stop value for the previously defined block.	
Channel: Block Stop	Indicates the stop channel number for that block. All Channel Stop entries must be greater than or equal to the Channel Start entry for that block.	Enter a value from *1* to *1023*.
		Obtain the correct values from the network operator.
Channel: Spacing	Defines the channel spacing (in kHz) for all channels in the block.	This frequency must be a multiple of either 5kHz or 6.25kHz, using the same number as was used for the Receiver Frequency.
		Different blocks may have different channel spacing values.
		Obtain the correct values from the network operator.

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Network - Trunked Channel Blocks Settings - continued

Field	Description	Settings
Receiver: Frequency	Defines the receive frequency for the first channel in the block. All other channels in the block have their receive frequency calculated using Channel Spacing. Up to 30 blocks can be defined.	This frequency must be a multiple of either 5kHz or 6.25kHz. The first channel in a block always has the lowest frequency. The frequency range for a block must not overlap with any other block's receive frequencies. The receive frequencies defined for the block must be within the range defined for the radio. Obtain the correct values from the network operator.
Transmitter: Frequency	Defines the transmit frequency for the first channel in the block. All other channels in the block have their transmit frequency calculated using Channel Spacing. Up to 30 blocks may be defined.	This frequency must be a multiple of either 5kHz or 6.2kHz, using the same number as Receiver Frequency. The first channel in a block always has the lowest frequency. The frequency range for a block must not overlap with any other block's transmit frequencies. The transmit frequencies defined for the block must be within the range defined for the radio. Obtain the correct values from the network operator.

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Network - Trunked Channel Blocks Settings - continued

Field	Description	Settings
Transmitter: Power	Defines the maximum transmit power level which may be used for all channels in the block.	Set to *High* or *Low*.
	If the power level is set to *High*, the user can still set transmit power to low using radio controls.	
	If the power level for a block is set to *Low*, then all transmissions in the block are made at low power regardless of any settings made by the user.	

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Appendix A Valid CTCSS/ DCS Codes

This appendix lists the settings used for DCS/CTCSS receive and transmit tones. You can enter a valid CTCSS frequency or a valid DCS code in an appropriate field, or leave the field blank to indicate that no sub-audible coding is to be used on the channel.

CTCSS

This is the tone which the T3000*II* handportable must receive on the channel before the activity will be regarded as valid. Any of the following three formats can be used to enter a CTCSS frequency (example shows a 67 Hz selection):

```
C67.0 c67.0 67.0
```

The following CTCSS frequencies (in Hz) are supported:

67.0	91.5	118.8	156.7	210.7
71.9	94.8	123.0	162.2	218.1
74.4	97.4	127.3	167.9	225.7
77.0	100.0	131.8	173.8	233.6
79.7	103.5	136.5	179.9	241.8
82.5	107.2	141.3	186.2	250.3
85.4	110.9	146.2	192.8	
88.5	114.8	151.4	203.5	

DCS

Any of the following three formats can be used to enter a DCS codeword (example shows a code of 32):

```
D032 d032 032
```

The T3000*II* supports a variety of Standard and Non-Standard DCS codes and their inverses, as listed in the following tables.

Standard DCS Codes

Normal	Invert	Normal	Invert	Normal	Invert
023	047	174	074	445	043
025	244	205	263	464	026
026	464	223	134	465	331
031	627	226	411	466	662
032	051	243	351	503	162
043	445	244	025	506	073
047	023	245	072	516	432
051	032	251	165	532	343
054	413	261	732	546	132
065	271	263	205	565	703
071	306	265	156	606	631
072	245	271	065	612	346
073	506	306	071	624	632
074	174	311	664	627	031
114	712	315	423	631	606
115	152	331	654	632	624
116	754	343	532	654	743
125	365	346	612	662	466

Normal	Invert	Normal	Invert	Normal	Invert
131	364	351	243	664	311
132	546	364	131	703	565
134	223	365	125	712	114
143	412	371	734	723	431
152	115	411	226	731	155
155	731	412	143	732	261
156	265	413	054	734	371
162	503	423	315	743	654
165	251	431	723	754	116
172	036	432	516		

Non-Standard DCS Codes

Normal	Invert	Normal	Invert	Normal	Invert
017	050	246	523	462	252
036	172	252	462	523	246
050	017	255	446	526	325
053	452	266	454	274	145
122	225	446	255	325	526
145	274	452	053	332	455
212	356	454	266	356	212
225	122	455	332		

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Numerics

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