GM1200
User Guide

Contents

General Information

This user guide covers the operation of the 1200 Series mobile radios used on MPT1327 Trunked Radio Systems. Please note that the location of the system may affect the types of call which are available. The radio display prompts are available in various languages. Please consult your dealer for further information.

This user guide describes the operation of radios **with** (K8) and **without** (K4) a keypad. On radios **without** a keypad the different types of call described below can only be selected via the shortform dial position selector (16 & 17). Please consult your dealer for further information.

WARNING: When installing or removing the mobile radio from the vehicle it must be switched off.

Radio Controls

Numbers refer to the illustrations on inside covers.

1. **On/Off** and **Volume Control**

2. **Light Emitting Diodes (LED)**
   Red: On when radio is transmitting
   Green: Flashes to indicate NO SERVICE.

3. **Alpha-numeric Display**
   Two lines of 14 characters (K8) or one line of 9 characters (K4), backlit.

4. **Dedicated Call Button**
   (On K4 either ⬚ or ⓜ)

5. **Emergency Button**

6. **Clear Button** for cancelling a call, or clearing down at the end of a call, or deleting an SDM in the SDM stack, or
   Monitor Button (conventional mode).

7. **Edit/Clear Button** for correcting keypad entries or for clearing down at the end of call.

8. **Keypad**
   0 to 9 for entering digits
   ⍟ for sending a call
   ⍟ call modifier for priority, broadcast, emergency and status calls.

9. **Status Button** for sending status messages.

10. **External Alarm Button**

11. Personality Selection

12-13. Not Used

14. Data Key for interrogating the data message stack or initiating a short data call request.

15. Call in Absence Selector

16-17. Shortform Dial Position Selector or **Channel Selector** (conventional mode).

18. Microphone Connector
When installing the microphone, turn the radio off and on again.

19. Transmit (PTT)
Push to talk, release to listen.

20. Clear Button (on rear) for cancelling a call or clearing down at the end of a call. Activated when the microphone is replaced.

Display Icons

- ⇄ Scanning.
- ⊘ Registered/Call Monitoring (conventional mode).
- ♭ Loudspeaker Open.
- ⅍ Call In Absence received.
- △ External Alarm selected.
- ⤇ Data message(s) in the Data Message stack.

Audio Tones

High pitched tone ☐ Low pitched tone ■

Self test: ☐■ Sounded on power up.

Tone A: ☐■ Call clear indication.

Tone B: ☐ ☐ Traffic channel allocated and PTT/Mic/ Loudspeaker enabled.

Tone C1: ■ ■ ■ System busy.

Tone C2: ■ Unavailable.

Tone C3: ■ ■ ■ Called party busy.

Tone C4: ■ Invalid number.

Tone D: ■ Call set up in progress, wait for further indications.

Tone E: ☐ ☐ Incoming call, press PTT, then wait for further indications.

Tone F: ■☐ Transaction confirmed, called unit will call back.

Tone G: ☐ Look at display for call set up or system information.
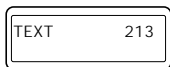
Tone H: ■ Invalid entry.

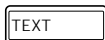Key click: ☐_____ Confidence tone when any key pressed/speech limitation warning.

Fail tone: ■■■■■■■■ Hardware error/call timed out (conventional mode).

Note: In the following pages two types of radio display examples will be shown :

K8

```
TEXT        213
```

K4

```
TEXT
```

Turning the Radio ON/OFF

Turn the radio on by pressing the combined ON/OFF/VOLUME control (1). The radio then enters a self test routine. During the test the display will be activated, the self test tone will sound, and the LED will light green. If the radio fails the self test a continuous low tone will sound and the display will show a fault code, e.g. "02":
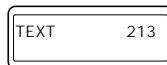
K8

```
RADIO FAULT 02
```

K4

```
ERR    02
```
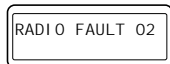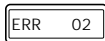
until the radio is turned off by pressing the control (1) again.

Note: If the radio fails the self test routine, consult your dealer.

When the self test is complete the radio will display:

K8

```
TEXT        213
```

K4

```
TEXT
```

followed by

```
            213
```
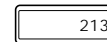
where "213" is the identity of the radio.

After this text has been displayed, the radio will scan for system access with the LED flashing GREEN and the scanning icon ⇄ lit.

When a control channel is acquired, the green LED will go off and the scanning icon ⇄ will be replaced by the registered icon ◌ .

Use the combined ON/OFF/VOLUME control (1) to adjust the volume to a comfortable listening level.

Making a Call

The radio is capable of making a variety of calls, including calls to individual radios, groups of radios and calls to private and public telephone systems.

Before you can make a call the radio must be in the IDLE STATE, i.e. a personality has been selected and no call is in progress (see "**Personality Selection**"). In the IDLE STATE the radio displays:

K8

```
TEXT      213
```

K4

```
ID    213
```
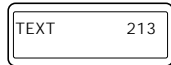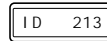
The 1200 series radios can make calls by using **Shortform Dialling**, or **Dedicated Calls**. K8 radios can also make calls using **Manual Dialling**.
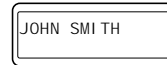
Shortform Dialling

When the radio is in the IDLE STATE shortform dialling may be used. This allows quick access to up to 40 preprogrammed numbers of up to 14 digits (on K4 radios, only the last 8 digits are displayed) using the shortform dial position selector (16 & 17).

Depending on the way your radio is programmed, the radio will display the alphanumeric alias, the number to be dialled or the position in the list.

For example:

K8

```
JOHN SMITH
```

K4

```
JOHN
```

or

K8

```
          213
```

K4

```
          213
```

or

K8

```
POSITION 15
```

K4

```
POS   15
```

or

K8

```
GROUP      01
```

K4

```
GRP    01
```
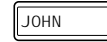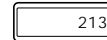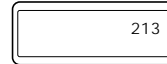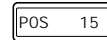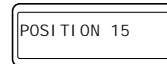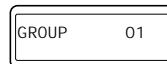
where 01 indicates position in Fixed Group list.

or

K8

```
BA 123 SERVICE
```

K4

```
BA   123
```
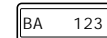
where BA 123 SERVICE is an Dynamic Group alpha alias.

or

K8

```
DYNAMIC    01
```

K4

```
DYN    01
```
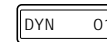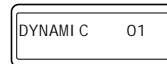
where 01 indicates position in Dynamic Group list.

The call request is sent either by pressing the PTT key (19) or (#).

If the shortform dial position selector (16 & 17) is operated, but no call request is sent, the display will be held until tone H sounds. The display will then revert to the IDLE STATE.

Note: When the shortform dial number is displayed, it may be edited as described in the **Keypad Edit** section (K8 only).

Fixed and Dynamic Groups

A **fixed** group is a group of users, the address (number) of which is pre-programmed into your radio by your dealer.

A **dynamic** group is a group of users, the address (number) of which is sent to your radio 'over air' at any time via the system controller. Therefore at any time you may become a member of a dynamic group, able to receive calls and (depending on how your radio is programmed) send calls to that group.

Incoming calls to fixed and dynamic group numbers are detailed in **Receiving a Call** and displayed under **Call Progress - Receiving**.

To make an outgoing call to a fixed or dynamic group address, use the shortform dial position selector (16 & 17) when the radio is in the IDLE STATE as detailed in **Shortform Dialling**.
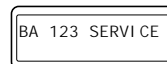
Dedicated Calls

Hold the dedicated call button (4) down for a preset period to make a call to a preprogrammed number. The number will then be displayed and the conversation can go ahead.

Manual Dialling (K8 only)

To make a call enter the telephone number, the identity of the radio or group of radios via the keypad (8), e.g. "210" followed by Ⓔ or PTT:

```
210#
```
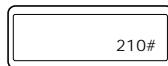
Keypad Edit (K8 only)

Before a call is initiated the last digit may be deleted by pressing the edit button Ⓒ(7). Press the button again to delete the next digit and enter the correct digit. If the edit button Ⓒ(7) is pressed during a call, the call will be ended.

Last Number Redial

The last number dialled by the radio is stored in the memory of the radio. For status calls only the called number will be stored, not the status message. Partially entered numbers are also stored.

The stored number can be displayed when the radio is in the IDLE STATE. This number may be recalled by pressing the PTT key (19). The number may also be edited, see **Keypad Edit**.

Cancelling a Call

At any time while setting up a call it may be cancelled by pressing the clear button Ⓒ (6) or by dialling ⊛ ⌗ . See "**Call Progress - Cancelling a Call**".

Ending a Call

A call should always be ended by pressing the clear button Ⓒ (6), by replacing the microphone, by dialling ⊛ ⌗ or by pressing the edit/clear button ◁ (7). See "**Call Progress - Ending a Call**".

Receiving a Call

There are two types of systems on which the radio may be used, **Off Air Call Set Up (OACSU)** and **Full Off Air Call Set Up (FOACSU)**.

If you are in doubt about which system you are operating on, consult your dealer.

Receiving a call on an Off Air Call Set Up (OACSU) System

When the radio is called, tone D will sound and the display will change to:

```
ALERTED    213
```

```
ALERT
```
followed by
```
          213
```
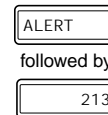
This will be followed by tone B and the display will change to indicate the type of call being received. See "**Call Progress - Receiving**".

Receiving a call on a Full Off Air Call Set Up (FOACSU) System

When the radio is called, tone E will sound and the display will change to:

```
ALERTED     213
```

```
ALERT
```
followed by
```
213
```

Press either the PTT or ⊕ key (K8 only) or lift the microphone to accept the call. Tone D will sound until a traffic channel is allocated then tone B will sound and the display will change to indicate the type of call being received. See "**Call Progress - Receiving**".

Note: The system may have a limited call time and the call may be terminated automatically if this call time is exceeded.

Call in Absence

If a call is not answered within a preprogrammed amount of time, the call will be stored by the radio. Up to 10 calls can be stored. If the same radio calls more than once the call is only stored once. When 10 calls have been stored by the radio, the eleventh call received overwrites the first.

When a call has been stored by the radio, tone G will sound every ten seconds and the display will show the identity of the calling party. The call in absence icon ☒ will be lit.

To view the calls in the stack, press the call in absence button ⊞ (15). The call in absence display will look like this:

```
01          213
```

```
01
```
followed by
```
213
```

where "01" indicates the position in the stack and "213" is the number of the calling party.

The most recent call stored by the radio will be on position "01". Operate the selector (16 & 17) to display any other calls in the stack.

Press either the PTT or ⊕ key (K8 only) to make a call. The number stays in the stack until the clear button ⓒ (6) is pressed, ⊛⊕ is dialled or the personality of the radio is changed.

To exit the Call in Absence stack, press the call in absence button ⊞ (15).

Note: The calls in the stack are not deleted when the radio is turned off. It is not possible to call back status calls.

Call Diversion

Incoming speech calls or status calls can be diverted either from your radio (initiated by pressing ⊛④①) or from another radio (initiated by pressing ⊛④④). On K4 radios Call Diversion/Cancellation may be programmed in the shortform dial list. Please contact your dealer for further information.

When the radio is in the IDLE STATE, call diversion can be initiated by pressing:

⊛④① (or ④) ⊛ to divert all calls

⊛④① (or ④) ① ⊛ to divert speech calls only

⊛④① (or ④) ② ⊛ to divert status calls only

followed by the ID of the receiving radio and ⍚.

Examples:

Pressing ⊛④① ⊛②③④⍚

will divert all calls from your radio to the radio with the ID "234".

Pressing

⊛④④ ⊛②③④ ⊛④③②⍚

will redirect all calls to the radio with the ID "234" to the radio with the ID "432".

If a call is made to a radio whose calls are currently being diverted, tone D will sound and the display of the calling radio will change to:

```
DIVERTING
```

```
DIVERT
```
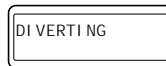
A call will then automatically be set up to the radio which is receiving the diverted calls.

Cancel call diversion by pressing

⍚④① followed by ①or ②, if necessary or
⍚④④ followed by ①or ②, if necessary, and
⊛ "ID".

Press ⍚④⑤ to cancel calls redirected to your radio.

External Alarm

The external alarm button ⍟ (10) activates the vehicle horn and/or lights to inform you a call is being received.

Press the button to turn the external alarm on and the ⌂ icon will be lit.

Press the button again to turn it off.

Please contact your dealer for further information.

Special Calls

Short Data Messages (SDM)

Short data messages may be set up, sent and received using the radio keypad and controls. Outgoing data messages from the keypad are limited to numeric data only in any combination of up to 20 characters.

Note: Non keypad radios cannot generate or display incoming SDMs and may only be used for data when connected to external data terminal equipment (DTE).

Receiving Short Data Messages

On receiving an SDM, tone G sounds and the display shows:

```
DATA RECEIVED
```

The data message icon ↦ is lit whenever SDMs are in the data message stack, i.e. displayable, unless the message display has been turned off (refer to **Displaying Incoming Data**).

Displaying Incoming Data

The short data message display can be switched ON and OFF using the keypad controls as follows:

♦ Enter ⊛ 23000 ⌗ to turn **OFF** the incoming short data display.

♦ Enter ⊛ 23001 ⌗ to turn **ON** the incoming short data display.

The SDM display defaults to ON, however the option setting is retained when the radio is switched off.

Note: This feature is important if the radio is being used with external data terminal equipment (DTE), to prevent loss of data messages.

With the SDM display set to ON, on reception of a valid SDM, either it can be displayed by the radio and/or passed to external DTE. In either case, the SDM is received and accepted (acknowledged) by the radio. Only if the SDM is of an un-displayable format AND the external DTE is disconnected, is the SDM rejected by the radio.

With the SDM display set to OFF, on reception of a valid SDM, it will not be added to the data message stack for display, but passed to the external DTE, which if accepted will be acknowledged by the radio.

However, if the DTE is not present e.g. disconnected, the SDM is rejected by the radio. In this case the SDM will not be accepted (acknowledged) by the radio and will not be lost.

Summary

If using the radio only, the SDM display should be set to **ON**.

If using the radio with external DTE which is permanently connected in normal use, the SDM display should be set to **ON**.

If using the radio with external DTE which may be disconnected in normal use, then set the display to **OFF** prior to disconnecting the external DTE to avoid SDM loss.

Storing SDMs

Incoming SDMs are stored on receipt in the Short Data Message stack. Up to five SDMs can be stored by the radio. When five SDMs have been stored, the sixth SDM overwrites the first. The data message icon is lit whenever SDMs are in the stack.

SDMs are not stored when the radio is switched OFF.

Interrogating the SDM stack

To interrogate the SDM stack, with the radio in the idle state, press the data key ⓪ (14) to enter the SDM stack interrogate mode.

The first entry in the stack will be displayed as shown in the following example:

```
01  DATA  213
```
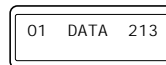
where 01 indicates the position in the stack (01 is the most recent message), and 213 is the number of the calling party.

To scroll through the other entries in the stack use the short form dial position selector (16 & 17).

To exit the data message stack interrogate mode press the data key ⓪ (14).

Note: You must exit the data message stack interrogate mode to put the radio in the idle state in order to make other calls or enter the call in absence stack.

Scrolling SDMs

From the stack, the entire currently selected SDM may be displayed by scrolling, which can be either on a character or word basis.

Press Edit ⓪ (7) to display the SDM.

To scroll on a character basis, press keypad button ⑥ to scroll to the left and keypad button ④ to scroll to the right. Hold down either button to continue scrolling to the end/beginning of message.

To scroll on a word basis, press keypad button ⑧ to scroll forward through the message and keypad button ② to scroll backwards. The display shows as many complete words as the display allows, after which they are split and displayed section by section.

Press Edit ◁ (7) to return to the SDM stack interrogate mode to select and display other SDMs.

Deleting Messages from the SDM Stack

Pressing either Clear button ⓒ (6) or keypad keys ✱# will delete the currently selected SDM from the stack. The radio returns to the SDM stack interrogate mode after each deletion until the last message is deleted when the display returns to the idle state and the SDM icon ↦ is extinguished.

Status replies to an SDM

Where an SDM contains a calling party number, the radio can respond with a status message.

From the SDM stack interrogate mode or SDM scrolling mode, press the status key ⑤ (9). The radio will exit the data mode and enter the dialling state for example:

```
213S
```
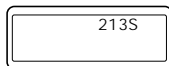
The status digits can then be specified as in normal status mode.

Making an SDM Call

SDM calls may be set up in one of three ways, via the data key ⑩, manually via the keypad or via the shortform dialling feature.

To make an SDM call via the data key, select the desired address as detailed in Making a Call, press the ⑩ key (14) followed by the data message string which may only consist of digits (0-9). i.e. ADDRESS (⑩) DATA

To make an SDM call via the keypad, enter ✱②✱ followed by the data message string (digits 0-9), press ✱ followed by the desired address as described in **Making a Call**. i.e. ✱②✱ DATA ✱ ADDRESS

Note: The maximum data message size is limited to 20 characters which includes address information and data selection characters.

To make an SDM call via the shortform dialling feature, select the pre-programmed address and send the message as detailed in **Shortform Dialling**.

Note: The maximum data message size is limited to 14 characters which includes address information and data selection characters.

Receiving a Status Call

A status is a code for transmitting prearranged messages. For example, status "05" may indicate "Return to base". When the radio receives a status call, tone G will sound and the display changes to:

```
S05      213
RETURN TO BASE
```

followed by

```
         S05
```

followed by

```
         213
```

and

```
RETURN
```

if status text is preprogrammed in the radio.

Making a Status Call

For radios with a keypad, status calls may be initiated in two different ways, via the **status key** Ⓢ (9) or **manually** via the keypad (8).

On K4 radios status calls can only be made if they are preprogrammed into the radio on the selector (16 & 17).

In order to make a status call **via the status button**, choose the desired address as described in **Making a Call**. Then press the status button Ⓢ (9), followed by two status digits. The display then changes to:

```
S05      213
RETURN TO BASE
```
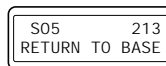
The status number may be edited by using the edit key ⊙ (7), please refer to **Keypad Edit**.

To initiate a status call **via the keypad** (8) enter ✳⃝⓪ then enter the status e.g. "05" followed by ✳⃝ and the desired address.

In both cases the call is handled as described in **Making a Call**.

Making an Emergency Call

Hold the emergency button (5) down for a preset period of time to make a call to a preprogrammed emergency number. No further button press is required to establish the call.

If provided by the system, the user can also dial a preprogrammed emergency number via the keypad (8). Please contact your dealer for further information.

A dialled number may also be given an emergency priority by prefixing the required number by ⊛⑨⊛. The call is then initiated as previously described. The display changes are described in "**Call Progress - Sending**".

Making a Priority Call

A priority call allows you to gain priority over other users of the system when requesting a call. Priority calls are indicated by prefixing the required number by ⊛⑧⊛. The call is then initiated as previously described. The display changes are described in "**Call Progress - Sending**".

Making a Broadcast Call

A broadcast call allows you to make broadcast calls to groups of radios. Broadcast calls are indicated by prefixing the required number by ⊛①①⊛. The call is then initiated as previously described. Note that on a broadcast call only the calling radio can talk and there is no indication that any units have received the call.

DTMF (K8 only)

DTMF means Dual Tone Multi Frequency and is used when the radio is required to operate in a radio system with an interface to telephone systems.

The access code for DTMF is system dependent, please contact your dealer for further information.

Enter the access code. To generate the DTMF tones press and hold the PTT (19) while entering the desired number.

Personality Selection

The radio may be programmed with a number of different personalities. To change personality press the personality selection button Ⓟ(11). Release the button when the desired personality is displayed:
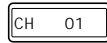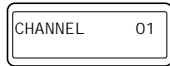
```
PERSONALITY  1
```

or

```
CONVENTIONAL
```

```
PER    1
```

```
CONV
```
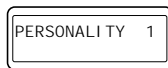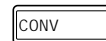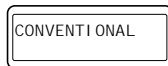
Conventional Mode

In the conventional mode the radio operates as a standard two-way radio.

Select the personality "Conventional" as described above. The display shows:

```
CHANNEL    01
```

```
CH    01
```

Use the channel selector (16 & 17) to display the desired channel.

Prior to transmission always make sure that the channel is free (red LED not flashing). Press the PTT key (19) to transmit, release it to listen. The red LED lights while the radio transmits and flashes if the channel is busy.

Some channels may be monitored for activity by pressing the monitor button Ⓒ (6). The ✍ icon will be lit until the channel is changed or the monitor button Ⓒ (6) is pressed again. The ✍ icon will also light briefly when the microphone is taken out of its holder. Please consult your dealer for further information.

In the conventional mode the radio is equipped with a time out timer. A speech limitation warning will sound a few seconds before the transmitter is switched off. The call timed out tone will sound, until the PTT is released.

To generate the DTMF tones press and hold the PTT (19) while entering the desired number.

Call Progress

Call Progress - Sending

Tone	Display K8	Display K4	Comment
D	CALLING	CALL	Trying to connect call
D	CALLING PRIORITY	PRIOR	Priority call sent, modifier *8* used
	followed by	CALL	
D	CALLING DATA		Data Call initiated, display held for 2 secs.
D	CALLING EMERGENCY	EMERG	Emergency call sent, modifier *9* used
	followed by	CALL	
B	READY XXX	READY	Call can proceed
G/D	QUEUED	QUEUED	Call queued on system
D	DIVERTING	DIVERT	Calls to called unit have been diverted
C2	UNOBTAINABLE	UNOBT	Call unobtainable
C2	UNAVAILABLE	UNAV'L	Unit unavailable
C4	INVALID NUMBER	INV NO	Incorrect number
C1	SYSTEM BUSY	S BUSY	System busy, try again
D	ALERTING	ALERT	Alerting called unit
C3	ENGAGED	ENGAGE	Called unit is busy
F	WILL CALL BACK	C BACK	Called unit will call back

Tone	Display K8	Display K4	Comment
C2	CALL FAIL	C FAIL	Call failed, try again
C2	TIMEOUT	T OUT	Call request timed out. Check service is available
	followed by		
H	CALL FAIL SCANNING	C FAIL SCAN	System access lost, try again
	followed by		
	CALL FAIL	C FAIL	

Call Progress - Receiving

Tone	Display K8	Display K4	Comment
D	ALERTED NNN	ALERT	A call is being received on **OACSU**
E	ALERTED NNN	ALERT	A call is being received on **FOACSU**. Press PTT or "#" or lift microphone to accept call
D/E	ALERTED NNN EMERGENCY	EMERG	Emergency call being received
	followed by	ALERT	
G	ALERTED NNN DATA RECEIVED		Data call being received
B	NNN XXX	NNN	Call from radio in your fleet

Tone	Display K8	Display K4	Comment
B	INTERFLEET XXX	INT FL	Call from radio in another fleet
B	TELEPHONE XXX	TEL	Call from public telephone system
B	PABX XXX	PABX	Call from private telephone system
B	CALL XXX	CALL	Call identity unknown to the system
B	DYNAMIC NN	DYN NN	Dynamic Group call received (maybe alpha alias)
B	GROUP NN	GRP NN	Fixed Group call received
B	SYS WIDE XXX	S WIDE	Call to all radios in use on the system

Call Progress - Cancelling a call

Tone	Display K8	Display K4	Comment
D/G	CANCELLING	CANCEL	Call successfully cancelled by user

Call Progress - Ending a call

Tone	Display K8	Display K4	Comment
G	CALL ENDED	C END	Another call can now be made

Note: For K8 radios only, in the above displays "XXX" is an elapsed time counter.

Safety Information

Every radio, when transmitting, radiates energy into the atmosphere which may, under certain conditions, cause the generation of a spark.

All users of vehicles fitted with radios should be aware of the following warnings:

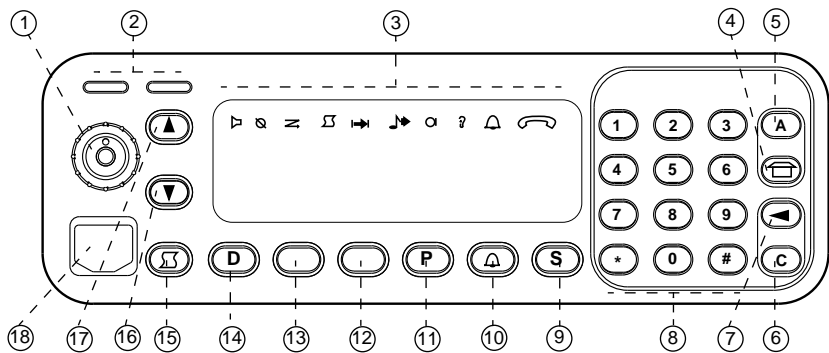**Do not operate radio near inflammable liquids or in the vicinity of explosive devices**

During normal use, the radio will subject you to radio energy substantially below the level where any kind of harm is reported.

To ensure personal safety, please observe the following simple rules:

❑ **DO NOT** transmit when the antenna is very close to, or touching, exposed parts of the body, especially the face and eyes.

❑ **DO NOT** hold the transmit (PTT) key in when not actually desiring to transmit.

❑ **DO NOT** allow children to play with any radio equipment containing a transmitter.

❑ **DO NOT** operate radio whilst driving. It should also be noticed that the use of a hand held microphone while driving could constitute an offence under the Road Traffic Regulation.

Computer Software Copyright

K8

K4