

GT/GTR Series

VHF/UHF TRANSCEIVER

Professional Portable Radios



IGNITE YOUR COMMUNICATION

User Manual

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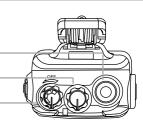
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Part Names & Functions

TOP

Antenna connector

Channel selector Volume Off/On



SIDE



FRONT

LED: shows radio status
Red: transmitting
Green: receiving

Amber: interference or user with different tone squelch

Loudspeaker
Microphone
LCD display
Up/down buttons
Enter button
Menu button
Scan button



shown with optional stubby antenna

A Key: Emergency*
B Key: PTT Press To Talk
C Key: Lone Worker*
D Key: Monitor

GT

A Key: Emergency*
B Key: PTT Press To Talk
C Key: Lone Worker*

D Key: Monitor

GTR Vox Operation:

ON: Hold '**C**" while turning on radio. OFF: Turn radio off and back on.

GTR Lone Worker:

ON: Press '**C**" for 3 seconds. (LED will flash RED) OFF: Press '**C**" for 3 seconds.

Note: **Safe 16** automatically ON.

GT Voice Privacy/Scrambler

ON: Hold '**C**" while furning on radio. OFF: Turn radio off and back on.

GTR Lone Worker:

ON: Press '**C**" for 3 seconds. OFF: Turn radio off and back on.

* Press button for 3 seconds to trigger

MOST BUTTONS ARE DEALER RE-CONFIGURABLE.

BEEP sound	Status Indication
Beep every 30 seconds	Low battery warning
Beep while pressing Hi/Low button (GT Radio only - when enabled)	One beep for low power Two beeps for high power
Beep while pressing programmable button (GT radio only)	One beep to enable the function Two beeps to disable

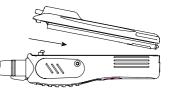


Fitting & Removing the Battery Pack

• To Install the battery pack

1] Fit the bottom edge of the battery pack into the holes of the transceiver cabinet bottom.

2] Push the battery pack down to the transceiver aluminum chassis till the end clicks.

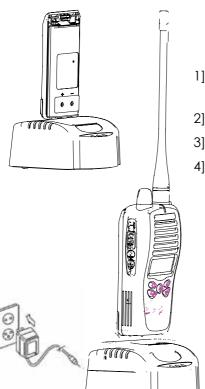


• To remove the battery pack

Press the release lever of the battery pack while levering the battery pack away from the transceiver body. Note: It is normal for this lever to be firm.



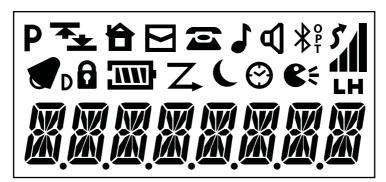
Charging the Battery Pack



- 1] Connect the jack of AC adaptor to the DC input socket on side of the desktop charger.
- 2] Plug the AC adaptor into the power outlet.
- 3] Insert the radio into the charger.
- 4] The radio will re-charge in around 2 hours.

igwedge Make sure the radio is turned off while charging.

GTR LCD Display Symbols



1] : selected channel is the priority channel. 2] : channel has **Busy Channel Lockout** feature. 31 : channel with CTCSS (Continuous Tone Coded Squelch). 4] : channel with DCS (Digital Coded Squelch). J : channel with signalling (2/5 tone) feature. 5] Ξ 6] : channel with DTMF feature ∢ 7] : monitor feature is activated. 81 : keypad is locked. (3) : time-out timer function is activated. 91 IIII 10] : shows battery condition. Recharge when icon displays 1 segment. 5 : radio is transmitting. 11] 411 12] : shows the strength of Tx or Rx signal. **e**÷ : VOX is activated. 13] 14] **H** or **L**: Tx output power: H means high; L means low. : power saving is active. 15] 16] : channel is home channel. 17] : channel with voice privacy/scrambler feature. 18] : Bluetooth active 19] : channel scan is activate. ाण ।ण ।ण ।ण ।ण ।ण ।ण ।ण ।ण ।ण Channel Name (Dealer programmable) 20]



Basic Operation

Turning the radio on/off

Rotate the PWR/VOL knob clockwise till the radio is turned on. The radio will initially go through an auto test routine. (All icons on the GTR LCD will appear.) After auto testing is complete, the GTR LCD will show channel name alias and whatever functions have been activated by your dealer. Rotate the PWR/VOL knob clockwise to increase its volume or reverse to reduce. To turn the radio off, rotate the PWR/VOL knob counterclockwise until it clicks.

Channel selection

The GTR portable can be programmed with up to 256 channels. The XU1 series are factory programmed with On-Site 16 channels as well as 80 Australia UHF CB channels. Press the ▲ or ▼ buttons to select the desired channel. The channel name alias is re-programmable by your dealer. The GT series portable is configured with On-Site 16 channels. On-site 16 allows you select up to 15 standard plus a special safety 16th channel to choose from. Use the channel selector on the GT radio to choose the desired channel. On the GTR radio they are labelled: Talk 1, Talk 2, etc. You may choose to have different users on different channels. For example; in a hotel you may choose channel 1 for Security, channel 2 for Housekeeping, channel 3 for the Front desk staff, etc. On the rare occasions that you find someone else on one of the on-site 16 channels, simply select an alternative for your communications. Should you desire, your dealer can arrange your own personal licensed radio channel for a small annual charge.

Australian UHF CB Channels

GTR-XU1/2 models are factory supplied in Australia, pre-configured with the national 80 narrowband (12.5kHz) simplex channels as well as citizen band UHF repeater radio channels. Certain channels have governmental restriction on their use. For further information regarding use of these channels refer to www.acma.gov.au or refer inside this manual's back cover. The On-site 16 channels are a unique selection of some of these 80 public channels which are configured with tone squelch to minimise interference.

Private Repeater Channels

GTR-XU1 models are also pre-configured for access to a number of private repeater channels to allow you, at some future time, to purchase and operate your own repeater base station, should you find coverage between portable radios is insufficient. They are labelled RTR1, RTR2, etc. Contact your dealer for further details.

Receiving

Radios are factory set to work in "Group Mode". Group mode uses tone squelch (CTC-SS/DCS) which prevents other users on the same channel from being heard on your radio. The LED indicator will glow green and the speaker will unmute when the radio receives a call. Occasionally interference, or another user may be present on your channel. In such cases your LED may flash amber but no audio will usually be heard.

Emergency

Press the A key for 3 seconds. The radio will automatically change to channel 16 and send an emergency alert followed by 10 seconds of transmit audio followed by 10 seconds of receive. This is repeated 3 times. If you receive an Emergency call you can reset by pressing any button. Operation is programmable by your dealer.

Monitor

Simply press the D key once to open the squelch, the GTR LCD shows" \P ". Press the D key again to close monitor. This allows you to override the tone squelch function. It is polite to monitor the channel before you transmit to ensure there is no one using the channel. This function can be disabled by your dealer.

Transmit

Simply press the PTT button and start talking approximately 2-3cm from the MIC hole. When transmitting, the LED on the top of the radio will glow red. Release the PTT button to listen.

Voice protection operation (GT series only)

Simply press the C button while turning on the radio to enable Voice protection (scrambler) operation. Voice protection scrambling modifies your voice rendering it very difficult for other who may be listening to your radio traffic such as others sharing the frequency or those with scanners, to understand what is being said. It should not be assumed that it will prevent someone who really desires to listen to your transmissions from doing so. If your communications calls for absolute privacy then contact your dealer to discuss more sophisticated versions of voice encryption. To disable simply turn off radio and back on again.

Handsfree Transmit (VOX) (GTR series only)

To activate VOX simply press the C button while turning on the radio. The € icon will display. During VOX mode the PTT button is disabled. The VOX sensitivity is preset but can be adjusted using the menu function. (See page 8)

To transmit talk with your lips approx.. 2-3cm from the MIC hole, then stop to listen. To deactivate VOX: Turn the radio off and back on again.

Bluetooth operation (Option for GTR series only)

Pairing your BT headset

Follow these steps to pair your Bluetooth equipped GTR radio with a Bluetooth headset. 1: Find out your BT headset pin code from its operation instruction. (Common pin numbers are "1234" or "0000" etc...)

- 2: Set the GTR pairing pin code by pressing the ▲ button until the LCD shows "BLUT-ON", next press ← button to enter the BT feature. Press ▲ or ▼ button until the LCD shows "PIN CODE" and then press ← button to set code number ("▼" shifts the digit, " ▲" selects the number. Press ← button to save and exit setting or enter the pin code by PC programmer directly.
- 3: Pairing headset to the radio, press the ▲ or ▼ button until LCD shows "PAIR" and then press ← button, The LCD will show "INQUIRY" (make sure your BT headset is ON and in pairing mode. Press ← button to pair with your BT headset. "NO FOUND" means no BT device can be found.), If "BLUT-ON" is not found while pressing the ᠕ button repeatedly, it means the Bluetooth option is not fitted.

BT headset operation

There are two activation modes available. One is PTT mode: press \triangle or ∇ button until the LCD shows "PTT" and then press \longleftarrow button to save and exit. In this mode you need to use the PTT button. The other mode is VOX, please refer to the Handsfree Transmit (VOX) paragraph.



• Channel Scan (GTR series only)

The advanced scan functionality of the GTR allows optionally scanning for carrier or carrier with CTCSS or DCS. Your dealer can program the channels to be scanned into the scan list. When the dealer sets your CTCSS or DCS tone, then GTR will automatically scan both carrier and tone, if no tone is set, then GTR will only scan for carrier.

TOT (Time-Out Timer)

TOT is the function that prevents the radio from locking up a repeater or frequency by prolonged keying of PTT. The time-out timer limits the amount of time you have to transmit your message. When you reach the time limit which has been programmed by your dealer, your transmission will be cut off. In order to transmit again, you must release and push PTT button to reset the timer.

Channel 16 Safety operation

On-Site Channel 16 on your radio has been optimized for the following functions:

Lone worker - This safety feature **requires** the user to press any button on the radio at least once every 15 minutes. Failure to do so will send an emergency alert tone over the radio channel. A warning tone is sounded 15 seconds beforehand to remind the user to momentarily press a button. On channel 16 on the GTR model it is automatically ON and the LED will flash RED to indicate Lone worker mode. To disable Lone worker press the (C) button for 3 seconds. Press for another 3 seconds to re-enable. The GT model requires you to manually activate. Press for 3 seconds to enable, another 3 seconds to disable.

Emergency call - enabled when a user presses the Orange button (A) for 3 seconds. The radio will automatically change to channel 16 and it will initiate an Emergency Call. Three emergency calls will go out followed by Auto Tx.

Auto Tx - Automatically enabled when Emergency is triggered so that others can remotely monitor local user audio in the event of an emergency or a lone worker failing to respond. The radio will automatically transmit audio for 10 seconds and then receive for 10 seconds. the cycle repeats 3 times.

For a small nominal charge, the radio can be programmed to send its individual electronic ID so that it shows on a display unit. These Safety channel function can be best experienced by use of a GTR radio as the LCD display can show the unit's identification when programmed.

Alternate Programming

The GTR and GT series radios can be programmed with a vast variety of the features. Some of which are listed in the following pages. If you feel they may allow you to make better use of your radios, then contact your dealer to discuss. They will be happy to discuss your specific application and then arrange the required re-programming for a nominal charge.

Radio Cloning

Cloning is a function that allows you to copy the original settings of one radio to another. It is usually done by your dealer but they can arrange to train you, where appropriate, to do it yourself.

GTR Scan/Voting Operation

Scan operation

To scan all the channels your dealer has programmed into the scan list, press **4** button. The **5** icon will appear on the LCD and you will notice the channel numbers cycling continuously. The radio will stop and stay on a busy channel and will then resume when stay time has expired. If your radio has scanned a channel on which there is a party that you want to talk to, you can directly communicate with the party by pressing the PTT button. To stop scanning, press the **5** button again. Your dealer can set both scan and pause time.

Dual watch scan

Dual watch is a function that allows you to scan one or two channels along with one active channel. Choose the active channel. Keep pressing **4** button till the trigger time is reached, the radio will begin scanning between the active channel and the dual watch channel. The GTR provides the following scan types:

1	priority channel	4	priority channel - emergency channel	
2	emergency channel	5	emergency channel - lone worker channel	
3	lone work channel	6	priority channel - lone work channel	

Example when you type 4 it will scan: PRI -> EMG -> ACH -> PRI-> EMG-> ACH->... PRI-priority channel; EMG-emergency channel; ACH= active channel.

Transmit channel while scanning

Your dealer can set the transmit channel while scanning. It means that in the event of your wishing to transmit while in any scan menu, you will transmit only on the designated channel. The GTR have a variety of options including: priority channel, home channel, last busy channel and current busy channel programmed by your dealer.

Home Channel

Press the ${\bf M}$ button continuously until the LCD shows [HOME-On], press ${\bf \triangle}$ or ${\bf \nabla}$ button to select On or OFF, or press ${\bf \leftarrow}$ button to enter the desired home channel by pressing the ${\bf \triangle}$ or ${\bf \nabla}$ button to select the home channel. This function can be disabled by your dealer.

Deleting A Nuisance Channel

Allows you to remove temporarily the channels which you don't want to hear from the scan list. During scanning, when the radio is locked on a busy channel, press button to remove this channel from the scan list, and it won't be scanned until the radio is turned on again. Care should be taken using this function on mission critical communication systems. The feature can be disabled by your dealer.

Voting Operation

The GTR radio can be configured for "mobile voting" to allow wide-area multicast operation. Operation is usually transparent to the user, but can be configured to allow indication of voted site. Your dealer can advise on how to best utilise this advanced systems functionality.



GTR Menu Selection

The **M** button can be locked to stop user access in the programming software. This prevents the following settings being changed by end users. Your dealer is able to setup the following menu items by the PC programmer.

Squelch Level

Continue to press the **M** button until the LCD shows [SQUL-3], and then press **△** or **▼** button to increase or decrease squelch level from 0 to 10; 0 means squelch open; 10 means tight squelch. Setting the radio to the tight squelch level avoids unwanted signals or noise, but you may no longer receive a weak signal. Therefore, it will be better for you to maintain the normal squelch level (default value: 3). Press **←** button to save the setting and to get back to operating mode or press **M** again to gain access to other settings.

VOX Sensitivity Level

The VOX feature can be programmed on each channel. If a channel is set with the VOX feature, **€** icon will flash. Press the **M** button continuously until the LCD shows [VXL:3]. Press the **A** or **V** button to adjust VOX sensitivity from 0 to 10. 0 means VOX operation is cancelled; 1 means the most sensitive (for very quiet environments); 10 means the least (for very noisy environment). Press the **4** button to save the setting and get back to operating mode or press **M** button again to gain access to other settings.

Beep

Press the \mathbf{M} button continuously until the LCD shows [BEEP-On]. Press $\mathbf{\triangle}$ or $\mathbf{\nabla}$ button to turn beep On or Off. Press $\mathbf{\triangle}$ button to save the setting and get back to operating mode or press \mathbf{M} again to gain access to other settings.

TX Power Selection

Press the **M** button continuously until the LCD shows [PWR-H]. Press **△** or **▼** to choose the output power. H means high power; L means low power. Press **←** button to save the setting and get back to operating mode or press **M** button again to gain access to other settings. Using low power increase your battery life but will marginally reduce your radio range.

Keypad Lock

There are two kinds of keypad lock/unlock functions: Type 1/ with user access or Type 2/ without. Your dealer can set the front five buttons to be locked permanently without user access, or to be temporarily unlocked for access. Locking the keypad can be useful in ensuring that the GTR works at its best for unfamiliar users. Press the ♠ button continuously until the LCD shows [KEY.L:OFF]. Press ♠ or ▼ button to choose keypad lock: "OFF" means unlock; "On" means lock. When the keypad is locked, the LCD shows ♠ and only keys on left side still working. Press ♣ button to save the setting and get back to operation menu or press ♠ button again to gain access to other settings.

Keypad Unlock (Type 1)

Press the **M** button for 5 seconds, the button can now be unlocked for 10 seconds. It will be automatically re-lock again after 10 seconds.

GTR dealer programmable functions

Busy Lock Out:

BCLO (Busy Channel LockOut); BTLO (Busy Tone LockOut)

Lockout type	LCD show icon	Lockout type	LCD show icon
BCLO	∓ ±	RBCLO	∓ , ± (flash)
BTLO	∓ (flash), ± , €	RBTLO	*± , €

BCLO: prevents Tx when the channel is busy with other users. (RBCLO-repeater use) **BTLO**: prevents Tx when receiving a signal from your own group. (RBTLO-repeater use) If the repeater is occupied by others when you press the PTT button, RBCLO/RBTLO will prevent you from transmitting until the channel is free. Your radio will beep 3 times to let you know when you are allowed to access the repeater.

Busy Lockout On/Off

Press the M button continuously until the LCD shows BCL-On (or BTL-On, RBTL-On, RBCL-On), press ▲ or ▼ button to select On or Off, press ← button to save the setting and get back to operating menu or press $\mathbf{\Lambda}$ again to gain access to other settings.

Burst tone

Burst tone is an alternative means of accessing a repeater, in addition to CTCSS or DCS. A number of tone burst frequencies are programmable for your desired application.

Burst Tone On/Off

Press the **M** button continuously until the LCD shows [BURST-01], press **△** or **▼** button to select burst tone, press \leftarrow button to save the setting. To activate burst tone, you need to press **M** button when PTT button is pressed.

Talk Around

This feature is useful when you are out of the repeater range or the repeater is not activated. You can directly communicate with other radios in your group by using the talk around function. To set talk around, press the M button continuously until LCD appear [TALKARUN]. Press ▲ or ▼ button to select [AR-TO-RV], [AR-TO-TX] or [AR-TO-RX]. Press **→** button to save setting.

AR-TO-RV() means transmission frequency and receiving frequency are reversed.

AR-TO-TX(**) means talk around on transmission frequency.

AR-TO-RX(**★**) means talk around on receiving frequency.

Talk around operation

Press D key for 3 seconds, the radio will then transmit in accordance with talk around setting. These functions should only be used after a full discussion with your dealer, misuse of these functions can disrupt your radio system or may not be permitted.

Auto Tx - Remote Monitor

The radio will automatically transmit background audio without user needing to press PTT when the Emergency function is triggered. The time intervals for auto Tx & Rx modes are by default 10 secs transmit/10 secs receive. Repeated 3 times. It can be reset through PC programmer. Turn the radio off and back on to disable auto Tx.



• Emergency call

There are siren, revert channel, trigger time, auto VOX on & command code parameters that can be set by your dealer. By default the radio is configured to be triggered by pressing the A key for 3 seconds. Display radios within your group will show the emergency code on their LCD display. When you receive an emergency code, you can press button to view the caller's ID if this feature was pre-configured. By default the radio will also change to channel 16 in an emergency. When you receive an emergency call, a siren or alerting beep will sound. Press any key to reset.

Lone worker

Provides a function that requires a user to press any button on their radio at least once every 15 minutes (programmable). If the user fails to do so, the radio will send a preprogrammed emergency call sequence. Before sending the emergency call, a DUDUDU sound will sound 10 seconds before to remind the user to press any button to re-start the timer. By default this automatically enabled on **Safe 16** on GTR radios.

• 5 tone selective calling (Selcall)

You can make a selective call to individuals, a sub-group, or the whole group. If a channel is programmed with Selcall function, its speaker will be muted until a correct Selcall is received. Your delaer can enable this feature for a nominal charge.

Group call (Call 1)

To make a group call on a Selcall channel, press the B (Call1) key until the trigger time is reached, [ALLGROUP] will appear on the LCD and then all recipients of the group will hear a beep and open their squelch. Your dealer can set these parameters..

Individual or sub-group call (Call 2)

To make a sub-group call or an individual call, on the Selcall channel, press the C (Call2) key until the trigger time is reached, [SUB.GROUP] or [Name..], will appear on the LCD, then press \triangle or ∇ to choose the ID you wish to talk with and then press \longleftarrow button to start. GTR provide 100 call list for individual call.

Receiving a selective call

When the called radio receives a Selcall, its LCD will show the ID of the calling radio. The called radio will automatically make an acknowledgement call and the speaker will unmute, a beep will sound and the PTT will be enabled. Both the called and the calling radio can talk for the period of time, which was set-up by the dealer.

Remote stun - Radio kill

This function allows the radio to be remotely disabled and re-enabled by a GTR configured for xMCU Master Control unit operation. Your dealer can set the Stun and Revive I.D in the programming software.

Power on password

Your dealer can set-up a 4 digit password. Every time you turn the radio on, you must then enter the correct password to operate the radio.

GT dealer programmable functions



Ask your dealer about programming your GT series with the following functions:

The programmable buttons A/B/C/D can be tailored according to your need.

In general, the radio will beep a "DU" sound when the programmed function is enabled (by either long press or short press). Repeat the same procedure to disable this function, and the radio will beep a "DuDu" sound as indicator.

- 1] **Priority Call:** The radio will shift from the present working channel onto a pre-defined priority channel.
- 2] Emergency Siren/Call: Either a siren tone will sound at your own end or an Emergency code will be sent to others over the radio channel. Emergency Call is enabled by default and will automatically divert the radio to Channel 16. The cycle repeats 3 times before returning to normal.
- 3] Lone Worker: Provides a function that requires a user to press any button on their radio at least once every 15 minutes (programmable). If the user fails to do so, the radio will send a pre-programmed emergency call sequence. Before sending the emergency call, a DUDUDU sound will sound to remind the user to press any button to re-start the timer. Press C key for 3 seconds to turn on or turn radio off and back on to disable.
- 4] Call 1/ Call 2: Transmits pre-set selcall (5 tone, 2 tone, or DTMF)
- **5] Lock / Unlock:** Prevents users from activating some function by accidental. Once you activate the lock function, buttons C & D will be locked and a beep will sound sound when you press either. Channel selection knob can also be locked via the PC programmer.
- **6] Tx Power Selection:** A Du sound indicates low Tx power; a DuDu sound indicates high Tx power.
- 7] Whisper: It will increase mic sensitivity to make weak audio at your side to be heard by others loudly; however, background noise at your side will be increased too.
- **8] Auto Tx:** The radio will automatically transmit background audio without user needing to press the PTT. The time intervals for auto Tx & Rx modes can be set through PC programmer. Turn off the radio to disable auto Tx. It is activated by the Emergency function and is programmed to Transmit for 10 seconds and then receive for 10 seconds. The cycle repeats 3 times before returning to normal.
- **9] Voice Privacy/Scrambler:** To provide basic protection against users of radio scanners or others who may be monitoring your channel, the GT incorporates a voice inversion scrambler to offer more confidential communications. Other radios at the same frequency will receive only distorted audio noise. It can be enabled by pressing button C while turning the radio on. To turn off scrambling turn radio off and back on.



Taking care of your radio & rules to know

Your radio will continue to be a valuable work tool with care and attention.

Some general rules are:

Don't leave your radio in very hot areas like on the car dashboard in summer.

Keep the battery charged when not in use.

Don't drop or immerse into water - resulting damage can be expensive.

Plan on replacing your battery about every two years.

(Li-Ion batteries usually can only be re-charged about 400-500 times maximum)

Don't carry the radio by its antenna.

Don't use as a hammer or a weapon.

Never yell when transmitting.

(Just talk about 2-3cm from microphone in a normal street level voice).

If you share a channel, never talk over the top of someone else.

Never joke about safety on the radio, nor use words like "mayday" flippantly. (ACMA or others may pick it up and mount an emergency response).

Use of Australian UHF CB unlicensed channels:

Users of radios operating on Australian UHF CB channels including On-Site 16 are required by Government regulations to adhere to a set of requirements when operating on these public shared radio channels. You should know:

- the citizen band radio service is licensed in Australia under an ACMA Radio communications (Citizens Band Radio Stations) Class Licence and operation is subject to conditions contained in those licences.
- in Australia, except in an emergency, a CB transmitter shall not be operated on UHF emergency CB channels 5 & 35 (note: this is not channel 5 on a GT Radio). Furthermore, no voice transmissions are permitted on data (telemetry/telecommand) channels 22 and 23.
- always monitor a channel (or observe a channel-busy indicator) to ensure it is not already being used, before transmitting.
- -To prevent interference and congestion on UHF CB repeater channels avoid operation on channels 1 to 8, 31 to 38, 41-48 and channels 71 to 78 channels unless long-distance communication via an available UHF CB repeater facility is specifically required.

NOTE: In Australia, channel 11 is the customary calling channel for establishing communication and channel 40 is the customary road vehicle channel.

- Australia is currently changing from 40 wide band CB channels to 80 narrowband channels. You may hear partially distorted audio if talking with users of old wideband CB 40 CH equipment and they may complain that your voice sounds soft. These situations will decrease as UHF CB equipment changes from the old 5kHz to the new 2.5kHz modulation. If you own wideband equipment, we suggest you upgrade now to narrow band and recommend to others to do likewise to further expedite the changeover process for the benefit of all users.
- the list of currently authorized UHF CB channel frequencies can be obtained from the ACMA website in Australia. www.acma.gov.au.

