

Aerpro[®]
First Choice

AP477E

5W UHF CB RADIO

ULTRA COMPACT



USER GUIDE

aerpro.com

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INTRODUCTION

WELCOME

Thank you for purchasing the Aerpro AP477E 5 Watt UHF CB Radio. Please ensure that you have read the product manual and instructions in full, prior to installation and use. Failure to do so may result in product failure/damage or incorrect operation and therefore impact the product performance.

FEATURES

- 5 Watt transmission power
- 80 Narrow-band channels
- Aluminium die cast chassis
- 12/24 Volts
- Squelch control
- CTCSS & DCS codes
- Duplex range extender
- Fixed Cord Handpiece/ Microphone
- Channel scan function
- Volume control
- Call tone alter
- Button beep
- White backlit display
- External Speaker Port
- Mute out (capable of muting car stereo)

BOX CONTENTS

- UHF CB Radio (x1)
- Microphone (x1)
- Mounting bracket (x1)

TECHNICAL SPECIFICATIONS

Frequency	476.425 - 477.4125 Mhz
Channel number	80 channels
Sub-code	CTCSS 38 and DCS 99 sub-codes
Transmission Power	5 Watts

SAFETY INFORMATION AND WARNINGS

INFORMATION ON SAFE OPERATION

Please read this information before installing or using your UHF radio. The operation of your UHF radio in Australia is subject to conditions in the following Licence: In Australia the ACMA Radio communications (Citizen Band Radio Stations) and in New Zealand by MED the General User Radio Licence for Citizen Band Radio.

SAFETY AND GENERAL USE WHILST IN A VEHICLE

Check the State and Federal laws and regulations regarding the use of two way radios in the area where you drive, and always obey them.

FOR VEHICLES FITTED WITH AIRBAGS

When using the radio in a vehicle, do not place your radio in the area over an airbag, or in the airbag deployment area. Airbags inflate with great force, if a radio is placed in the airbag deployment area and the air bag inflates, it may be propelled with great force and cause serious injury to the occupants of the vehicle.

POTENTIALLY EXPLOSIVE ATMOSPHERES

Turn your radio OFF when in any area with a potentially explosive atmosphere. Sparks in such areas could cause an explosion or fire resulting in injury or even death. **NOTE:** Areas with potentially explosive atmospheres are often, but not always clearly marked. They include fueling areas such as below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

BLASTING CAPS AND AREAS

To avoid possible interference with blasting operations; turn your radio OFF near electrical blasting caps, or in a “blasting area”, or in areas posted: “Turn off the two way radio.” Obey all signs and instructions.

EXPOSURE TO RADIO FREQUENCY ENERGY

Your two-way radio complies with Australian Communications Authority Radio Communications (Electromagnetic Radiation-Human Exposure) Standard, 2003. To assure optimal radio performance and make sure human exposure to radio frequency electromagnetic energy is within the guidelines set out in the above standards always adhere to the following radio operating procedures.

RADIO OPERATION AND EME EXPOSURE

Unauthorised antennas, modifications, or attachments could damage the radio and violate compliance. **DO NOT** hold the antenna when the radio is “**IN USE.**” Holding the antenna reduces the effective range. **DO NOT** use the radio if the antenna is damaged. If a damaged antenna makes contact with a persons skin, a minor burn may result.

SAFETY INFORMATION AND WARNINGS (continued)

ELECTROMAGNETIC INTERFERENCE/COMPATIBILITY

Nearly every electronic device is susceptible to electromagnetic interference (EMI). To avoid the possibility of electromagnetic interference and/or compatibility conflicts, turn off the radio in any location where posted notices instruct you to do so such as health care facilities.

AIRCRAFT

When instructed to do so, turn off your radio when on-board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

MEDICAL DEVICES – PACEMAKERS

The Advanced Medical Technology Association recommends a minimum separation of 15cm be maintained between a radio and pacemaker. These recommendations are consistent with the independent research by, and recommendations of, the U.S. Food and Drug Administration. People with pacemakers should:

- ALWAYS keep the radio more than 15cm away from the pacemaker when the radio is powered on.
- NOT carry the radio in the breast pocket (handheld models).
- Use the ear opposite the pacemaker to minimise the potential for interference.
- Turn the radio OFF immediately there is any reason to suspect that interference is taking place.

MEDICAL DEVICES – HEARING AIDS

Some radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

MEDICAL DEVICES – OTHER

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

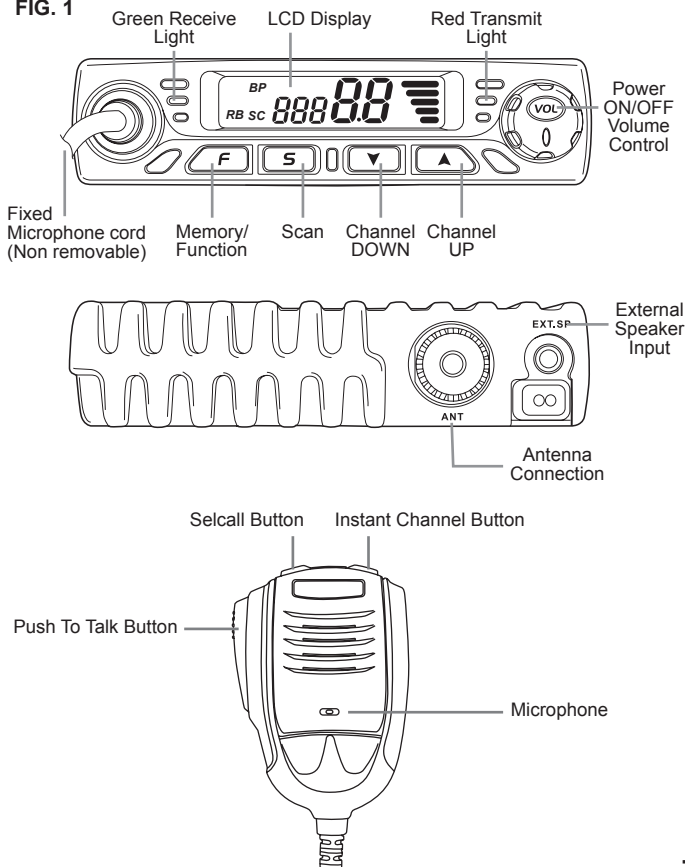
GENERAL WARNINGS

Some radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

RADIO CONTROLS

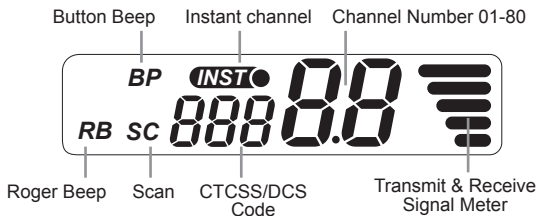
RADIO LAYOUT

FIG. 1



LCD DISPLAY

LCD DISPLAY



CAUTION

When installing your radio in your vehicle, check that during installation you do not damage any wiring or vehicle components that may be hidden around the mounting position. For optimum performance your radio needs to be installed correctly. If you are unsure about how to install your radio, we suggest you have your radio professionally installed by a UHF specialist or Auto electrician. When installing the radio, avoid mounting it close to heaters or air conditioners.

Never press the PTT or CALL button before connecting the antenna to the radio. Screw the mounting bracket and microphone bracket to firm surfaces.

To install the radio: 1. Fix the radio bracket in a suitable location.

2. Then fix the radio in the bracket using the thumb screws.

DC POWER CONNECTION

The CB radio is designed for 12/24 Volt DC. 13.8 VDC nominal voltage.

ONLY Replace Fuse with 2 Amp 3AG glass fuse.

ANTENNA INFORMATION

The antenna (not supplied) is of critical importance, to maximize your output power and receiver sensitivity. A poorly installed, inferior quality antenna or one not designed for the correct frequency band will give poor performance. You should only purchase an antenna designed for the 477MHz frequency band.

ANTENNA INSTALLATION

1. Connect the antenna to the rear antenna socket using a PL259 coaxial connector (not supplied).

2. To obtain maximum performance from the radio, select a high quality antenna and mount it in a good location.

NOTE: Never press the PTT or CALL button before connecting the antenna to the radio.

RADIO OPERATIONS

POWER ON/OFF

To turn the AP477E ON, turn the "ROTARY KNOB" clockwise until there is a click. The LCD display will light up, indicating the unit is now ON.

To turn the AP477E OFF, turn the "ROTARY KNOB" anti-clockwise until there is a click. The LCD display will black out, indicating the unit is now OFF.

VOLUME CONTROL

To adjust the volume, use the "ROTARY KNOB". Turn the "ROTARY KNOB" clockwise to increase the volume and turn the "ROTARY KNOB" anticlockwise to decrease the volume.

CHANNEL SELECTION

Press the Up▲/Down▼ buttons to scroll through the desired channel. For your reference a list of the available channels, corresponding frequencies and guidelines for their use and selection can be found on page 15 of this instruction manual.

NOTE: Channels 05 and 35 are reserved for emergency use only.

MUTE OUT

This radio is capable of muting the car stereo when you receive incoming traffic on the transceiver. Mute out wires present a Zero Ohm Short circuit when Squelch is OPENED - Black wire MUST go to Ground/ Earth side of mute circuit.

CALL BUTTON (On Microphone)

Short press of CALL button transmits Selcall CTCSS / DCS tones (If enabled in menu settings).

INST BUTTON (On Microphone)

Short press of INST button switches radio to preset INSTant channel.

DEFAULT INST channel is 09. This can easily be changed by selecting another channel and then pressing INST for 2 seconds.

Example : To select **Channel 40** as INST channel

- Use the ▲ & ▼ Arrow buttons on the faceplate to select channel 40
- Press and Hold **INST** button for 2 seconds

Instant Channel is now Channel 40.

RADIO OPERATION

S BUTTON - SCANNING

SCAN mode (If enabled in menu settings). **Press the (S) button** and the radio will scan through all 80 channels until it hears a transmission (Busy Channel). The radio will stop on the busy channel until transmissions stop – the radio will then commence scanning again.

To turn Scan OFF **Short press (S) button** again.

F BUTTON - MENU MODE

A SHORT press of the (F) button places the radio Into Menu / Program mode
A LONG press (2 Seconds) of the (F) button takes the radio Out of Menu / Program mode.

When the radio is NOT in Menu / Program mode a **LONG press of (F) button** turns **SQUELCH OFF**. **A LONG press of (F) button** again turns **SQUELCH ON**.

UP▲ & DOWN▼ BUTTONS

Pressing the Up▲/Down▼ arrow buttons changes channels in normal mode & option settings in **MENU** mode

Long Press (2 Seconds) of Up▲/Down▼ arrow buttons in normal mode **FAST STEPS** radio through channels.

RESETTING - FACTORY RESET

To reset the system, **Press and Hold the (F) button** while turning the CB radio ON.

RECEIVING / TRANSMITTING

The devices are in “Standby” mode when it is turned ON and not transmitting. When a signal is received on the current channel, the LCD display lights are green. When you press the PTT (push to talk) button, the devices switches to “Transmission” mode and the LCD display lights are red and a signal strength icon displays on screen. Hold the device in a vertical position with the Mic (microphone) 3-5cm away from your mouth. While holding the PTT button, speak into the microphone in a normal tone of voice. Release the PTT button when you have finished transmitting. For others to receive your transmission, they must be on the same channel with you.

NOTE: The talking range will depend on your surroundings and environment. It will be affected by obstructions such as hills or buildings. Don't try to use two devices which are less than 1.5m (5 feet) apart. Otherwise, you may experience interference.

MENU SETTINGS

SHORT press on the (F) button once.

This allows you to enter the menu and change settings as per your requirements. Pressing the (F) button again will step you through the Menu options. Some settings are (GLOBAL SETTINGS) affecting ALL Channels when changed. Some settings are (PER CHANNEL SETTINGS) affecting only the channel they are set on. Some of the options available to you include:

SQL - SETTING THE SQUELCH LEVEL (Global setting)

SHORT press on the (F) button once.

There are 10 squelch level settings (0 → 9). Zero is off, 1 is the lowest Squelch level and 9 is the highest level. Squelch removes the background noise and weaker signals from your receiver. To hear only signals from nearby CB users, increase the Squelch level. To hear signals from CB users further away, decrease the Squelch level.

DEFAULT SQL Setting is 3

Use the Up▲/Down▼ arrow buttons on the faceplate to change the squelch level settings.

SHORT press on the (F) button to step onto the next Menu Feature

CTC - CTCSS / DCS Selcall (Per channel setting)

SHORT press on the (F) button twice.

There are 38 CTCSS codes & 104 DCS user selectable coded tones, 1 Only CTCSS or DCS code can be selected.

DEFAULT CTC Setting is OFF.

NOTE : When CTC is turned ON you can ONLY communicate with other CB's that have the identical CTCSS or DCS code set on their units.

- Use the Up▲/Down▼ arrow buttons on the faceplate to select the required CTCSS or DCS code.

- **Long Press the (F) button** to set the changes & exit programming for this channel.

This needs to be FULLY repeated for EACH Channel 01 → 80 that you wish to turn ON the CTC function for – Different CTCSS / DCS Codes can be set on different channels if required.

SHORT press on the (F) button to step onto the next Menu Feature

DUP - DUPLEX Option (Per channel setting)

SHORT press on the (F) button three times

NOTE: Duplex – Repeater option can only be enabled for Channels 01 → 08 & Channels 41 → 48. This option NEEDS to be turned ON individually for each of the 16 channels that you wish to use for repeater operation.

Example to turn ON DUP Duplex – Repeater option for Channel 01

- Use the ▲ & ▼ Arrow buttons on the faceplate select Channel 01

MENU SETTINGS

- **SHORT press (F) button 3 times** until DUP appears in the display
- Use the Up▲/Down▼ arrow buttons on the faceplate to select R1
- **Long Press (F) button** to set the changes & exit programming for this channel.
This needs to be FULLY repeated for EACH Channel 01 → 08 & Channel 41 → 48 that you wish to turn ON the Repeater function for.
DEFAULT DUP Setting is OFF for all channels
SHORT press on the (F) button to step onto the next Menu Feature

SCN - SCAN (Global setting)

This feature will allow you to scan through all 80 channels continuously. When you enter the SCN setting, press the Up▲/Down▼ arrow buttons to turn scanning on (**OS**) or scanning off (**GS**). When in scan mode press the Up▲/Down▼ arrow buttons and the unit will scan from 1 to 80 or from 80 to 1.

BDL - BUSY CHANNEL LOCKOUT (Per channel setting)

This function disables transmission while there is traffic on a channel. You cannot send a transmission. ie your PTT is disabled until there is no traffic on your current channel. Press the Up▲/Down▼ arrow buttons to turn on or off.

CAL - CALL RING TONE (Global setting)

This feature allows you to change your call ring tone. You can select from 5 different call tones. It will only send your set tone when you press the **PTT/CALL** button on the hand piece. Press the Up▲/Down▼ arrow buttons to choose from **C1** to **C5** or turn off.

RBP - ROGER BEEP (Global setting)

After the PTT button is released, the device will send out a roger beep to confirm that have stopped talking.
Press the Up▲/Down▼ arrow buttons turn the roger beep ON/OFF. “**RB**” text icon will be displayed on screen when turned ON.

BEP - BUTTON BEEP (Global setting)

This feature allows you to turn off the beeps when pressing buttons on the face of the radio and also disables BEEPS when scrolling through the menus. Press the Up▲/Down▼ arrow buttons turn the roger beep ON/OFF. “**BP**” text icon will be displayed on screen when turned ON.

DUPLEX / REPEATER INFORMATION

DUPLEX RECEIVE / TRANSMIT CHANNEL GUIDE

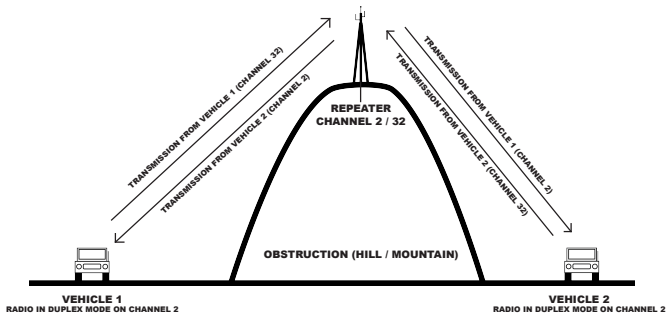
The following table displays the receive and transmit channels when using repeater stations:

Receive Channel	1	2	3	4	5*	6	7	8
Transmit Channel	31	32	33	34	35*	36	37	38

Receive Channel	41	42	43	44	45	46	47	48
Transmit Channel	71	72	73	74	75	76	77	78

*Channel 5/35 is emergency channel only

VISUAL REPRESENTATION OF DUPLEX



UHF CB CHANNEL GUIDELINES

RADIO COMMUNICATIONS (CITIZEN BAND RADIO STATIONS) CLASS Licence 2002

NOTE: The operation of your UHF radio in Australia and New Zealand is subject to conditions in the following Licences: In Australia, the ACMA Radio Communications (Citizen Band Radio Stations) and in New Zealand by MED the General User Radio Licence for Citizen Band Radio.

No Licence is required to own or operate this radio in Australia or New Zealand. The Radio Communications (Citizen Band Radio Stations) Class Licence 2002 contains the technical parameters, operating requirements, conditions of Licence and relevant standards for Citizen Band (CB) radios. CB radios must comply with the class Licence for their use to be authorised under the class Licence.

Licences for Repeater Channels 44 & 45 will not be Licenced for an additional 6 to 12 months to allow extra time for owners of Channel 5 Emergency repeaters to upgrade equipment to meet new standards.

Channels 1 to 8 and 41 to 48 – Repeater Channels. Enable duplex mode on your radio to use any available repeaters.

Channels 5 & 35 – Emergency use only. Monitored by volunteers, no general conversations are to take place on these channels.

Channels 22 & 23 – Data transmissions only (excluding packet).

Channels 31 to 38 and 71 to 78 – Repeater inputs. Do not use these channels for simplex transmissions as you will interfere with conversations on channels 1 to 8 and 41 to 48.

The Australian Government legislated that channels 5 & 35 on the UHF CB Band are reserved for emergency use only.

If you do find you are interfering with another persons conversation, just select another channel.

IMPORTANT CHANNEL INFORMATION

A list of currently authorised channels can be obtained from the ACMA website in Australia and the MED website in New Zealand.

Please note the following channel guidelines:

- Channels 01-08 (and 31-38), and Channels 41-48 (and 71-78) are repeater channels.
- Channels 05 and 35 are emergency channels, do not use these unless it is an emergency.
- Channel 11 is a calling channel.
- Channels 22 and 23 are for telemetry and telecommand applications (Data Only).
- Channel 40 - road channel (Australia).
- Channels 61, 62 and 63 are reserved for future use and TX is inhibited on these channels.

UHF CB CHANNELS AND FREQUENCIES

UHF CHANNEL FREQUENCY TABLE

CH#	FREQ.	CH #	FREQ.	CH#	FREQ.	CH #	FREQ.
1	476.425	21	476.925	41	476.4375	61	
2	476.450	22	Data Only	42	476.4625	62	Reserved
3	476.475	23	Data Only	43	476.4875	63	Reserved
4	476.500	24	477.000	44	476.5125	64	Reserved 477.0125
5	476.525	25	477.025	45	476.5375	65	477.0375
6	476.550	26	477.050	46	476.5625	66	477.0625
7	476.575	27	477.075	47	476.5875	67	477.0875
8	476.600	28	477.100	48	476.6125	68	477.1125
9	476.625	29	477.125	49	476.6375	69	477.1375
10	476.650	30	477.150	50	476.6625	70	477.1625
11	476.675	31	477.175	51	476.6875	71	477.1875
12	476.700	32	477.200	52	476.7125	72	477.2125
13	476.725	33	477.225	53	476.7375	73	477.2375
14	476.750	34	477.250	54	476.7625	74	477.2625
15	476.775	35	477.275	55	476.7875	75	477.2875
16	476.800	36	477.300	56	476.8125	76	477.3125
17	476.825	37	477.325	57	476.8375	77	477.3375
18	476.850	38	477.350	58	476.8625	78	477.3625
19	476.875	39	477.375	59	476.8875	79	477.3875
20	476.900	40	477.400	60	476.9125	80	477.4125

UHF CB CHANNELS AND FREQUENCIES (continued)

CTCSS TONE TABLE (Codes 01 -> 38)

CODE	FREQ. (Hz)	CODE	FREQ. (Hz)
0F	OFF	20	131.8
1	67.0	21	136.5
2	71.9	22	141.3
3	74.4	23	146.2
4	77.0	24	151.4
5	79.7	25	156.7
6	82.5	26	162.2
7	85.4	27	167.9
8	88.5	28	173.8
9	91.5	29	179.9
10	94.8	30	186.2
11	97.4	31	192.8
12	100.0	32	203.5
13	103.5	33	210.7
14	107.2	34	218.1
15	110.9	35	225.7
16	114.8	36	233.6
17	118.8	37	241.8
18	123.0	38	250.3
19	127.3		

UHF CB CHANNELS AND FREQUENCIES (continued)

DCS CODE TABLE

CODE	DCS CODE (OCTAL)	CODE	DCS CODE (OCTAL)
39	022	65	152
40	025	66	155
41	026	67	156
42	031	68	162
43	032	69	165
44	036	70	172
45	043	71	174
46	047	72	205
47	051	73	212
48	053	74	223
49	054	75	225
50	065	76	226
51	071	77	243
52	072	78	244
53	073	79	245
54	074	80	246
55	114	81	251
56	115	82	252
57	116	83	255
58	122	84	261
59	125	85	263
60	131	86	265
61	132	87	266
62	134	88	271
63	143	89	274
64	145	90	306

TECHNICAL ASSISTANCE

If you need assistance setting up or using your AERPRO product now or in the future, call Aerpro Support. Australia.

TEL: 03 – 8587 8898

FAX: 03 – 8587 8866

Mon-Fri 9am – 5pm AEST

Email: service@tdj.com.au

Please retain this user guide for future reference.

If you would like to download a digital copy of this manual, or other Aerpro manuals/software, please visit the Aerpro.com website and click on 'Firmware & Manuals' or search for the product model number for more information, accessories and products.

This manual is considered correct at time of printing but is subject to change. For latest manuals and updates refer to the website.

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