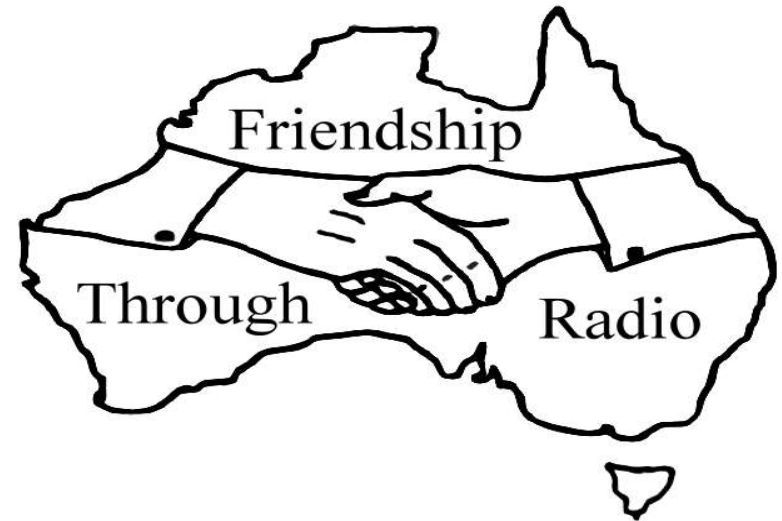


QSL Card

TO _____	HANDLE _____
TIME _____	DATE ____/____/____
CHANNEL _____	MODE _____
YOUR READABILITY ____	STRENGTH _____
MY RIG IS _____	
INTO _____	ANTENNA _____
THANKS FOR THE QSO	
REMARKS:	

*BASIC  
OPERATING  
PROCEDURE*



compiled and produced  
by the members of the  
Victor Radio Club

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CB Radio operates on two different bands; the HF 27 MHz and the UHF 477 MHz band. The 27 MHz band has two modes of transmission; AM and SSB.

An AM set is fairly easy to operate. After installing the radio and antenna and choosing a channel, making sure no-one is talking, push the mike button and speak clearly into the mike. Do not shout. Hold the mike about six centimetres from the mouth and angle the microphone so you are not speaking directly into the grill. AM operators should not use above channel 14 as these channels are for SSB.

As the PTT (Push To Talk) button switches the radio from receive to transmit your receiver is disabled and you cannot hear other people transmitting. It is therefore, useless to try to interrupt another person during their transmission. CB uses a Simplex channel system where only one person can talk at a time, whereas a telephone use a Duplex system where both people can talk at once.

Sometimes interstate stations can be heard. These skip signals can fade in and out as atmospheric conditions in the Ionosphere change. Skip is most common on SSB. Very rarely will skip be heard from stations closer than 300 km, as signals don't tend to go straight up in the air and be deflected back within 300 km radius. Just because you can hear a distant skip station clearly, it does not mean that they can hear you as well.

SSB signals are very narrow and must be accurately tuned to receive an incoming signal. For this reason SSB radios are a little more difficult to operate. The basic operating procedure is identical to AM, except a Clarifier is used to fine tune the incoming signal. AM output power is measured in watts [RMS] and SSB is measured in peak envelope power [PEP].

## COMMON TERMS AND DEFINITIONS

**SSB** : Single Side Band. A type of transmission which employs only a portion of the full AM signal and usually has better coverage than AM.

**SWL** : Short Wave Listener. Person who listens to shortwave [HF] transmissions.

**SWR** : Standing Wave Ratio, [technically should be VSWR- Voltage Standing Wave Ratio]. The ratio between current which flows along a transmission line [including antenna] and that which is returned [reflected] to the transmitter.

**SWR Meter** : A meter used to measure the amount of reflected current on a transmission line. Used to tune antennas and feed line for frequency and impedance.

**Transceiver** : A transmitter and receiver combined into one unit with a switch [usually a PTT] between them.

**TVI** : Television Interference.

**Tx** : Abbreviation for Transmit.

**UHF** : Ultra High Frequency. The portion of the radio spectrum between 300 MHz and 3000 MHz.

**USB** : Upper Side Band, see SSB.

**Vertical Polarisation** : Antenna radiation pattern which relies on a vertical driven element. Most omni-directional antennae are vertical.

**Wavelength** : The length of a radio wave at a certain frequency.

At 27 Mhz it is about 11 metres and at 477 MHz it is about 62 centimetres.

**Whip** : A mobile antenna.

**WIA** : Wireless Institute of Australia. National organisation of Amateur radio operators.

**Vintage** : Slang for age.

**10-4** : OK or Affirmative.

**10-9** : Please repeat message.

**10-36** : What is the time?

## COMMON TERMS AND DEFINITIONS

**QSL** : Morse Code abbreviation for written acknowledgement of signal.

**QSL Card** : Postcard used to acknowledge receipt of signal.

**QSO** : Morse Code abbreviation for having a conversation.

**QTH** : Morse Code abbreviation for location.

**Radio Operator** : A person who operates a transmitter.

**Radio Spectrum** : The portion of the overall spectrum which is used for RF.

**Radio Station** : The location of a transmitter or receiver that is operational.

**Repeater** : A device which can simultaneously receive and transmit a signal.

**RF** : Radio Frequency. Any electromagnetic radiation between 3 kHz and 300,000 MHz.

**RI** : Radio Inspector. A departmental field officer to enforce the rules and regulations of the Spectrum Management Agency.

**Ringo** : Slang expression for an antenna which uses a ring inductor instead of horizontal radials.

**Roger** : Slang expression to denote Affirmative, OK.

**Rx** : Abbreviation for receive.

**Skip** : Slang for ionospheric refraction.. HF signals which skip or bounce off the ionosphere and carry much further than normal.

UHF CB operates between 476.425 and 477.400 MHz using frequency modulation. Frequency spacings are 25 KHz. compared to 10 kHz on 27 MHz. FM uses more of the radio spectrum, however, the transmitted signal is superior.

While 27 Mhz signals can be skipped thousands of kilometres, UHF signals are generally more local. Some UHF operators have experienced signal trips of hundreds of kilometres through temperature ducting that occurs when a layer of hot air is trapped under a layer of cold air.

This is more common in the summer. UHF operators have the advantage of repeaters, which are mounted on a hill, receiving signals on one frequency and retransmitting them on another. A weak clear signal is retransmitted as a strong signal, effectively trebling its range.

Installation is very similar for both modes. More care is needed with 27 MHz to eliminate ignition noise in vehicle operation. Mobile 27 MHz CB antennas use the vehicle as part of the antenna and a good earth connection between the outer braid and the vehicle is essential. There should be full continuity between each end of the cable, but not between the inner and outer core of the cable. This can be checked with a Multi-meter.

Base antennas for 27 MHz and UHF CB usually come complete and require no connection to a separate earth, though it helps if the mast is connected directly to the ground in case of lightning strike and to bleed off static build up.

Base antennas should be installed as high as possible for maximum all round coverage. Masts should be as strong as possible to avoid flexing in high winds. This is very important with UHF. Masts can be guyed using steel wire, however, egg insulators should be fitted every two metres to prevent the guy wire becoming part of the antenna, causing TVI. Plugs at the base of either 27 MHz or UHF antennas should be well waterproofed at the time of installation and a single loop of coax formed immediately below the antenna to take the strain off the plug or socket. Coax can be fixed directly to the mast with insulation tape as stand-offs are not required.

## Antenna Tuning and Adjustment of 27 MHz Mobile Whip Antennas

(supplied by R.F. Hancock VK5AFZ)

The 27 MHz mobile whip antenna you have just bought from the local electronics shop is, in most cases NOT ready to use immediately by connecting it to your CB transceiver with a length of 50 Ohm coax. It will require some checking and probably some adjustment before it is capable of efficiently radiating the signals from the transceiver. The device needed to do this is called an SWR meter, which is inserted between the transmit output terminal of the transceiver and the end of the coaxial cable lead to the antenna.

The meter usually has a sensitivity adjustment knob and a Forward/Reflected switch, and a scale marked with numbers from 1 on the left of the scale, through 3 in the centre and "Hi" or "Infinity" on the right hand end of the scale. To measure the SWR of your antenna/coax system, set the transceiver to channel 20 AM and key the transmit button, with the SWR meter switched to Forward. Adjust the Sensitivity knob so that the needle reads full scale, i.e., the maximum reading on the scale. Then switch the meter to read Reflected power.

Depending on the properties of the antenna and coax combination, you should see the needle drop to a lower reading. Ideally the reflected power reading should be nearly zero, for an SWR reading of 1:1, but this is highly unlikely unless the antenna has been pre adjusted. Most probably you will obtain a reading of 2 or more, which shows that the antenna/coax system is not exactly matched to the required value of 50 Ohms.

The next step is to switch to Channel 1 AM and repeat the SWR measurement, and then measure the SWR again on channel 40 AM. You will now have three SWR readings, which we will call **LOW**, **MID** and **HIGH**. If all 3 are near the maximum scale reading, there is possibly some fault in the antenna or coax connections which should be rectified before proceeding further.

Hopefully this will not be the case, and you will have one of three situations:

## COMMON TERMS AND DEFINITIONS

**Handle** : Slang expression for an operators name.

**HF** : High Frequency. The portion of the radio spectrum between 0.3 MHz and 30 MHz, including the CB allocation.

**Horizontal Polarization** : Antenna radiation pattern which relies on a horizontal driven element instead of a vertical antenna. Advantages over vertical usually revolve around the fact that most atmospheric and man-made interference is vertically polarised. Disadvantages include shorter transmission range.

**kHz** : kilohertz. Equals one thousand Hertz, a measure which has a periodic cycle once every second.

**LAOCP** : Limited Amateur Operators Certificate of Proficiency, often called a "Limited Call".

**Linear** : Illegal for CB, an amplifier to increase a radio's output used by Amateur's A bi-linear amplifier also includes a receiver pre-amplifier to increase the strength of the received signal.

**Little Wheels** : Slang expression for passenger car.

**LSB** : Lower Side Band. see SSB.

**MHz** : megahertz, one million Hertz [one million cycles per second].

**Mobile** : Operating a radio system from a vehicle.

**NAOCP** : Novice Amateur Operator's Certificate of Proficiency, usually called a "Novice".

**Output Power** : The amount of power a radio transmits, measured before it enters the coaxial cable.

**Over** : Accepted radio slang for the period of time the radio is transmitting and the operator is talking.

**Personal** : Slang for operators name.

**Pirates** : Slang for unlicensed operator who operates outside the legal frequencies.

**PLL** : Phase Lock Loop. A simplified system of creating a number of channels from two or three crystals instead of having a pair of crystals, [one for transmit, the other for receive] for each channel.

**Portable** : Operating a radio station which can be easily moved about but not via a vehicle - usually relates to a hand held, [a walkie-talkie].

## COMMON TERMS AND DEFINITIONS

- PTT** : Push to Talk. The button on a receiver used to switch the radio from receive to transmit. Usually found on the microphone.
- Coax** : Abbreviation for coaxial cable. Shielded cable suitable for transmission purposes. CBers generally use cables marked RG-58, RG-8 or RG-213, being a specification denoting 50/52 ohm cable.
- Co-linear** : A type of antenna usually used on VHF or UHF frequencies. It is manufactured using a number lengths of coax cable cut to half wave length for one frequency. Most omni-directional UHF CB base antennas use this principle.
- CW** : Continuous Wave. Used for Morse Code transmissions.
- CQ** : Morse Code abbreviation for "seek you " and is used in the context of one station putting a general call for any other station.
- dB** : Abbreviation for decibels, a measure taken off a non fixed base. The proper use of dB entails the relationship to a fixed base, eg; dBd relates to the dB gain over a dipole antenna, dBi relates to the gain above an isotropic radiator- the base point of dBd usually relates to 2.14 dBi.
- DC** : Direct Current. A wet or dry battery stores DC.
- DoC** : Department of Communications, the Government Department controlling radio usage, now called SPECTRUM MANAGEMENT AGENCY.
- Double Bubble** : Slang for highway police car with twin flashing lights. Also called a Single Bubble.
- DX** : Morse Code for long distance [abbreviated].
- ERP** : Effective Radiated Power, The actual output power from the antenna having taken cable losses and antenna gain into account.
- FM** : Frequency Modulation. A type of modulation as used on the FM broadcast band [though not necessarily stereo]. Used on the 477 UHF band. Usually credited with being the clearest form of transmission available. Can also encompass Phase Modulation.
- Ground Plane** : Type of antenna which has a vertical radiator and a number of horizontal radials. These antenna should be mounted quite high above either the ground or a house roof as it relies on an image of the antenna being reflected underneath the vertical radiator.

## Antenna Tuning cont ...

- (a) The SWR will increase from LOW (ch 1) to HIGH (ch 40)
- (b) The SWR will decrease from LOW (ch 1) to HIGH (ch 40)
- (c) The SWR decreases from LOW (ch 1) to MID (ch 20), then increases from MID to HIGH (ch 40)

The interpretation of these is as follows:

- (a) Antenna is too long
- (b) Antenna is too short
- (c) Antenna is correct length

If the antenna requires adjustment, you may have to either lengthen or shorten the adjustable tip section (if one is fitted) in small increments (5 mm) and repeat the LOW - MID - HIGH SWR measurements until situation (c) above is achieved.

If there is no adjustable section and the antenna is too long, snip off 5 mm sections from the end with wire cutters and measure, until the correct length is obtained.

If it is too short, you will have to solder a short length (maybe 100 mm) of wire on the end and then begin trimming it off.

If the final SWR obtained for MID (ch 20) is 2.0 or less, and the LOW (ch 1) and HIGH (ch 40) readings are both higher values, your antenna system will be operating as well as it can. Mobile whip antennas are rarely 100 % efficient and you should NOT worry that your SWR isn't a "perfect" 1:1, as the antenna design probably cannot achieve this figure. The overall power losses in an antenna/coax system operating at 2:1 SWR are only about 3 % more than would occur in the perfectly matched situation. For example, at 27 MHz, an antenna fed with 5 metres of RG-58 coax with 5 watts input would radiate 4.560 Watts at 1:1 SWR, 4.456 Watts at 2:1 SWR, and 4.355 Watts at 3:1 SWR.

A person listening to the transmissions would be unable to detect any difference in these signals with their ears, or even with the receiver's S-meter. However your transceiver may begin to reduce its power output when it senses a high SWR at its output terminals. This is a design feature of the equipment and is meant to protect the output transistors from overloading because of incorrect impedance matching.

## Antenna Tuning cont ...

However, as commercial antennas are not always perfect, a 1:1 SWR is not always possible without matching networks.

Usually this only occurs at SWR's of 3:1 or greater. This is not to suggest that a base station antenna should be operated at 3:1 SWR with a long run of RG-58 cable - power losses increase more drastically in longer lengths of cable. In mobile installations the length of coax needed is usually less than 3 metres and the smaller RG-58 coax can be used as it is easier to route around the vehicle's body. Low loss RG-213 or similar cable should be used for base station installations with longer runs of transmission cable.

<u>CH 1</u>	<u>CH 20</u>	<u>CH 40</u>	<u>COMMENT</u>
1.4:1	1.1:1	1.4:1	Great - go for it.
1.2:1	1.6:1	2.0:1	Nearly there, trim 2-3 mm and recheck
2.1:1	1.6:1	2.0:1	Trimmed too much lengthen & retrim
3.0:1	1.8:1	3.5:1	Try a different location or antenna
MAX	MAX	MAX	WRONG. SEEK HELP.

## COMMON TERMS AND DEFINITIONS

**AC** : Alternating current , mains supply to houses is 240 volt AC.

**Amp** : Ampere, often written as A as in 3A [three amperes]. An SI unit of electric current. Current of less than 1A is usually written in mA [milliamps] eg;  
500 mA = 0.5 [A]amps.

**AM** : Amplitude Modulation, sometimes called Double Side Band or DSB. A type of modulation used on 27 MHz CB radios with SSB. As neither is compatible, suggested channel usage is that AM signals are contained below channel 14 and SSB is contained above channel 14. AM is generally easier to use but does not have the penetration and is more prone to interference from other stations and causes more TVI than SSB.

**Amateur** : A non professional radio operator who has to pass a test [AOCP; LAOCP; NAOCP]

**AOCP** : Amateur Operator's Certificate of Proficiency, the so-called " full ticket " ham licence. Allows the operator to use HF, VHF, UHF and higher frequencies on designated bands. Amateur licences are supposed to be for experimental radio.

**Base** : Operating a radio station from a fixed location, eg: a house.

**Beam** : A directional antenna, eg: a suburban TV antenna with one driven element and one or more parasitic elements. Often used for working skip and has been accused of causing TVI. Big

**Wheels** : Slang for semi-trailer.

**Breaker** : Term for person who wishes to enter or break into an on-air conversation.

**CBRS** : Citizen Band Radio Service, Operates on two bands; HF 27 MHz ,UHF 476 MHz.

**Channel** : A fixed radio frequency usually designated as a one or two digit number, eg channel 5 relates to either ; 27.065 MHz [HF]or, 476.525 MHz [UHF].

## HIGH FREQUENCY BAND PLAN

H F BAND [MHz]

<u>CHL</u>	<u>FREQUENCY</u>	<u>CH</u>	<u>FREQUENCY</u>
1	26.965	21	27.215
2	26.975	22	27.225
3	26.985	23	27.255
4	27.005	24	27.235
5	27.015	25	27.245
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.395
20	27.205	40	27.405

Emergency Channel 9 (AM, LSB, USB)  
AM Call Channel 11 (AM)  
LSB Call Channel 16 (LSB)

## THE PATHS OF RADIO WAVES

A radio signal broadcast from an aerial near the surface of the earth spreads outwards in growing hemispheres, gradually getting weaker the further it goes. Owing to the curve of the earth it will not directly reach to any great distance. This is called a ground wave, but fortunately, there exists, beginning at some 80 kilometres above the earth's surface an ionised region of atmosphere, known as the ionosphere, which reflects electromagnetic radiations back to earth so they bounce between the earth and the ionosphere. This phenomena is known as "skip"

The greater the number of bounces the more quickly the signal loses its strength. For radio transmission the atmosphere has two important regions, one at 85 to 130 kilometres called the "HEAVISEDE" or the "E" Layer, and the other at 220 to 480 kilometres called the "APPLETON" or the "F" layer, so called after the men who discovered them.

Both layers are formed by the action of the sun on the gases which form the outer atmosphere. The degree of ionisation of each part of the ionosphere varies with the daily rotation of the earth itself and the varied effects of the sun during the different seasons.

A signal may be bounced back to earth at quite different angles. This accounts for the fact that transmission and reception vary with the time of day and the time of year.

Some very high frequency waves, such as TV go right through the ionosphere and do not get bounced back. Their effective range is reduced to their ground wave, which usually means it is only the distance they travel in a straight line before being blocked by a hill or some other structure. Even where there are no obstacles the range is restricted by the curvature of the earth. TV and telephone transmitters are built at frequent intervals on the tops of hills or on tall masts to overcome this problem.

## 27 MHz Marine Frequencies

<u>Frequency</u>	<u>Use</u>
27.680	Commercial organisations. Calling and working ship to ship and ship to shore.
27.720	Professional fishing. Calling and working ship to ship and ship to shore.
27.820	Professional fishing. Calling ship to ship and ship to shore.
27.860	Distress, safety and calling, supplementary to 27.880.
27.880	Distress, safety and calling.
27.900	Non-Commercial organisations. Calling and working ship to shore.
27.910	Non-Commercial organisations. Calling and working ship to shore.
27.940	Non-Commercial organisations. Calling and working for club events,ship to shore and ship to ship.
27.960	Non-Commercial organisations. Calling and working,ship to ship.
27.980	Recognised rescue organisations, e.g. Surf rescue. Calling and working ship to ship and ship to shore.

## UHF REPEATER LOCATIONS IN SOUTH AUSTRALIA ...cont.

<u>LOCATION</u>	<u>CHANNEL</u>	<u>CALL SIGN</u>
Mt. Ive Homestead	7	UNO 07
Mt. Gore	7	YKP 07
Quarry Hill	7	CLR 07
The Bluff	7	MTG 07
Ulowdna Station	7	WIL 07
Pillawarta Hill	8	PTL 08
Mt. Beevor	8	MBV 08
Mt. Bryan	8	BRY 08
Mt. Arden	8	MTA 08

### R-S REPORTS [readability/strength]

Example: Your signal is coming in 5 by 9

#### Readability (5)

- 1 - Unreadable
- 2 - Barely readable
- 3 - Readable with difficulty
- 4 - Readable with little difficulty
- 5 - Perfectly readable

#### Signal Strength [S-meter reading] (9)

- 1 - Barely perceptible
- 2 - Very weak signal
- 3 - Weak signal
- 4 - Fair signal
- 5 - Fairly good signal
- 6 - Good signal
- 7 - Moderately strong signal
- 8 - Strong signal
- 9 - Extremely strong signal

**UHF REPEATER LOCATIONS IN SOUTH AUSTRALIA.**

<u>LOCATION</u>	<u>CHANNEL</u>	<u>CALL SIGN</u>
Tieyon Station	1	TYN 01
Mt. Rose	1	MTR 01
Mt. Jane	1	MJN 01
Price Hill	1	PRC 01
Coppudurba Hill	1	CDA 01
Paracombe	1	PAR 01
Myponga Hill	2	MYP 02
Mt. Nield	2	CLV 02
Black Rock Peak	2	BRP 02
Bordertown	2	BOR 02
Yarna Station	3	UNO 03
Patawarta Hill	3	BLN 03
Alindee Hill	3	ALN 03
Port Elliot	3	KBY 03
Parndana	4	PKI 04
The Bluff	4	BLF 04
Mt. Rufus	4	BAR 04
Lucindale	4	NAR 04
Chitanilga Hill	4	KOK 04
Upper Sturt	5	ADL 05
Mt. Mcintyre	5	MTG 05
Eudunda	5	EUD 05
Beetaloo Valley	5	BEE 05
Mintabie Wells	5	MNT 05
Renmark	6	REN 06
Barunga Ranges	6	SNO 06
Bramfield Hill	6	LST 06
Coonalpyn Hill	6	TIN 06
Wilgena Hill	6	WLG 06
Mt. Aleck	6	WLP 06
Nonning Station	6	NON 06
Western River Park	6	WKI 06
Mutooroo Station	7	MUT 07

**ULTRA HIGH FREQUENCY BAND PLAN**

<u>UHF BAND [MHz]</u>			
<u>Ch</u>	<u>Frequency</u>	<u>Ch</u>	<u>Frequency</u>
1	476.425	21	476.925
2	476.450	22	476.950
3	476.475	23	476.750
4	476.500	24	477.000
5	476.525	25	477.025
6	476.550	26	477.050
7	476.575	27	477.075
8	476.600	28	477.100
9	476.625	29	477.125
10	476.650	30	477.150
11	476.675	31	477.175
12	476.700	32	477.200
13	476.725	33	477.225
14	476.750	34	477.250
15	476.775	35	477.275
16	476.800	36	477.300
17	476.825	37	477.325
18	476.850	38	477.350
19	476.875	39	477.375
20	46.900	40	477.400

Emergency channels 5/35. Call channel 11

Channels 1 to 8 are repeater channels that are retransmitted on channels 31 to 38 respectively.

No other operating frequencies may be fitted in equipment for use in the CBRS Service.

**NOTE:** Channels 5 and 35 (repeater channel) are legally designated as emergency channels. The use of these channels for non-emergency purposes is an offence under the Licensing and General Regulations and may attract a fine of \$1,000 maximum. The channels are to be used only when a situation of extreme emergency exists and immediate attention is required. Messages of a non-urgent nature should be confined to other channels.

Channel 5 is designated as the primary emergency channel.

**VHF Marine Frequencies [MHz]****PHONETIC ALPHABET**

<u>Channel</u>	<u>Ship Frequency</u>	<u>Shore Frequency</u>
1	156.050	160.650
2	156.100	160.700
3	156.150	160.750
4	156.200	160.800
5	156.250	160.850
6	156.300	156.300
7	156.350	160.950
8	156.400	156.400
9	156.450	156.450
10	156.500	156.500
11	156.550	156.550
12	156.600	156.600
13	156.650	156.650
14	156.700	156.700
15	156.750	156.750
16	156.800	156.800
17	156.850	156.850
18	156.900	161.500
19	156.950	161.550
20	157.000	161.600
21	157.050	161.650
22	157.100	161.700
23	157.150	161.750
24	157.200	161.800
25	157.250	161.850
26	157.300	161.900
27	157.350	161.950
28	157.500	162.000
60	156.025	160.625
61	156.075	160.675
62	156.125	160.725

"A" ALPHA	"N" NOVEMBER
"B" BRAVO	"O" OSCAR
"C" CHARLIE	"P" PAPA
"D" DELTA	"Q" QUEBEC
"E" ECHO	"R" ROMEO
"F" FOXTROT	"S" SIERRA
"G" GOLF	"T" TANGO
"H" HOTEL	"U" UNIFORM
"I" INDIA	"V" VICTOR
"J" JULIET	"W" WHISKEY
"K" KILO	"X" X-RAY
"L" LIMA	"Y" YANKEE
"M" MIKE	"Z" ZULU

**INTERNATIONAL MORSE CODE**

<u>Letters</u>		
a . -	j . - - -	s . . . .
b - . . .	k - . -	t -
c - . - .	l . - . .	u . . -
d - . .	m - -	v . . . -
e .	n - .	w . - -
f . . - .	o - - -	x - . . -
g - - .	p . - - .	y - . - -
h . . . .	q - - . -	z - - . .
i . .	r . -	
<u>Numerals</u>		
1 . - - - -	4 . . . . -	8 - - - . .
2 . . - - -	5 . . . . .	9 - - - - .
3 . . . - -	6 - . . . .	0 - - - - -
	7 - - . . .	

...continued

<u>Channel</u>	<u>Ship Frequency</u>	<u>Shore Frequency</u>
63	156.175	160.775
64	156.225	160.825
65	156.275	160.875
66	156.325	160.925
67	156.375	156.375
68	156.425	156.425
69	156.475	156.475
70	156.525	156.525
71	156.575	156.575
72	156.625	156.625
73	156.675	156.675
74	156.725	156.725
77	156.875	156.875
78	156.925	161.525
79	156.975	161.575
80	157.025	161.625
81	157.075	161.675
82	157.125	161.725
83	157.175	161.775
84	157.225	161.825
85	157.275	161.875
86	157.325	161.925
87	157.375	161.975
88	157.425	162.025

Channel	Use
6	SAR, Port Operations, Commercial
8	Port Operations, Commercial
9-14	Port Operations
16	Distress and Safety
20	Port Operations
23-28	Public Correspondence [Sea phone]
67	Distress and Safety
68	Port Operations
71	Professional Fishing
72	Yachts, Commercial, Professional Fishing, Port Operations
73	Non-Commercial, Yachts, etc
74	Commercial
77	Yachts, Professional Fishing
78	Commercial
79	Port Operations
87	Public Correspondence [Seaphone]

### **UNIVERSAL TIME or GMT [Greenwich Mean Time]**

Many short wave listeners and budding Amateur operators listening to local and overseas broadcasts may be confused by hearing time given in UNIVERSAL TIME or GMT [Greenwich Mean Time].

This is to save confusion when converting local time to time in other parts of the world.

On the next page (page 12) is a Time conversion chart for local time to Universal time. This only needs the filling in of the minutes for an accurate time. Remember to add one hour for daylight saving. For those who are not familiar with the 24 hour clock this is also included. Remember to give the time in four numerals:

eg. 0900 hrs is zero nine zero zero hundred hours or 9:00 am

### **INTERNATIONAL Q SIGNALS**

QRA	.....	Name or handle
QRH	.....	Frequency varies
QRL	.....	Busy
QRM	.....	Interference from other stations
QRN	.....	Natural interference, static
QRO	.....	Increase transmitter power
QRP	.....	Decrease transmitter power
QRQ	.....	Transmit faster
QRS	.....	Transmit more slowly
QRT	.....	Stop transmitting
QRU	.....	I have nothing for you
QRV	.....	I am ready
QRX	.....	Call back later, stand by
QRZ	.....	Who is calling me?
QSA	.....	Readability
QSB	.....	Fading signal
QSL	.....	Acknowledge receipt
QSM	.....	Repeat last message
QSP	.....	I will relay
QSO	.....	Communications with, contact
QSY	.....	Change frequency
QSZ	.....	Send each word more than once
QTH	.....	Location
QTR	.....	Correct time is...

[9] RAA: If asked to call the RAA, the caller MUST give their;  
 Membership number,  
 Full name and address.  
 The RAA will not attend unless these details are supplied.

[10] Remember to keep calm at all times as your effort may save lives!

[11] If you are asked to telephone the caller's home, ask for the caller's full name and address, car registration number, full name and address of the person you have been asked to call and the reason they require assistance. If the caller refuses to give the required information, you could refuse assistance.

Many dollars can be wasted on HOAX calls.  
 Genuine callers for assistance would not refuse to supply the details needed.

<b>UNIVERSAL TIME or GMT [Greenwich Mean Time]</b>			
<b>2400 hr</b>	<b>Standard hrs [Central]</b>	<b>GMT [24 hr]</b>	<b>Standard hrs Greenwich Mean Time</b>
0100	1:00 am	0330	3:30 pm
0200	2:00	0430	4:30
0300	3:00	0530	5:30
0400	4:00	0630	6:30
0500	5:00	0730	7:30
0600	6:00	0830	8:30
0700	7:00	0930	9:30
0800	8:00	1030	10:30
0900	9:00	1130	11:30
1000	10:00	1230	12:30 pm
1100	11:00	1330	1:30
1200	12:00 noon	1430	2:30
1300	1:00 pm	1530	3:30
1400	2:00	1630	4:30
1500	3:00	1730	5:30
1600	4:00	1830	6:30
1700	5:00	1930	7:30
1800	6:00	2030	8:30
1900	7:00	2130	9:30
2000	8:00	2230	10:30
2100	9:00	2330	11:30
2200	10:00	2430	12:30 am
2300	11:00	0130	1:30
2400	12:00	0230	2:30

We are ahead of Greenwich Mean Time, therefore our 1:00 am [CST] today is 3:30 pm yesterday [GMT]

## **EMERGENCY OPERATION**

Are YOU prepared to assist in the above? EVERY radio operator should be prepared to assist when requested and should be aware of the correct procedure which will ensure maximum assistance with minimum loss.

### **TO OBTAIN ASSISTANCE.**

[THIS RELATES TO CB RADIO CHANNELS]

On the emergency channel say;

" EMERGENCY, Can anyone assist? " If there is no reply, switch around the channels until you find an operator in conversation.

Between overs say;

" BREAKER , Emergency. "

On receiving acknowledgement ask the operator to go to channel 9 [on a 40 channel set, 5 on a 18 channel set].

This is a designated emergency frequency, and you can usually operate without interruption.

Give your call sign, your Government call sign [where applicable], your full name, address and your present location.

State the nature of your emergency and the type of assistance you require. If it is a vehicle accident then the police will have to be notified. Be prepared to give your vehicle registration number.

### **ON YOUR PERSON YOU SHOULD CARRY;**

- [1] YOUR NAME AND ADDRESS**
- [2] DRIVER'S LICENCE**
- [3] RAA CARD**
- [4] AMBULANCE CARD**
- [5] THE NAME, ADDRESS AND TELEPHONE NUMBERS OF NEXT OF KIN.**

## **TO ASSIST IN AN EMERGENCY.**

[THIS RELATES TO CB RADIO CHANNELS]

- [1]** Have close to your radio a pen, paper and map of your locality, as well as a list of local emergency numbers;  
POLICE : DOCTORS : RAA : AMBULANCE : FIRE
- [2]** If you receive a call on the call channel, Ask the caller to go to the emergency channel,  
[ch 9 on a 40, ch 5 on a 18 ch set 27 MHz;  
ch 5/35 on UHF CB]
- [3]** Request from the caller;
  - [a] The location of the incident as close as possible to enable assistance as soon as possible to the correct location.
  - [b] The type of assistance required.
- [4]** In the case of a vehicle accident;  
Speak clearly and calmly to reassure the caller that you can assist. Ask the caller to supply;
  - [a]** Caller's full name and address
  - [b]** Registration number of the vehicle[s] involved
  - [c]** Name and address of vehicle[s]' owner[s].

These details are required by the police, so refusal to supply can result in refusal to assist. Remember the word HOAX. These do occur and cause embarrassment as well as waste time and money of the emergency services as well as your time and money.

- [5]** Ascertain the number of people involved and if possible the extent of injuries so that adequate assistance can be supplied.
- [6] TELEPHONE THE POLICE, AND GIVE THEM THE INFORMATION YOU HAVE RECEIVED.**  
They will deal with the situation.
- [7]** Standby to relay messages or give other information as required.
- [8] DO NOT ATTEND THE LOCATION.**  
**You are of more assistance standing by the radio.**