

# Phonetic Alphabet

The phonetic alphabet replaces letters with code words. This alphabet is used on the radio to spell out words to ensure that voice communications are received accurately. Certain letters sound similar and can often be confused. An international system like this is essential for clear communications.

<b>A – Alpha</b>	<b>J – Juliet</b>	<b>S – Sierra</b>
<b>B – Bravo</b>	<b>K – Kilo</b>	<b>T – Tango</b>
<b>C – Charlie</b>	<b>L – Lima</b>	<b>U – Uniform</b>
<b>D – Delta</b>	<b>M – Mike</b>	<b>V – Victor</b>
<b>E – Echo</b>	<b>N – November</b>	<b>W – Whiskey</b>
<b>F – Foxtrot</b>	<b>O – Oscar</b>	<b>X – X-ray</b>
<b>G – Golf</b>	<b>P – Papa</b>	<b>Y – Yankee</b>
<b>H – Hotel</b>	<b>Q – Quebec</b>	<b>Z – Zulu</b>
<b>I – India</b>	<b>R – Romeo</b>	

## Try these activities

1. Decode these place names.

Sierra, Yankee, Delta, November, Echo, Yankee  
Bravo, Alpha, Tango, Hotel, Uniform, Romeo, Sierra, Tango  
Papa, Echo, Romeo, Tango, Hotel  
Alpha, Delta, Echo, Lima, Alpha, India, Delta, Echo  
Delta, Echo, November, India, Lima, India, Quebec, Uniform, India, November

2. Spell out your name using phonetic alphabet words.

3. Listen to Air Traffic Control at "Live ATC" <https://www.liveatc.net>  
Enter YSBK (Sydney - Bankstown) and choose the "tower" frequency or click on another airport overseas.  
Listen for the use of the phonetics when aircraft are called.  
Write down the registrations of the aircraft that you hear.

4. Practise spelling out words using the phonetic alphabet whenever you can so that you are able to learn the correct code names.



## Amateur Radio Callsigns

CALLSIGN NUMERAL	STATE/TERRITORY
0	Antarctica
1	Australia Capital Territory
2	New South Wales
3	Victoria
4	Queensland
5	South Australia
6	Western Australia
7	Tasmania
8	Northern Territory
9	Australian External Territories

All amateur radio stations worldwide are registered with their countries' governments.

Callsigns are allocated to amateur radio operators to identify their stations.

Most Australian amateur radio callsigns (except for special events) start with the VK followed by a number for the State and then 1 to 4 letters eg VK2GGZ.

Other countries' callsigns start with different letters such as ZL for New Zealand.

A list of international amateur radio prefixes can be found here

<https://www.arrrl.org/international-call-sign-series>

Can you identify which country these radio amateurs are from?

Callsign	Country
F4EGX	
PA5UL	
G3WNS	
OZ2FES	
SU1ME	
DW9CBQ	
SA6BBC	
ZL2TIN	
WA5DM	
VE3FCQ	

### QRZ.com

<https://www.qrz.com>

This is a website for licensed radio amateurs where they can enter their contact details, photos of their stations and reports of their activities. It contains many technical resources and allows members to discuss issues related to amateur radio.

It takes its name from the Q code of QRZ, which means 'who is calling me?'



## Q Codes

The Q code arose out of the need to communicate quickly when using Morse code, but it is still common amongst amateur radio operators. It can be used to ask a question or give an answer. For example "QSL?" is asking to confirm that the message has been received. When the message is received "QSL" is then sent back. As all the meanings are defined there is no misunderstanding. Here is a list of some common Q codes.

Practise using Q codes when you communicate with friends using CB radios.

### QSL cards

QSL cards are swapped between radio amateurs to confirm that they have made radio contact with each other.

Q CODE	MEANING
QRT? QRT	Shall I stop sending? Stop Sending
QRU? QRU	Do you have any messages for me? I have no messages for you
QRV? QRV	Are you ready to receive? I am ready to receive
QRX? QRX	Shall I stand by? Please standby
QRZ? QRZ	Who is calling me? You are being called by.....
QSL? QSL	Can you acknowledge receipt? I acknowledge receipt
QSO? QSO	Can you communicate with....? I can communicate with....
QSP? QSP	Can you relay a message? I can relay a message
QSY? QSY	Shall I change to another frequency? Change to another frequency
QTH? QTH	What is your location? My location is.....

H4PPY

I am pleased to confirm QSO with \_\_\_\_\_

Date	Time (UTC)	Frequency	Mode	Signal Report	Notes

QSL Please/Thanks  
Name & Address                      73 \_\_\_\_\_

1. Make up a callsign like GU1DE, PHONE, ST3M, BE5T, SH4PE or TA8LE.
2. Design a QSL card like this one for your callsign.

### Old Telegraph Codes

"73" is an old telegraph code for "best regards"  
 "CQ" is a general call to all stations seeking a radio contact  
 "DX" means a far distant radio station

### QRN & QRM

**QRN** (Natural noise) - static from lightning which makes it difficult to hear weak signals

**QRM** (Manmade noise) - interference from other radio stations or electrical equipment

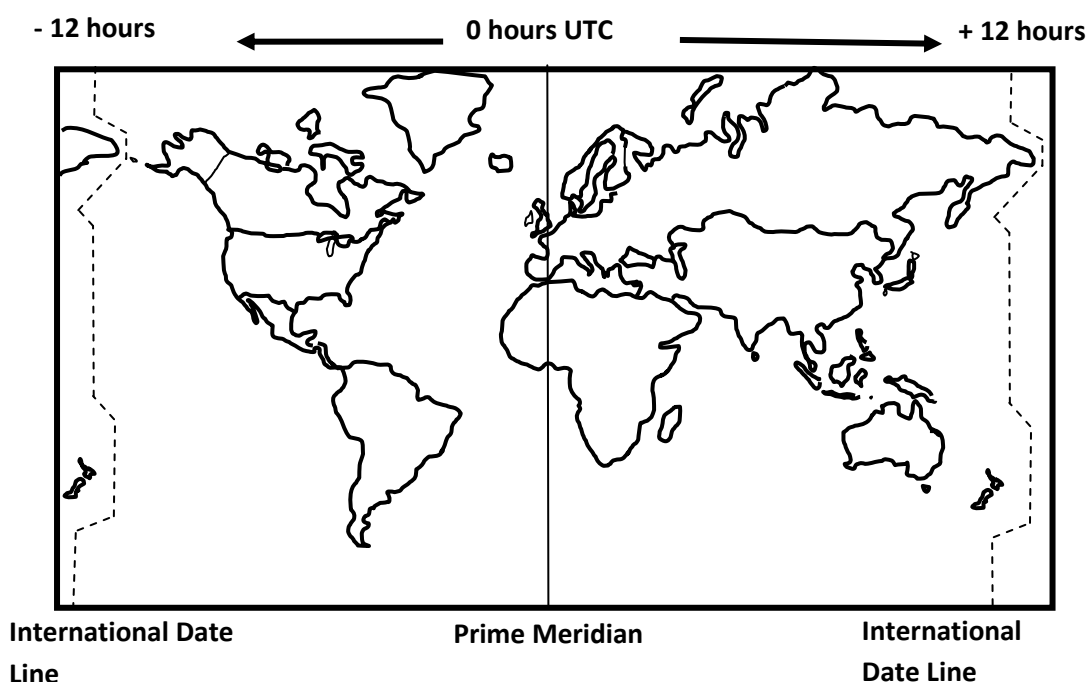


# International Time

As radio signals can travel around the world, the 24-hour clock is used instead of 'am' or 'pm' to avoid confusion. For times after midday add 12 hours onto the 'pm' time. eg 3 pm is 1500.

Coordinated Universal Time (UTC) is based on the local standard time zone (GMT) of the 0° longitude which runs through Greenwich, England. The UTC time is the same worldwide regardless of the time zone or daylight saving and is used for radio communications.

When on Standard Time Queensland, NSW, Victoria and Tasmania are 10 hours ahead of UTC. South Australia is 9:30 ahead and Western Australia is 8 hours ahead of UTC. One hour needs to be added for those states that change to Daylight Saving Time in summer.



Complete the times in the table below:

LOCAL STANDARD TIME	LOCATION (STATE)	WORKING	UTC
1200	NSW	1200-1000 =	0200
1800	NSW		
1545	Victoria		
0925	Tasmania		
0815	Queensland		
1700	WA		
0510	WA		
1930	SA		
0245	SA		
	Your time zone		2100
	Your time zone		1530
	Your time zone		0515



# Emergency Messages

Emergency messages are often transmitted by radio.

**MAYDAY MAYDAY MAYDAY** is the distress call when there is grave and imminent danger to lives or property. If you ever hear such a call, listen to see if it is being responded to. If it is not, then note all the details and pass them onto the authorities immediately and provide any possible assistance.

**PAN PAN PAN PAN PAN PAN** is used when the situation is urgent and assistance is required but lives or property are not in grave or imminent danger.

**NEVER** practice these calls on an actual radio frequency even if you think that no one can receive your radio signals.

- For the following state whether you would use a MAYDAY or a PAN PAN call?

EMERGENCY SITUATION	RADIO CALL
Broken down car in remote area	
Sinking boat at sea	
Broken leg while hiking	
Lost in the bush	
Engine stops in a light aircraft	

SOS is the Morse code emergency call

••• — — — •••

Although Morse code (often referred to as CW) is not commonly used these days it is a worthwhile skill to learn as it can be simply transmitted by radio, sound or a flashing light. Morse code is often used for low power radio transmissions as it is more easily received than speech signals particularly when conditions are poor.

- To learn Morse code say the dots as **dit** and the dashes as **dah**. Start by learning 2 letters and then add other letters one at a time. Practise by saying the Morse letters to yourself as you see car number plates or street signs. You can also tap out the code with your finger on a table.

A	B	C	D	E	F	G	H	I
•—	—•••	—•••	—••	•	••••	—••	••••	••
J	K	L	M	N	O	P	Q	R
•••—	—••	••••	—••	—•	—•••	••••	—•••	•••
S	T	U	V	W	X	Y	Z	
•••	—	•••	••••	•••—	—•••	—•••	—•••	

- Can you decode this message? Say it in dits & dahs as you translate it.

•• —• • • —•• •••• •••• •••• —• —••• —••• •••• •••• ••••  
 •••• •••• —••• •••• •••• •••• •••• •••• •••• •••• •••• ••••  
 —•• •••• •••• •••• •••• •••• •••• •••• •••• •••• •••• ••••

- There are many programs on the internet which will help you learn to receive Morse code such as [Morse Code Practice](https://mitxela.com/projects/morse_code_practice_tool)



# Answers to Questions

## Phonetic Alphabet

Sierra, Yankee, Delta, November, Echo, Yankee - **SYDNEY**  
 Bravo, Alpha, Tango, Hotel, Uniform, Romeo, Sierra, Tango - **BATHURST**  
 Papa, Echo, Romeo, Tango, Hotel - **PERTH**  
 Alpha, Delta, Echo, Lima, Alpha, India, Delta, Echo - **ADELAIDE**  
 Delta, Echo, November, India, Lima, India, Quebec, Uniform, India, November - **DENILQUIN**

## Amateur Radio Callsigns

Callsign	Country
F4EGX	France
PA5UL	Netherlands
G3WNS	UK
OZ2FES	Denmark
SU1ME	Egypt
DW9CBQ	Philippines
SA6BBC	Sweden
ZL2TIN	New Zealand
WA5DM	USA
VE3FCQ	Canada

## International Time

LOCAL STANDARD TIME	LOCATION (STATE)	WORKING	UTC
1200	NSW	1200 - 1000 =	0200
1800	NSW	1800 - 1000 =	0800
1545	Victoria	1545 - 1000 =	0545
0925	Tasmania	0925 + 2400 - 1000 =	2325 (day before)
0815	Queensland	0815 + 2400 - 1000 =	2215 (day before)
1700	WA	1700 - 0800 =	0900
0510	WA	0500 + 2400 - 0800 =	2100 (day before)
1930	SA	1930 - 0930 =	10:00
0245	SA	0245 + 2400 - 0930 =	17:15 (day before)
	Your time zone		2100
	Your time zone		1530
	Your time zone		0515

## Emergency Messages

EMERGENCY SITUATION	RADIO CALL
Broken down car in remote area	PAN PAN
Sinking boat at sea	MAYDAY
Broken leg while hiking	PAN PAN
Lost in the bush	PAN PAN
Engine stops in a light aircraft	MAYDAY

## Morse Code Message

I NEED HELP MY PLANE HAS CRASHED I AM TEN MILES EAST OF WOOMERA

