Assessment Process

For

Warrnambool Men's Shed

Warrnambool Amateur Community

October 2022

Note that this program is NOT ENDORSED by the ACMA, University of Tasmania—AMC and/or Warrnambool Men's Shed Organisation,

This is just a guide to support Trainers, Trainees, Assessors and Prospective Assessors.

Assessment Process

Required Resources

Resources that will be required (per candidate):

- It would be best if we could arrange ONE "shack-in-a-box" – style radio and power supply per client that is being assessed. The "shack in a box" radio should be capable of HF, VHF and UHF.
    - i.e. IC-706MKIIG, IC-7000, IC-7100, FT-8x7 series, FT-991 etc.
- A SWR Meter (preferably cross-hair).
- Working Digital and Analogue Multimeters
- Antenna Tuner. It would be best if we also had an external Autotuner and do NOT rely on the rig's internal tuners (if available). The trainer should also have a manual tuner. For a demonstration.
- 2 x Dummy Loads capable of handling power (one for HF and other for VHF/UHF output).

The Practical Assessment Sheet comes from here:

- https://www.amc.edu.au/__data/assets/pdf_file/0010/1319473/Practical-Assessment-Checklist-March-2022-Remote.pdf (see Appendix 1)

Process

In this case it is best if the locals work with the candidates. The assessor should just be standing around and supervising – watching and closely observing all that is going on. Occasionally there may be some intervention (but it should be minimal).

All forms should come in the pack ordered from The AMC (see https://www.amc.edu.au/industry/amateur-radio/amateur-radio-exam-order-form)

The whole aim is not to fail; this should be a learning process. If there are any concerns at the competency of a candidate in a particular section then the assessor may step in directly. You may ask the candidate to do something a couple of times if you have concerns. in most circumstances the Assessor should be "seen but not heard" … This is not an "ego" game.

This is not a test; if there are any concerns re competency then the assessor may come back over something. That is the point of "assessments" and where they differ from Tests and test methodology.

Assessor Preferences

We should not be handling cash; can candidates PLEASE use the AMC Payment Gateway at https://www.amc.edu.au/industry/amateur-radio --> Click on Payments. Select "Examination Services – Foundation Exam". Then select "Callsign Recommendations – Level 1 /2" – whichever is appropriate. It can be sone as a single transaction – but many candidates prefer to pay for both on the one transaction.

The RECEIPT NUMBER is CRITICAL.

Candidates may call up The AMC staff during AEST/AEDT business hours on 1300 852 701 and pay over the phone.

The fees are $90 for an AR assessment plus $25 for a Level 1 Callsign (next Available) or $35 for a Level 2 Callsign (Chose your own) at the time that this document was drafted.

If unable to arrange enough radios then we use "Stations" – Candidates move around "stations".

Proposed Course Format

(a) <u>Commence around 9:00 am</u>

a. Introduction and outline of how things to work – by Assessor.

(b) <u>Paperwork (15 mins)</u>

a. Fill in "F" form

- Group Session works best and simplest
- Candidates will need a Driver's Licence or other form of photo ID.

b. Fill in "Callsign" form – be it Level 1 or Level 2.

- Level 1 Form (Next callsign off list): https://www.amc.edu.au/__data/assets/pdf_file/0006/1215735/Callsign-Form-Level-1-March-2022.pdf_
- Leve 2 Form (Select one's own form): https://www.amc.edu.au/__data/assets/pdf_file/0007/1215736/Callsign-Form-Level-2-March-2022.pdf

<u>Note that the preference would be if the decisions on callsigns are made BEFORE we have the session</u>. This takes a lot less time.

- **Step 1**: Check to see if the call is free at: http://www.amc.edu.au/industry/amateur-radio/callsigns/publicly-available-callsigns
- **Step 2**: Make sure it is DEEFINITELY FREE by plugging the call into https://web.acma.gov.au/rrl/register_search.main_page

Not all callsigns appearing as free can be issued; remember callsigns commencing with "R" are unavailable. Some callsigns are "reserved" as they had been allocated to SK amateurs too. These are the ones that most often cause problems.

c. Fill "ACMA Form 1": https://www.amc.edu.au/__data/assets/pdf_file/0007/1319047/ACMA-Amateur-1-Form-Oct-2021.pdf

(c) <u>Start on Process – Part A (30 mins)</u>

a. Make sure all candidates familiar with what is on this: https://www.amc.edu.au/__data/assets/pdf_file/0011/1319474/Practical-Assessment-Assessor-Picture-Chart-22032022.pdf Page 1 reproduced in Appendix 1 for this Guide.

A recommended technique can be to go in the direction of a "snail shell" i.e clockwise then into middle.

- Yagi, Folded Dipole, Vertical, End Fed Antenna (can discuss other names for this – but DO NOT CALL IT A DIPOLE AS ITS NOT), Dipole (discuss that it is a DIPOLE on a particular frequency but called a DOUBLET if not used on its half-wave resonance point), UHF Connector (or PL259), BNC Female, BNC Male, N Connector (used predominantly for VHF and above).
- Please provide examples of each connector if you have them.
- Next = Inductor / Coil / Choke. You should explain what the purpose of these are if you like – at the most simplistic level that being designed to block radio frequencies while allowing audio and DC to pass.
    - Explain why we use these – sometimes it is a GREAT way to stop currents being induced in speaker wires (i.e. the hum and/or hissing/voices sometimes heard in speakers)
- Go into centre of card and get trainee to identify clip-on chokes. Used to stop currents being induced into power cables. Provide examples if you can.

- Candidate is then to demonstrate how to make a choke (i.e. wind cable around a ferrite core). Q: How would we make a simple choke?

We are not finished with the chart yet and will come back to the Meters in the centre later.

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b. Make sure all candidates familiar with what is on this: https://www.amc.edu.au/__data/assets/pdf_file/0011/1319474/Practical-Assessment-Assessor-Picture-Chart-22032022.pdf Page 2

Go clockwise and then spiral-in to the centre.

- Identify Balanced. Simplistically, means same signal in each wire.
- Identify second set as Unbalanced. Different types of coaxial cable. Simplistically means signal travels down the centre conductor with a shield – that should be earthed – on the outside.

Keep it at that level of simplicity so as not to confuse candidate.

- Circuit diagram elements: Fuse, Resistor, Microphone, Speaker, Switch, Lamp, Earth, Antenna, Cell, Battery.

Stress that a battery is > 1 cell.

c. Continuity Test.

You can show the candidate Digital and Analogue meters. Demonstrate how to "zero" and set meter onto appropriate scale (ohms – low - is best).

Give candidate a patch cable. Ask them how they would test that patch cable.

- Meter on Low ohms. Make sure it works (cross probes to see zero).
- Test: outer to inner: Infinite Ohms; inner to inner: Low Ohms; outer to outer: low ohms.

This covers Aspects 2, 2, 3, 4, 5 and 6.

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d. Set up Radio - Physically

The "Specimen Items" under "Appendix 3: Resources Used for Assessment" attachment may be useful.

- Check Power Supply voltage with meter: many HAMs have killed radios with incorrect voltage.
- The longer the cables the greater the resistance – hence heating. Hence more current needed. Note that the biggest fault seen in radios is burnt out fuses and fuse holders in rig power cables.
    - Q: A fuse blows: why do we always replace it with a fuse of the same value? (A: safety)
    - Q: What are the risks associated with AR? (A: electric shock and burns.)
    - Q: What do you do if someone obviously has electrocuted themselves (answer: DO NOT TOUCH THEM: Turn off power before touching them)

Have a brief discussion about antennas and safety.

- Refer to the graph at https://www.electronics-notes.com/articles/antennas-propagation/dipole-antenna/current-voltage-waveforms-distribution.php and/or use the flash card – **showing that there are HIGH VOLTAGES at the end of AND HIGH CURRENTS AT THE CENTRE OF dipoles.**
- It is VOLTAGE THAT KILLS AND/OR GIVES BURNS !!! So stay away from ends of antennas. Keep wives/Kids/Pets etc away from antennas
- Safe distances due to RF fields: https://www.acma.gov.au/our-rules-eme

It is important to stress that there are safe distances to be away from antennas due to RF energy.

[The trainer may run a brief common session on this]

This covers Aspect 15.

Now actually set up radio:

- Have checked voltage on PSU. Turn it off.
- Connect PSU to Radio.
- Connect Radio to SWR Meter
- Connect SWR Meter to Tuner
- Connect Tuner to Dummy Load

Discuss what a "Dummy load" is (i.e. resistance; simulates a "perfect antenna" but radiates power as heat rather than let the RF out).

- Show how to set power on demo radio; perhaps involve candidate?

Get candidates to replicate this practically.

This covers Aspect 7.

e. Set up Radio For operation.

- See Appendix 3 for sample
- Brief discussion on SWR: What is it? (you can tell them that it's the ratio of power transmitted to power reflected; it's a measure of how "matched' your antenna system is to your radio).
- Discuss How to read a SWR Meter (Cross hair preferred … Forward/Reflected meter is ok).
- Brief discussion on how to correct SWR: lengthen/shorten antenna. Use an Antenna Tuner
    - Question: What is an acceptable SWR? A: 1.5: 1
    - Question: How do we correct SWR? Use the tuner. Demonstrate by "pushing button").

This covers Aspect 14.

(d) Process – Part B (20 mins)

The Assessor/Leader will do a brief session on regulations, ACMA Site, RADCOM Register, LCD etc.

- Google: ACMA Amateur Radio: https://www.acma.gov.au/amateur-radio
- Radiocommunications Act, LCD (2015) - http://www.legislation.gov.au/Series/F2015L01113 . In particular highlight power can use and bands for F-license. Also just go through some basics – such as third party and relaying messages.
- Can use any mode any means allowed by any class of license. F-calls can build their own equipment. Only restriction is permitted bands and power (10W flat)

Return to Work area.

- Ask candidates to recall what bands they can use … It is better to provide a LCD and present the Advanced Band List.
    - Ask if F-call can use a band (up to and including 70cm only).
    - There is no need for the candidate get everything right; they demonstrate reasonable understanding. (i.e. 80m – 3.5MHz – 3.7MHz, 40m – 7.000 MHz – 7.300 MHz, 15m – 21.000 MHz – 21.450MHz, 10m – 28.000 MHz – 29.700 MHz, 2m – 144.000 MHz – 148.000 MHz, 70 cm 430.000 MHz – 450.000 MHz).

Stress that the WHOLE of the transmission (bandwidth) must be within the band otherwise it is illegal.

- Bandwidth of a SSB Transmission is 3KHz. If you transmit on USB on 7.300 MHz then the transmission is ILLEGAL as the Maximum frequency used is 7.103MHz. Yet if you were to transmit on 7.300 LSB that COULD be legal as the signal is transmitted between 7.297 MHz and 7.300 MHz.
- You can give FM examples (where frequency listed is "centre"). Trainees should know this but it should come up as part of the discussion.

Stress that radios in VHF and **UHF MUST be locked so that they cannot transmit outside of these bands; they must ONLY have Amateur Frequencies programmed in. i.e. NO CB PROGRAMMED INTO OUR RADIOS !!!**

This covers Aspect 8.

Go back to Flash Card Page 1 and look at the meters.

- Meter on Top representing Received Signal. Refer to attached "Contact script" Page 4 on how to give signal reports. That signal, assuming clear voice, is 5/9+20. Get them to repeat this.
- Meter on bottom representing Power Output (i.e. tx). Candidate should identify around 85W.

This is now an appropriate time to introduce Q-Codes and "ITU Phonetics" An aid from the ARRL is included in Appendix 4. Explain why we have these. Explain where Q codes came from, (i.e. shorthand in Morse: have transgressed over to phone).

- Go through this list; get them to translate a call or two into NATO phonetics.
- Go through the list on the ARRL Document; pick out the most commonly used codes i.e. QRM, QRN, QRO, QRP, QRT, QRV, QRZ, QSB, QSO, QSY, QTH .
    - Get the candidates to use some examples
    - In particular stress QRT, QSO, QSY, QTH

This covers Aspect 13.

(e) Process – Part C (On-Air) (30 mins)

This can take up to 90 mins.

Note that candidates CAN BE GIVEN THE CONTACT SCRIPT IN ADVANCE. (i.e. Appendix 2)

Some organisations require candidates to be able to rote this off by heart. That is NOT THE INTENT ! Intent is to whether a candidate – on their own – can competently and safely operate a station. Many Amateurs licensed in excess of 30+ years use "scripts" as everyone gets tongue-tied at some stage. This script is just a guide—with there being no necessity to strictly follow these. Candidates are ENCOURAGED to make changes and "go off script" – but in an acceptable way to the Amateur community and our regulations.

NO CB-BAND-ISMs (i.e. 10-4, BREAKER, RETURNING etc.)

STRESS THAT CANDIDATES MUST KNOW THE FORMAL PRACTISE i.e. CW CQ practise. They WILL BE ASKED QUESTIONS ON THEIR PAPER ON THIS. Yet we will be assessing to standards that create competent operators the first time that they are on their own.

LISTEN FIRST BEFORE TRANSMITTING !!!!!!!

- LEAVE A GAP SO THAT SOMEONE ELSE CAN BREAK IN (or call if an emergency)
- DO NOT CALL CQ ON REPEATERS; ANNOUNCE THAT YOU ARE "LISTENING"

Work through the "Contact Script" with candidate. Simulate and Role Play. Then we will get the candidates ON AIR to use these. Remember they are on dummy loads and on a simplex frequency on say 29.100 MHz and say 144.500 MHz. and second pair on say 7.100 Mhz and 439.925 MHz. These should hopefully not interfere with live resources.

- Go through HF section- role play; pair up with another group of candidates and/or ops.
- Go through QSY to VHF section - role play; pair up with another group of ops.

Put candidates onto same HF frequency.

- Let candidates loose and guide through a HF section. Interact between teams.

This covers Aspects 9, 10, 11 (part), 12

- Quiz about differences between DTMF and CTCSS

    - DTMF – Audible tones to control repeaters etc.
    - CTCSS – Sub-audible. Allows repeaters in "noisy" situations to distinguish between noise and signal you want.

If you have time demonstrate; the best way is to show how you program it into a radio.

Note that Assessor may do this as a demo.

This covers Aspect 11

That covers all required for the practical Assessment

(f) <u>The Written test.</u>

This Must be conducted under formal conditions. 5 min reading time (no writing) + 30 min Writing Time. A non-programmable calculator is permitted as is a copy of the LCD. I will not provide these.

If there are candidates having obvious difficulties then the Assessor may step in; there are techniques that we can use to stress and assist with success rather than failure.

Final Thoughts

The aim here is not only to assess candidates but to train up and invigorate the community as well.

Australian Maritime College

Locked Bag 1394, Launceston Tas 7250
Phone 1300 852 701
Email amc.ar@utas.edu.au
Web www.amc.edu.au/industry/amateur-radio

UNIVERSITY of TASMANIA
AMC
Australian Maritime College

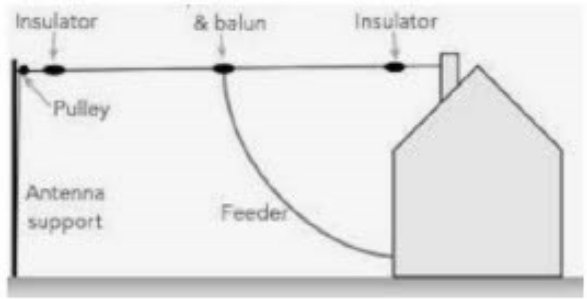
Australian Government
acma
Australian Communications and Media Authority

AMATEUR OPERATOR'S CERTIFICATE OF PROFICIENCY

PRACTICAL ASSESSMENT

ASSESSOR PICTURE CHART

Analog meter display



Appendix 1: "Flash Card"

22 March 2022

Source: https://www.amc.edu.au/__data/assets/pdf_file/0011/1319474/Practical-Assessment-Assessor-Picture-Chart-22032022.pdf

Australian Maritime College

Locked Bag 1394, Launceston Tas 7250
Phone 1300 852 701
Email amc.ar@utas.edu.au
Web www.amc.edu.au/industry/amateur-radio

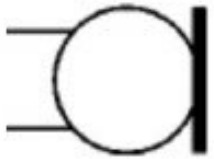
UNIVERSITY of TASMANIA
AMC
Australian Maritime College

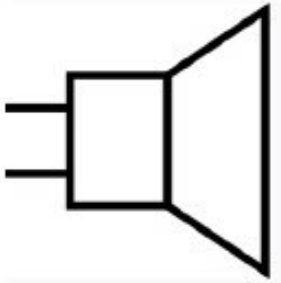
Australian Government
acma
Australian Communications and Media Authority

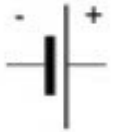
AMATEUR OPERATOR'S CERTIFICATE OF PROFICIENCY

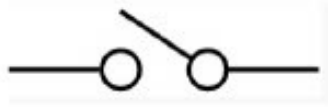
PRACTICAL ASSESSMENT

ASSESSOR PICTURE CHART









22 March 2022

Sample Contact Scripts

Disclaimer

These sample scripts focus on “real world” Amateur Practise.

These are provided as a guide to assist Amateurs - especially when they are undergoing remote assessments when access to real-world equipment and real-world demonstration with real equipment is impractical.

Candidates for any VK Amateur radio Assessment must be aware of and assessed as competent to the regulated protocols and procedures.

The full protocol is best demonstrated in:

- Bertrand, R, Wait, P “The Foundation Manual: Your Entry Into Amateur Radio” 3rd Edition, The Wireless Institute of Australia https://www.wia.org.au/licenses/foundation/foundationmanual/
- https://www.acma.gov.au/amateur-radio-operating-procedures

Assessment will be based on formal protocols documented.

HF Contact Script

Always listen to find out of the resource is free.

Is this frequency in Use? This is VK1ABC

Listen for approximately 30 seconds

Is this frequency in Use? This is VK1ABC

Listen for approximately 30 seconds

Hopefully nobody will come back and you can then transmit !

The best response if the frequency is in use (i.e. a low station that you cannot hear):

This frequency is in use. VK1ABC VK9XYZ <== Truncate to advise

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DO NOT RESPOND IF SOMEONE SAYS THAT THE FREQUENCY IS IN USE

Calling CQ

Do NOT Call "CQ" on a repeater … See repeater process shortly

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(a) Formal procedure that you must be aware of

CQ CQ CQ CQ CQ CQ CQ CQ CQ VK1ABC VK1ABC VK1ABC CQ CQ CQ CQ CQ CQ CQ CQ CQ

CQ CQ CQ CQ CQ CQ CQ CQ CQ VK1ABC VK1ABC VK1ABC CQ CQ CQ CQ CQ CQ CQ CQ CQ

CQ CQ CQ CQ CQ CQ CQ CQ CQ VK1ABC VK1ABC VK1ABC CQ CQ CQ CQ CQ CQ CQ CQ CQ

Most (ok… ALL) HAMs adapt "formal" procedure …

(b) "Practical" real-life procedure example

You will develop your own style. This is an example of an "acceptable" style:

CQ CQ CQ CQ CQ CQ This is VK1ABC VICTOR KILO THREE ALPHA BRAVO CHARLIE VK1ABC CQ CQ CQ

VK1ABC will then listen for 30 seconds before repeating.

Responding to A CQ Call

This assumes that VK1ABC is responding to a call from VK9XYZ:

VK9XYZ VK9XYZ VK9XYZ VK1ABC VK1ABC VK1ABC <== Formal Process

VK9XYZ this is VK1ABC [OVER] <== Typical real-world

Alternate: VK1ABC <== Repeat your callsign ONCE

Requesting a break-in to an existing conversation

(conversation)

In the break: VK1ABC <== Repeat your callsign ONCE

(conversation resumes – and hopefully a station calls you in with your call presented in a callsign exchange including your call)

*** DO NOT USE WORDS LIKE “BREAK”, “BREAKER” or “RETURNING” ***

Acknowledging/Calling In a station, with example chatter

You can now be less formal - perhaps dropping some callsign exchanges.

VK9XYZ VK1ABC Hi My name is Fred …. Receiving you 5 by 9 … (welcoming statement)
VK9XYZ VK1ABC [OVER]

VK1ABC VK9XYZ Hi My name is John … Receiving you 5 by 9+20 … (welcoming statement) [OVER]

We use The RST (Readability, Strength, Tone) System to report HF Signal Strengths . The RST system has its origins in Morse Code (CW).

Readability: This is a subjective measure on a 1 – 5 scale as to how hard it was to understand the conversation (i.e. 5 = perfectly readability, 4 - slight difficulty, 3 - very difficult, 2 - mostly unreadable, 1 - I cannot make out what you are saying)

Strength: This is what you read off the signal meter. If it is above 9 we indicate to what degree it is above 9 (i.e. 5 by 9 +20).

Tone: Only added with Morse code and some digital conversations. This is a subjective measure (1 – 5) on how “pure” the tone sounds (i.e. 595).

VK9XYZ VK1ABC Hi John …. What is your QTH? I'm located Canberra [OVER]

VK1ABC VK9XYZ Hi Fred …. My QTH is Mawson [OVER]

Each station is now only required to offer a callsign exchange every 10 mins.

VK9XYZ VK1ABC … … … VK9XYZ VK1ABC [OVER]

Ending a Chat – and no further Operation

VK9XYZ VK1ABC Thanks for the brief contact. Best wishes and good luck for working more stations. 73 VK9XYZ VK1ABC [CLEAR]

Stations may optionally add CLEAR to the end of their chat. This indicates no more contacts to be accepted/made (i.e. clearing the frequency).

VK1ABC VK9XYZ Thanks again. 73 VK1ABC VK9XYZ

Always anticipate someone putting in a callsign at the end !

QSY to a VHF/UHF Repeater

VK9XYZ VK1ABC John is it possible to QSY to VHF? VK9XYZ VK1ABC

VK1ABC VK9XYZ Fred, Sure. What Frequency and is it free? VK1ABC VK9XYZ

VK9XYZ VK1ABC Please stand by while I check? VK9XYZ VK1ABC

Change to new frequency and see if it is free – Use the "Section (a) for HF or (i) for Repeaters "Is this frequency Free" Process.

i.e. listen for approximately 30 seconds

VK9XYZ VK1ABC The VHF Frequency is free. QSY VK9XYZ VK1ABC

VK1ABC VK9XYZ Sure. QSY'ing to VHF VK1ABC VK9XYZ

Then the whole process of listening starts again

USE ITU PHONETICS IF YOU ARE HAVING TROUBLE RECEIVING THE OTHER PARTY

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i.e

VICTOR KILO ONE ALPHA BRAVO CHARLIE VICTOR KILO NINE XRAY YANKEE ZULU PLEASE QSY VHF

[Try not to use QUEBEC SIERRA YANKEE for QSY in the discussion]

Scripted example of a basic HF Voice QSO

Is this frequency in Use? This is VK1ABC
….
Is this frequency in Use? This is VK1ABC
….
CQ CQ CQ CQ CQ CQ This is VK1ABC VICTOR KILO ONE ALPHA BRAVO CHARLIE VK1ABC CQ CQ CQ
….
CQ CQ CQ CQ CQ CQ This is VK1ABC VICTOR ONE ALPHA BRAVO CHARLIE VK1ABC CQ CQ CQ
…
VK1ABC this is VK9XYZ

VK9XYZ VK1ABC Hi - my name is Fred …. My QTH is Canberra. I am receiving you 5 by 9. What is your name and QTH? How are you receiving me? VK9XYZ VK1ABC [OVER]

VK1ABC VK9XYZ Hi Fred. My name is John …. My QTH is Mawson. I am receiving you 5 by 9+20 [OVER]

End QSO

VK9XYZ VK1ABC Thanks for the brief contact John. Best wishes and good luck for working more stations. 73 VK9XYZ VK1ABC [CLEAR]

VK1ABC VK9XYZ Thanks for the QSO Fred. 73 VK1ABC VK9XYZ

End: QSY to VHF

VK9XYZ VK1ABC Is it possible to QSY to VHF? VK9XYZ VK1ABC

VK1ABC VK9XYZ Sure. What frequency and is it free? VK1ABC VK9XYZ

VK9XYZ VK1ABC Please stand by while I check? VK9XYZ VK1ABC

Always listen on the proposed frequency first.

VK9XYZ VK1ABC John; The VHF Frequency is free. QSY VK9XYZ VK1ABC

VK1ABC VK9XYZ Sure Fred. QSY'ing to VHF VK1ABC VK9XYZ

Repeater Contact Script

Always listen to find out of the resource is free

Listen for approximately 30 seconds

Repeaters “key up”. If the frequency is in use you will hear via the broken squelch, or a “smooth sound” rather than hissing if no squelch set. You should also see an increase in the signal strength received up on the Radio’s RF signal meter (if it has one).

If in doubt ask if the frequency is in use in use.

Is this frequency in use? This is VK1ABC.

This frequency is in use. VK9XYZ <== Advise if not free!

Do not communicate further until the resource is free. Someone may be using the re-source for emergency purposes.

Advise that you are listening

This is VK1ABC Listening

Do NOT Call “CQ” on a repeater

VK1ABC will then listen for 30 seconds before repeating the announcement.

DO NOT USE ITU PHONETICS ON REPEATERS

Calling a Station

VK9XYZ VK1ABC <== Calling for station VK9XYZ

Responding to A CQ call

VK9XYZ this is VK1ABC …. Hi (chatter) <== Typical real-world

Requesting a QSO break-in OR calling a busy station

(conversation)

In the break: VK1ABC <== Repeat your callsign ONCE

ALWAYS LEAVE BREAKS BETWEEN TRANSMISSIONS
THIS ALLOWS OTHERS TO BREAK IN AND/OR USE THE DEVICE

NEVER EVER USE THE CB TERMS "BREAKER" or "BREAK"

Conversation resumes – hopefully a station calls you in with your call presented in a callsign exchange including your callsign.

Acknowledging/calling in a station

VK9XYZ VK1ABC Hi My name is Fred. My QTH is Canberra. What is your QTH? VK9XYZ VK1ABC [OVER]

You can now be less formal and drop some of the callsign exchanges.

Do not give a RST report on Repeaters.

It is ok to state "I have you Readability 5".

You are not receiving a station's signal directly – you are receiving signals from a repeater – so there is no point giving a signal strength!

Better - helpful - comments may include "Your modulation is a little soft".

VK1ABC VK9XYZ Hi. My name is John. My QTH is Mawson … (chat) … [OVER]

Each station is required to give a FULL callsign exchange every 10 minutes.

VK9XYZ VK1ABC … … … VK9XYZ VK1ABC [OVER]

VK1ABC VK9XYZ … … … VK1ABC VK9XYZ [OVER]

Ending a QSO

Example: If "going" i.e. no further communication sought:

VK9XYZ VK1ABC John …. Thanks for the Chat. 73 VK9XYZ VK1ABC [CLEAR]

Example: If "leaving" but are still available for further contact:

VK1ABC VK9XYZ Thanks Stephen. Thanks for the chat … 73 VK1ABC VK9XYZ LISTENING

Scripted example of a basic Repeater QSO

This is VK1ABC Listening
….
This is VK1ABC Listening
….

VK1ABC VK9XYZ

VK9XYZ this is VK1ABC. Hi John. Receiving you loud and clear … (chat) … [OVER]

… (chatter) …

VK1ABC VK9XYZ Thanks for the chat. I need to QRT. 73. VK1ABC VK9XYZ [CLEAR]

VK9XYZ VK1ABC Thanks again. Same back to you. 73. VK9XYZ VK1ABC [LISTENING]

Words such as CLEAR, LISTENING and OVER are assistive for other Amateurs, hence why you will often hear Amateurs using these terms in QSO's on repeaters (and sometimes on HF).

NEVER EVER USE THE CB TERMS "BREAKER", "BREAK" or "RETURNING"

Appendix 3: Resources Used for Assessment

Transceiver: FT-897D

Tuner

- Correct term is “impedance matching Device” : LDG-Z11 Pro Autotuner

Power Supply (Front panel only shown)

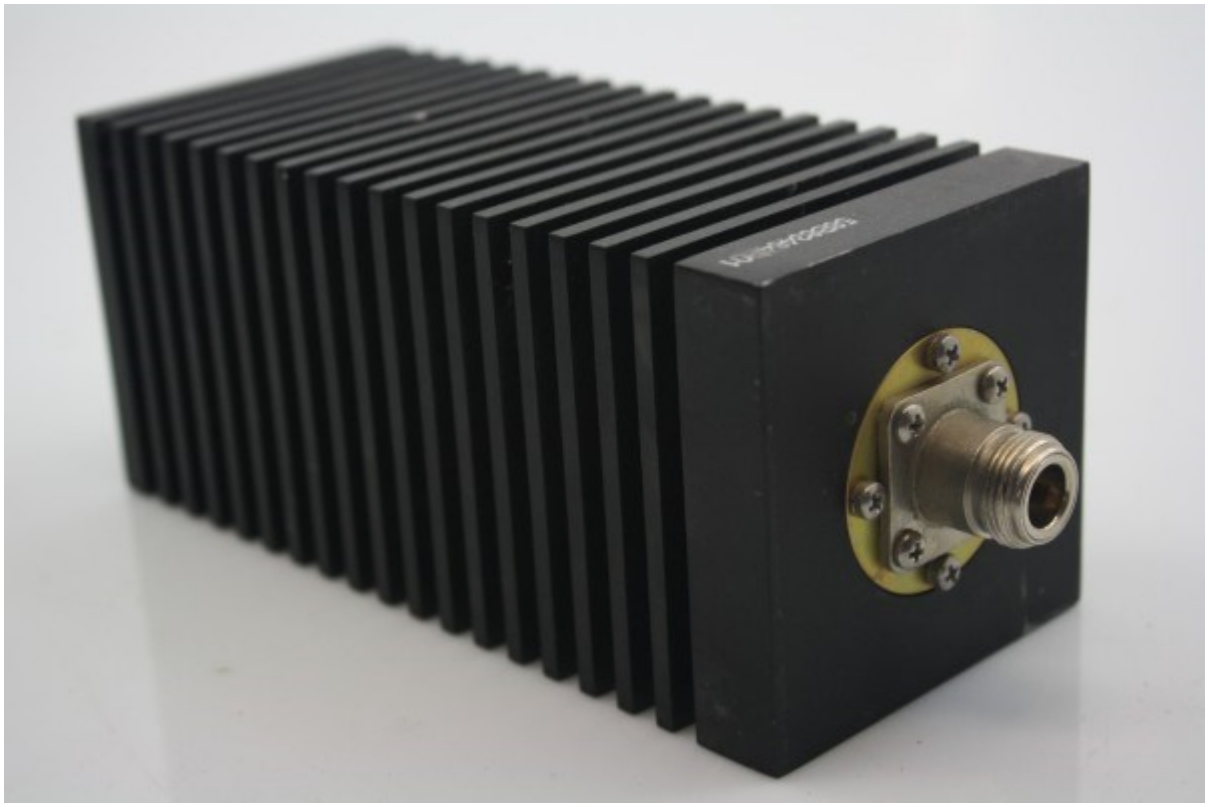
- After-market Anderson Power Pole block (rated 30A) connected.

SWR Meter

- Cross-hair: Intersection point of the two needles is the SWR (not SWER … S W R).

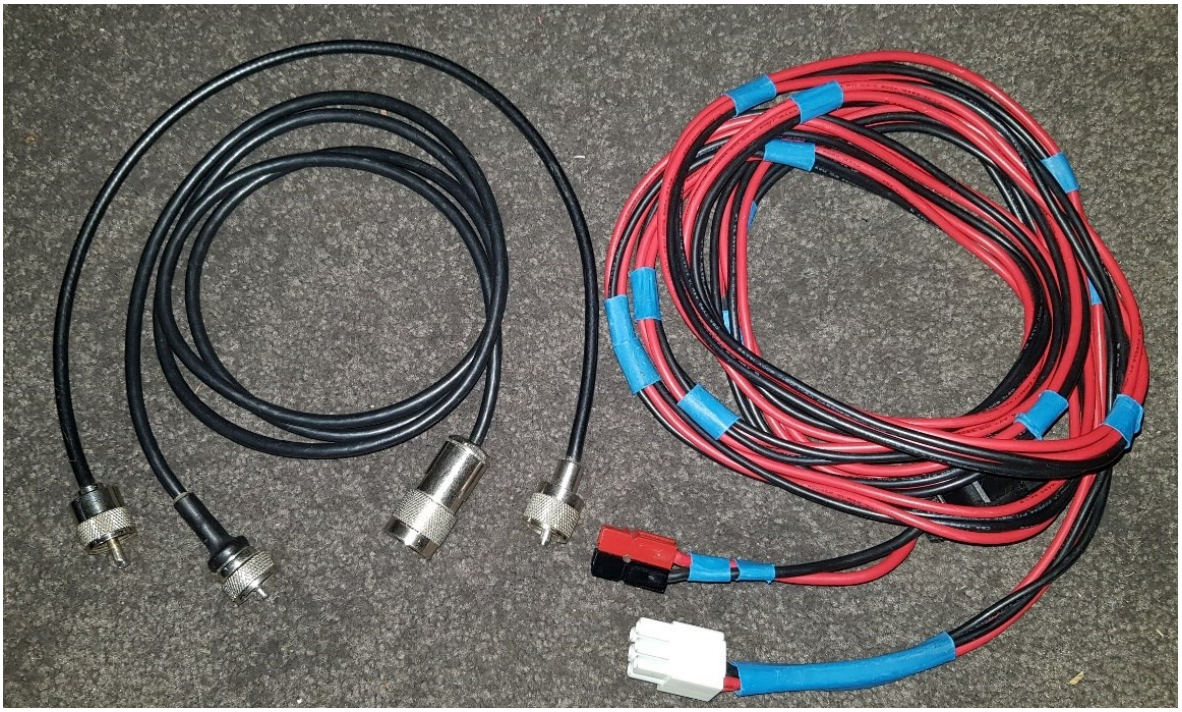
Dummy Load

- Just a big 50Ω resistor – simulates a “perfect” antenna that only has resistance hence radiating power.

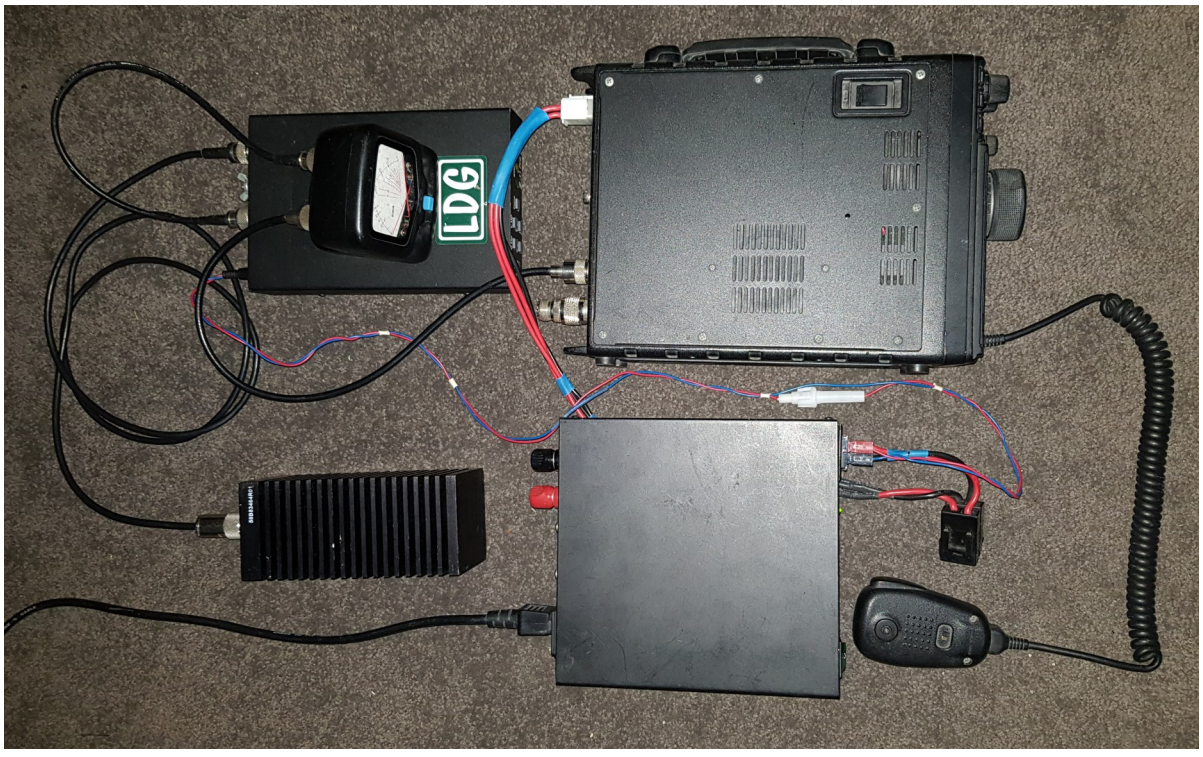


Main Cables

- A PL259 – PL259 patch cable
- A PL259 – N-Type patch cable
- 6 Pin Transceiver power cable terminated with 30A Anderson Power Poles



Specimen Setup



Appendix 4: Communicating with other HAMs (From ARRL)

Communicating with Other Hams

Contact Basics: Good Amateur Practices

Q-Signals

Q-signals are a system of radio shorthand as old as wireless and developed from even older telegraphy codes. Q-signals are a set of abbreviations for common information that save time and allow communication between operators who don't speak a common language. Modern ham radio uses them extensively. The table below lists the most common Q-signals used by hams. While Q-signals were developed for use by Morse operators, their use is common on phone, as well. You will often hear, "QRZed?" as someone asks "Who is calling me?" or "I'm getting a little QRM" from an operator receiving some interference or "Let's QSY to 146.55" as two operators change from a repeater frequency to a nearby simplex communications frequency.

Q-Signals

Abbr.	Questions
QRG	Your exact frequency (or that of _____) is _____kHz. Will you tell me my exact frequency (or that of _____)?
QRL	I am busy (or I am busy with _____). Are you busy? Usually used to see if a frequency is busy.
QRM	Your transmission is being interfered with _____ (1. Nil; 2. Slightly; 3. Moderately; 4. Severely; 5. Extremely.) Is my transmission being interfered with?
QRN	I am troubled by static _____. (1 to 5 as under QRM.) Are you troubled by static?
QRO	Increase power. Shall I increase power?
QRP	Decrease power. Shall I decrease power?
QRQ	Send faster (_____wpm). Shall I send faster?
QRS	Send more slowly (_____wpm). Shall I send more slowly?
QRT	Stop sending. Shall I stop sending?
QRU	I have nothing for you. Have you anything for me?
QRV	I am ready. Are you ready?
QRX	I will call you again at _____hours (on _____kHz). When will you call me again? Minutes are usually implied rather than hours.
QRZ	You are being called by _____ (on _____kHz). Who is calling me?
QSB	Your signals are fading. Are my signals fading?
QSK	I can hear you between signals; break in on my transmission. Can you hear me between your signals and if so can I break in on your transmission?
QSL	I am acknowledging receipt. Can you acknowledge receipt (of a message or transmission)?
QSO	I can communicate with _____ direct (or relay through _____). Can you communicate with _____ direct or by relay?
QSP	I will relay to _____. Will you relay to _____?
QST	General call preceding a message addressed to all amateurs and ARRL members. This is in effect "CQ ARRL."
QSX	I am listening to _____ on _____kHz. Will you listen to _____on _____kHz?
QSY	Change to transmission on another frequency (or on _____kHz). Shall I change to transmission on another frequency (or on _____kHz)?
QTC	I have _____messages for you (or for _____). How many messages have you to send?
QTH	My location is _____. What is your location?
QTR	The time is _____. What is the correct time?

ITU Phonetic Alphabet

Letter	Word	Pronunciation
A	Alfa	**AL** FAH
B	Bravo	**BRAH** VOH
C	Charlie	**CHAR** LEE
D	Delta	**DELL** TAH
E	Echo	**ECK** OH
F	Foxtrot	**FOKS** TROT
G	Golf	GOLF
H	Hotel	HOH **TELL**
I	India	**IN** DEE AH
J	Juliet	**JEW** LEE ETT
K	Kilo	**KEY** LOH
L	Lima	**LEE** MAH
M	Mike	MIKE
N	November	NO **VEM** BER
O	Oscar	**OSS** CAH
P	Papa	PAH **PAH**
Q	Quebec	KEH **BECK**
R	Romeo	**ROW** ME OH
S	Sierra	SEE **AIR** RAH
T	Tango	TANG GO
U	Uniform	**YOU** NEE FORM
V	Victor	**VIK** TAH
W	Whiskey	**WISS** KEY
X	X-Ray	**ECKS** RAY
Y	Yankee	**YANG** KEY
Z	Zulu	**ZOO** LOO

Note: The **boldfaced** syllables are emphasized. The pronunciations shown in this table were designed for those who speak any of the international languages. The pronunciations given for "Oscar" and "Victor" may seem awkward to English-speaking people in the US.

Project #580

Source: https://www.arrl.org/files/file/Get%20on%20the%20Air/Comm%20w%20Other%20Hams-Q%20Signals.pdf