Loughton and Epping Forest
Amateur Radio Society

Portability Revisited

By

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INTRODUCTION.

A number of years have gone by since I wrote the articles on going portable for the club magazine. Since then a great deal has changed both in equipment and licensing regulations. This has attracted a lot more people to the hobby and wishing to do what the 'old hands' do and have done. Unfortunately many of these basics, bits of knowledge and experiences are not written down in any one form for aspiring amateurs to learn from. I have therefore decided to update my article with a view to helping new licensees to enjoy going portable.

They are nothing more than ideas, experiences, hints and kinks and do's and don'ts. I shall not bore you with "***when we was lads we 'ad it 'ard*** "stuff, as what we used 30 or 40 years ago is irrelevant now.

Ready to go portable.

What is going portable; well let's have a definition, so we are starting from the same point. I define 'portable' as '***the erecting, operating and maintenance of a station in the field for a period of time, using independent power sources and being self-sufficient'***.

This includes food, water shelter etc, in fact everything to make the exercise comfortable and enjoyable. Anybody that has served in the forces knows the difference between being in the field in uniform and being there to enjoy yourself, the only compensation was you got paid for it. This may seem like a major expedition but it is really all down to **PLANNING** and **PREPARATION**.

Remember there is nothing without effort. It is now easier than ever to be portable, with smaller and more efficient radios and power sources.

GETTING GOING.

Before anything is done about going portable a few questions need to be asked and answered.

- Why are we going portable,
- when are we going,
- how is the kit going to be stowed,
- what bands,
- what have I got,
- what do I need to get,
- how much room have I got,
- can I unload it easily.

We all have our reasons for going portable so know yours, DEFINE THE AIM. This will determine the type of kit and equipment you take. Remember the more bands, the more modes the more kit. Do not be over ambitious as this will lead to disappointment. Start modestly and grow as you gain experience.

On the Styperstones, Shropshire

Planning and Preparation Prevent a Poor Performance.

Also known as the 5P's and will often be referred to. This is a state of mind rather than an intellectual exercise and is a required skill in most of life rather than just amateur radio. It is also known as belt and braces organisation, either way it is very necessary. So where do we start? Firstly I would suggest make a comprehensive check list of everything you think you need.

1. **MUST HAVE.**
2. **SHOULD HAVE**
3. **COULD HAVE.**

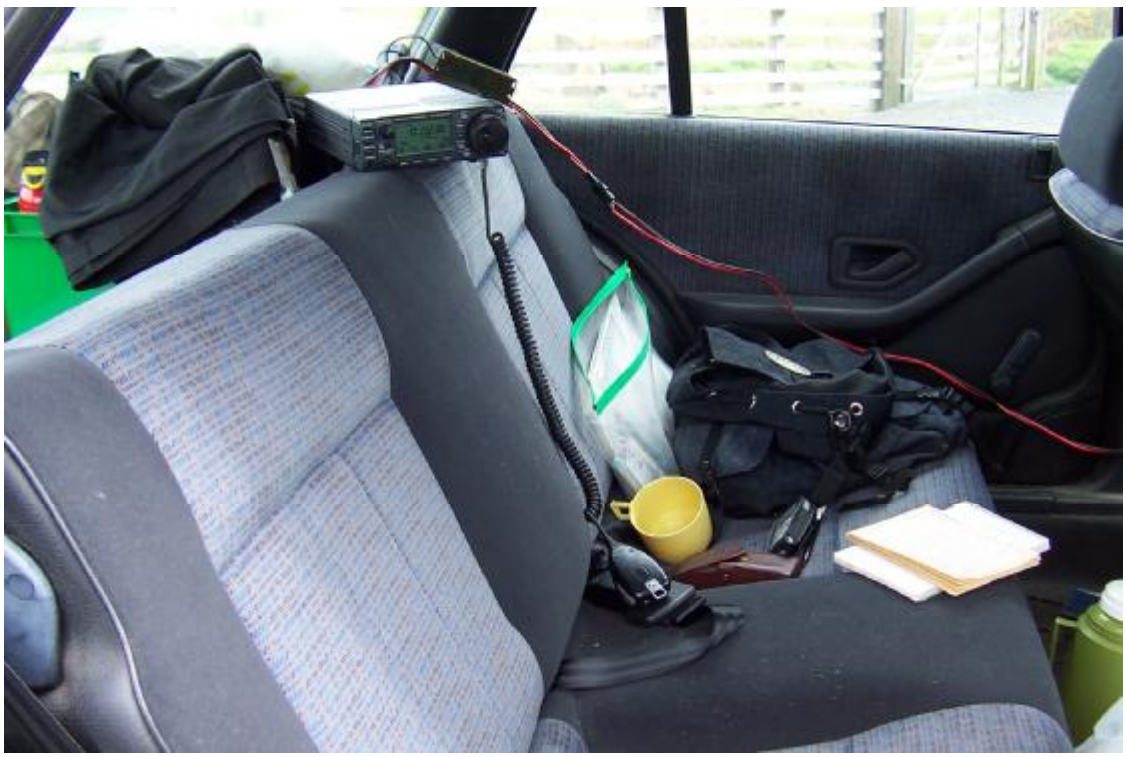
Making these lists will help you decide what you really need, what you don't and which will be useful. This will depend on the bands, location, transport etc. Perhaps the lists could be split into 'packages or kits' such as…

- Transceiver, ATU and Power supply.
- Ancillary equipment.
- Antennas, masts, etc.
- Brew kit, stove, water and food.

This could be packed into holdalls, large packs or other holders. It is dependent on your own circumstances. Kitted items are the best way of containing your portable equipment for use time and again. Visits to a surplus store will reveal cheap, hard wearing packs and holders that are ideal for portable.

Only unpack those items you need at home, otherwise leave everything packed and ready to go, and use the check list after use, and before the next use. If you are 150 miles away and you have forgotten a crucial item it's either too late or a long journey, either-way it should not have happened.

If you decide to go portable then you must seriously THINK about what you are doing and what you are taking. Do not unpack items unless you need them immediately because you will lose or mislay them especially in grass. Don't lay small items down use your pockets or pouches. Everything in its place and a place for everything.



Quickie /P on the Styperstones, Shropshire
Working back to the club on Friday evening.

Another view.

THE PRIME MOVER.

This is the most crucial of all the items, without it nothing happens, i.e. the transceiver. With modern equipment there is no problem in taking them into the field. Most of the all band units are 12V and are very tolerant of voltage fluctuations. Radios such as the IC706, FT817, FT100D and a host of others are designed with field and mobile operation in mind.

Bear in mind that to run 100W requires a peak current of 20A from a battery. Hence a reduction in power or another power source is required. Always lay out the set with all of its ancillary equipment so you don't forget anything, i.e. microphone, power leads etc. Try to have separate leads if you are using the home station as constant plugging, unplugging and removing leads and cables is tiresome and will upset the home station too much and could damage leads. You will soon get fed up with that.

The ideal is of course two rigs but this is not practical for most people. All transceivers are only as good as the conditions under which they are working, so give them a sporting chance. If you are a foundation license holder, think seriously about the type of transceiver that you are going to buy. If you buy a 10W QRP set then what happens when you graduate to the intermediate license with 50W? Most modern sets can be reduced to 10W so you can still legally use a 100W set with the power reduced. This will give you the flexibility you need.

THE KIT AND EQUIPMENT.

The kit unpacked

.

The layout shown above is what is generally carried at G0VEH's.

- The aluminium case contains the 706 and an ATU, plus microphone and power lead.
- The bag next to it contains a switch mode power unit, connectors, co-ax's, headset and fuses.
- The pack contains all the antenna bits, as can be seen. What is carried is determined by need and by the type of operating.
- The packaging of equipment is up to the individual. As can be seen from the photo below a variety of packages are available for the job.

It really boils down to can you fit it all in and in the vehicle.

Alternative packaging

A typical two stroke petrol generator. Gives 230V / 12V at 650 W.

POWER SOURCES.

A source of power was and still is one of mankind's biggest problems, and electrical power certainly fits into this category. When out portable we only realistically have two choices, batteries or generated power.
The conversion of voltages is relatively easy with modern switch mode supplies and will easily convert 240v to 13.8v for powering the transceiver.
So a look at batteries is necessary. There are two main types of battery, both lead acid, and easily available, the standard car battery and the leisure battery.

The standard car battery is recommended for our purposes as they are designed for high current, but need maintenance in the form of regular discharging and charging in the correct manner. If this is done they will have a life of about 3 years or more. The capacity of the battery will depend on how long you wish to operate between charges. Remember a power output of 100w will require a current of 20A or thereabouts. Batteries are cheap and reliable but have limitations on power.

The leisure battery is designed for use in caravans, boats and other light duty applications. They will not sustain a high current for any length of time without sometimes-severe damage to the cell plates. They are not suitable for running high power sets but are ideal for low power VHF/ UHF and auxiliary equipment.

Generators are a very efficient way of producing power to run your rig at maximum output if you wish. There are now generators on the market for as little as £90, brand new, and are quiet and small. These produce 230v at about 700W. They are generally two stroke and work well. It is considered an asset for the portableer.

CABLES AND PROTECTION.

This section is devoted to wiring and protection of power sources and equipment, and is often a neglected area. There are two main things to think about when out in the field, once one has power. How do I get all the power to the equipment and what happens if it goes wrong? We must go back to basics to understand what happens to your power when you try to use it, it's called OHMS LAW.

This law states that the current flowing in a circuit, under constant conditions is proportional to the potential developed across its ends, therefore E = IR.

This means that power drawn produces resistance and therefore heat. A situation that is dangerous. So choosing your cables carefully and fitting adequate protection is vital.

Protection.
The protective devises that are of most interest to us are fuses. We will deal with the two main types of fuses that the average person will come across…. 240V Mains fuses and low tension fuses 12vdc types.

Mains fuses must always be fitted to any equipment operating on 240v and in general will be fitted to the 13A plug and also the power unit. These must be of the type recommended by the manufacturer and should be within the tolerance stated. If the equipment draws 3A then a 5A fuse in the plug will suffice, any higher, and damage may occur to equipment before the fuse blows.
Fuses fitted to power units must be of the correct type, often antisurge fuses, and rating. Over rating fuses in equipment will mean that should a fault occur more damage is done before the fuse blows.

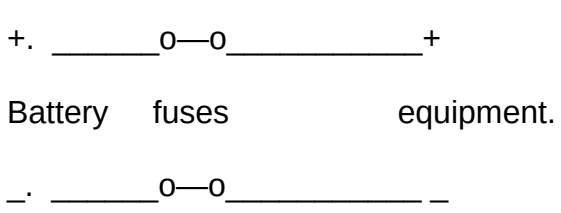
The general type of fuse fitted in equipment is of the glass type and one can see if the fuse has blown. If the fuse link has vaporised then it is a sign that all is not well. Do not replace with a larger rated fuse. Replace with the correct fuse and try again. If it blows again do not use the equipment, you have a problem.
If the fuse has just fractured, usually in the middle, and shows no sign of melting, then fuse fatigue may be the cause and generally can be replaced without further incidence.

Antisurge fuses should be fitted to equipment, especially where inductive loads are present, i.e. Transformers, motors etc. These types of loads are good at tripping miniature contact breakers (mcb's) especially the low leakage current types.

Protection at low tensions.
At low tension, 13.8V, we are dealing with quite high currents and potential risks of fire, burns and fumes, so protection is of paramount importance.

The rules are quite basic and are easily understood, they are;

1. .Fuse it properly.
2. .Insulate it well.
3. Don't short it.
4. don't let it get hot.



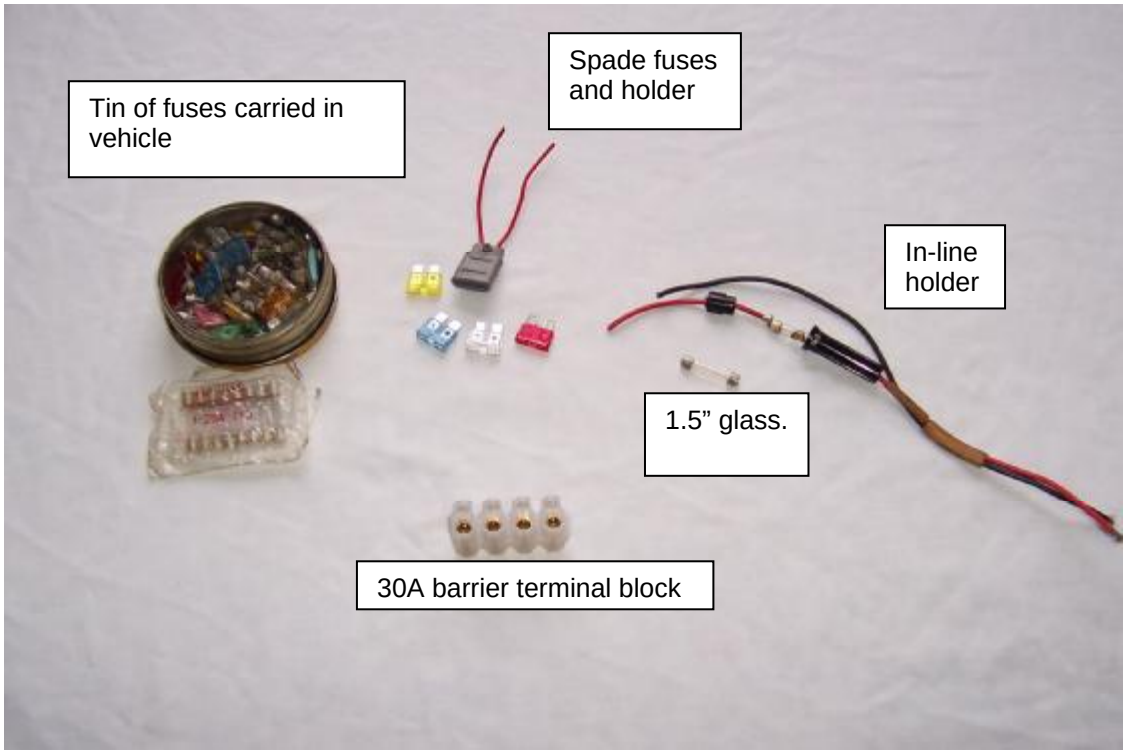
Connection to the battery from the fuses must be as short as mechanically possible, two or three inches is ideal.

Cables to the equipment must be positive and negative from the battery and not from the vehicle chassis. This will often be a poor conductor.

Fuses should be of the modern vehicle slot in fuses and must be rated for the job.

Ensure that all cables are routed away from hot engine parts and are mechanically held away from those hot parts.

Types of fuses.



The modern spade fuses, as used on cars are recommended. The barrier connector must be rated to 30A for connecting cables.

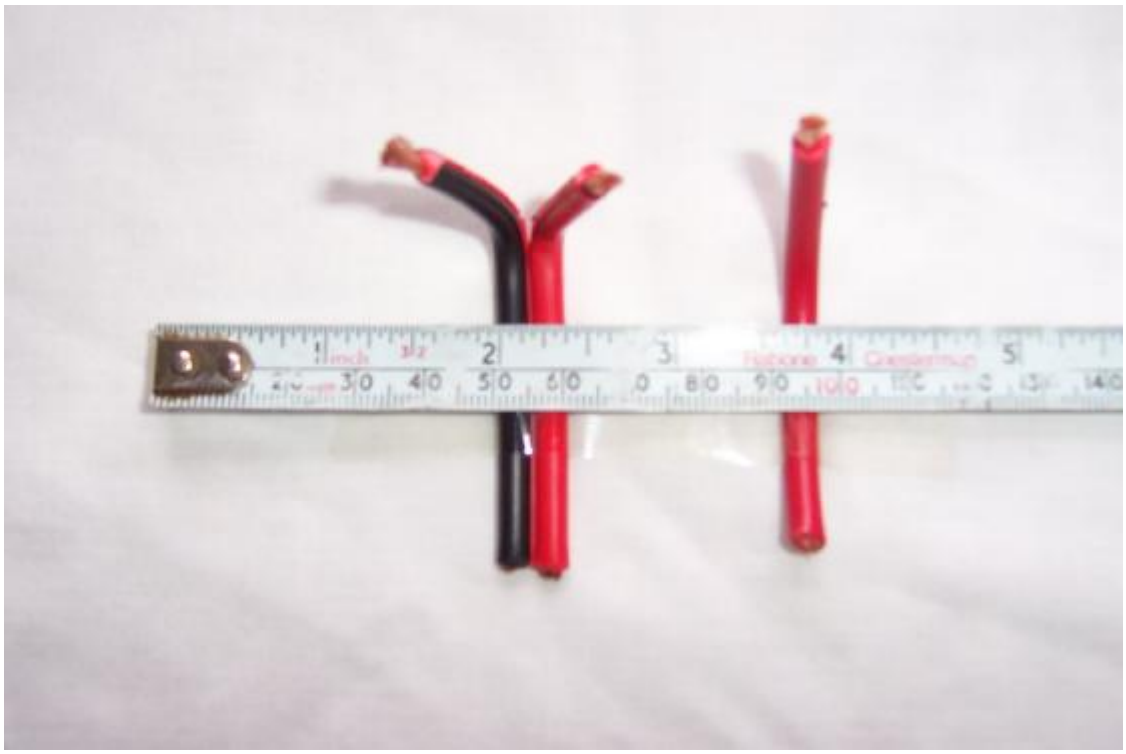
CABLES.

The types of cable used must be of an approved type. The cables must be capable of passing 30A without any detriment. A current of some 20A will be drawn at a power of 100W.

Cable is easily available from car shops, and amateur radio dealers.
Do not skimp on the installation, you get what you pay for. A poor installation may result in the loss of your vehicle and equipment, or even worse, due to fire.

WARNING

Before installing the feed to your radio, check the insurance on your vehicle. There may be exclusion clauses about such installations being fitted by non-professionals. This may be the case with expensive cars. If you have doubts then get an automotive dealer to install the cables. (*you get the parts, he installs)*.



Examples of 30A cable.

Cables should be 50 / 0.3 mm or better. Note the insulation of those shown above.

ANCILLARY EQUIPMENT.

The bits that make it all connect and work and if you forget you have wasted your time and effort. When planning your portable equipment it is absolutely vital that you pay attention to this area. It is the plugs, connectors, fuses, leads in fact everything that makes your station work.

Lay out on the floor all the kit that you need and list it. Ensure that you have all you need and you have spares, also develop the ability to make repairs in the field. If you pull off a PL259 can you put it back on again? Can you insulate a lead that's been scuffed? Do you have the correct rated fuses for your equipment and car?

A number of coax jumpers of differing lengths will always be useful, as will joiners and a selection of other plugs and adapters. A small tool kit for minor repairs is also essential. Know where it all hides and how to get to it quickly.

ADMIN.

Whilst it is vital for you take all the kit with you, it is also necessary to ensure you also have the paperwork. A folder with your logbook, license notebook, pens pencils and general information. A small clock set to UTC is most useful and a photocopy of repeaters and international callsigns will be very helpful.

Whilst out portable, in years gone by, I have been reported to the local constabulary as being a Russian spy, stopping a lady's washing machine from working, spying on people, and so on. After a few times I always carried my license around so I could prove my legality. Don't take it as a forgone conclusion that the "public" is aware of amateur radio or even that technology exists.

If possible, find a place to operate that the public do not have general access to. A farmer or landowner if approached courteously, and an explanation given of what you want to do will usually yield results. Be careful about public land as this may well have restrictions about activities on it, i.e. the National Trust, forest land etc.

ANTENNAS AND EQUIPMENT

The antenna you use will determine whether you are a successful station or one that puts out a poor signal and can't hear other stations calling you. The antenna is everything and either works or it doesn't. So pay attention to your antenna system.

MASTS.
There a number of masts on the market, from 3 to 30m, usually telescopic aluminium and come complete with guy and locking rings. There are also available glass fibre telescopic poles as used by fishermen.

These masts can be used for holding vertical wire antennas but if using a metal mast MUST be insulated from the earth. Do not try to load up the mast itself, as the electrical connections between the mast sections are unreliable. A wire running up the mast will be the radiator and the mast then becomes just the bit that holds it up.

Ensure that you have all the items that enable the mast to be erected and used are kept all together ie kitted in a hold all or the like.

Practice putting up masts and be sure you can take it down in the dark, and don't lay items on the ground, put them straight into the hold all or your pocket.

Make sure that long wire antennas and masts are CO AXIAL, in other words ensure that they are all in line. Failure to ensure this will result in bent masts, damaged heads and loss of good kit. Keep the mast kits together and make sure you clean and service the masts after use. Put everything back in the bag as soon as it is not required, wrapped, coiled or however you organise things. Lay it on the ground and you will lose it. If others are helping

You, make sure you supervise them if they haven't done this before, safeguard your equipment and don't damage your helpers, Everybody should be wearing gardening or other heavy-duty gloves.

Remember the bigger and *chunkier* the mast, the more people you need to erect it, and the more attention to pickets and guys is needed. Keep things as simple as you can then there is less to go wrong

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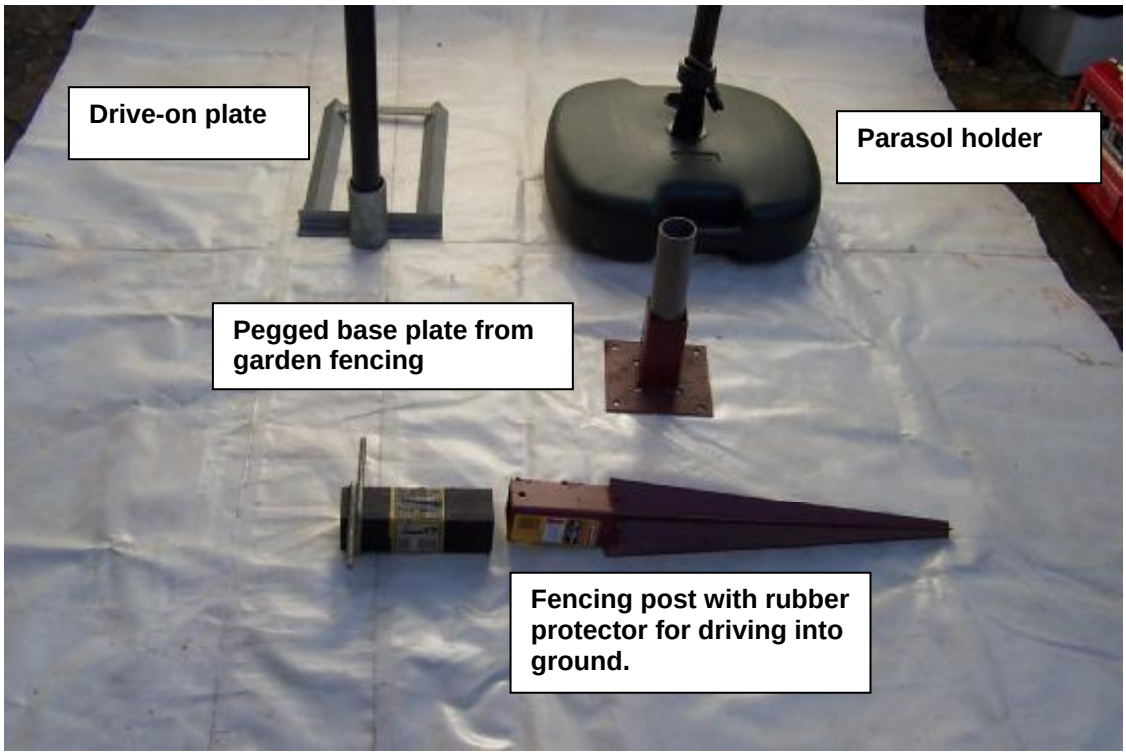
For simple antennas the use of a fishing pole, such as a perch pole will be adequate and can be self-supporting. A garden parasol holder will be useful for this. All you need to do is fill it with water.



Types of based for lightweight masts

Use local fences where possible to support fibre rods etc. Bungees' are a most useful item to carry.

ANTENNAS.

There is a bewildering array of antennas that can be used out portable and it is difficult to say which the “best” is. The best antenna is one that works so one can only try each antenna to find the one that suits your situation.

Making wire antennas are not difficult, and a simple dipole will give good results. There are members of the club that say that if you cannot make a wire antenna you shouldn’t have a license, and I have some sympathy with this view.

A simple halfwave dipole can be made with the formula

145.7/F = length in M.

An inverted or droopy dipole is less 5%. This calculation is for no insulators, the wire tied to polyprop rope.

A list of simple Do’s and don’ts is given for guidance. Common sense really, but it is not that common.

DO’s.

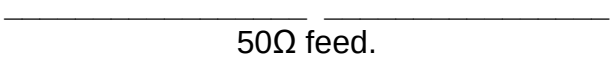
- Be neat and tidy. Everything in its place, and a place for everything.
- Ensure coax’s and cables are not left on the ground overnight. Get them up above ground level. Everything in the countryside chews.
- All joiners and plugs and sockets to be wrapped up in a plastic bag, especially overnight.
- Make sure the genset is downwind of your station.
- At night all cables are clearly marked. Health and safety, mainly yours.

DON’T.

- Lay small items on the ground. Instantly lost
- Lay cables on wet or muddy ground. Grit damages sheathing.
- Keep the petrol can in a tent or shelter. Fumes and a big bang
- Fill the generator whilst it is running. Even bigger bang
- Erect antennas, masts etc. near power lines. (As the Chinese manuals say a large blowing and fusing may occur, and peoples might be damaged)
- Run radio equipment off your vehicle battery for a long period. You may not be able to start.

TYPES OF ANTENNAS FOR PORTABLE USE.

The 1/2wave Dipole.



50Ω feed.

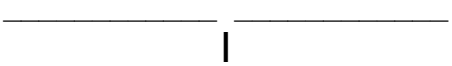
Calculate as 145.7/f = length in m.

Pros.
50Ω feed.
Simple antenna.
Effective radiator.
Known polar diagram.

Cons.
Single band antenna
Not very versatile.
Must have 1:1 balun at feed point.

THE DOUBLET.

Length from 44’ to 100’ overall.



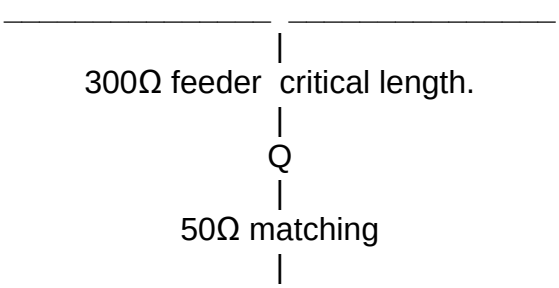
300Ω feed.
Ribbon feeder.

Pros.
Versatile antenna.
Works well on all bands.
Easy to make.
Seems to work best with either 44’ or 88’ overall.
Lengths not too critical.

Cons.
Needs balanced ATU
Needs 300Ω feeder
Feeder is cumbersome
May be difficult to tune if feeder is too long or too short
Needs a balun for a 50Ω feed

G5RV. Full size.

108’ overall.



300Ω feeder critical length.

Q

50Ω matching

Pros.
Easily obtained from retail sources.
Simple to erect.
Works reasonably well on most bands.
Tried and tested.

Cons.
Basically a 20m antenna
Compromise on all other bands.
Difficult to match on 15m.
Feeder lengths are critical.
Really a doublet with a 50Ω feed.
Balun would do the same job.

W3EDP LONG WIRE.

3.5. TO 28 MHz.

85’ wire.

O_____

Counterpoise 17’

O_____

Counterpoise **not** connected on.3.5 or 28 MHz.
Connected on all other bands.

Pros.	**Cons.**
Simple antenna to make.	Not a particularly efficient antenna for HF.
Can be erected anywhere	Needs to be as high as possible.
Effective for European working.	Long antenna.
DX working under good conditions.	May cause some TVI at high powers.

TERMINATED TILTED FOLDED DIPOLE. (TTFD)

……..L…….

D **24x270**

X
|
300Ω feeder

Resistor. 24 x 270r 2w types. Carbon.

Dimensions for the bands are given below.

BAND	**LENGTH L**		**SPACING D.**	
1.8	182’.	55.54M	5’5.	1.66M
3.5	91’.	27.6M	2’.8”.	0.83M
7.O	46’.10”.	14.28M	1’5”.	0.42M
10.1	32’6”.	9.9M	1’.	0.3M
14.15	23’2”.	7.O6M	8”.	0.21M
21.2	15’6”.	4.7M	5”.	0.14M
29	11’4”.	3.44M	4”.	O.1M

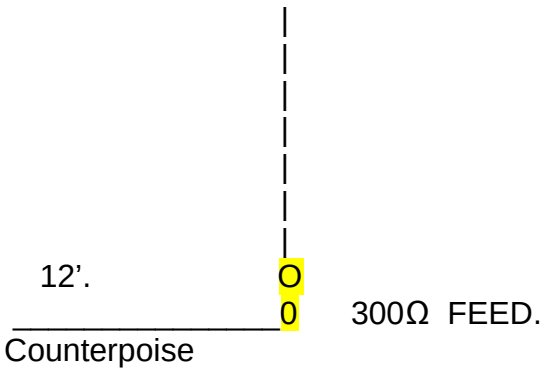
The antenna will work satisfactorily on all bands above the band it is cut for.The antenna is designed for use at 45deg slope. It will work quite well in the horizontal. plane

PROs.
Useful antenna as a sloper.
Easy to make.
Good experimental antenna.
7MHz and above only needs 30' height.

CONS
Can be a large antenna
May be difficult to put up at any useful height.
Designed as a 45deg antenna.
Needs packing carefully.

VERTICAL ANTENNAS

4 BAND 16' VERTICAL.



SINGLE BAND VERSIONS.

All fed with 50Ω coax.

BAND	VERT & HORIZ,
10	8'.3"
12	9'.4"
15	11.0'
17	13.0'
20	16'.7"
30	23'2"
40	33'2"

Pros.
Good DX antenna in the right location.

Can be made self supporting.
Easy to make.
Coax fed.

CONS.
Only effective if used with a good takeoff to the horizon.
Gives low angle radiation.
Needs careful use of location.
Counterpoise kept off the ground from 6" to 1'.

NEAR VERTICAL INCEDENCE SKYWAVE ANTENNAS. (NVIS)

These antennas are designed to radiate a vertical wave so that it hits the Ionosphere at almost right angles, and therefore produces a small skip zone. This is used for local working, i.e. up to 1000 miles or below, in what otherwise would be long distance skip. The optimum height above the ground would be about 1.5 to 3m. A wire, not earthed or connected, laid under the antenna at ground level sometimes improves radiation.

The antennas are usually quiet types and signals are heard quite strongly or not at all.

NVIS is usually only effective at frequencies below 10 MHz.

A dipole or doublet either laid on the ground or between 1 to 3 m will be found effective with reasonable powers.

Full wave loop antenna. NVIS.

1wavelength loop.

Cut to suit band 3 to 10 MHz.

Feed point.

X

300Ω feed

Or

¼ wave 75Ω coax match
Coupled to 50Ω coax for a 50Ω feed.

Height above ground 1 to 3 m. Use analyzer to get dimensions correct.
If fed with 300Ω dimensions are not too critical.

PROs.
Useful for working up to 1000miles.
No masts required.
Low profile.

CONS.
Large antenna.
Needs careful setting up

BALUNS.

A number of types of baluns are detailed below and are designed to eliminate the adverse currents along feeders.

BALUNS AND FEEDERS .

The purpose of all feeders,whether they be coax or open wire types is to transfer the rf power from the transmitter to the antenna.Unfortunatly there will always be a mismatch along the feeder.We can reduce this effect to low levels by the use of matching transformers and good quality feed lines.These transformers are known as BALUNS, or balance to unbalance transformers and are simply made.Some examples are given below...

Current Baluns

When an unbalanced feeder such as coaxial cable is connected to a balanced antenna r.f. currents will flow down along the outer surface of the coaxial cable's braid. There can then be radiation from the feeder causing TVI and distorting the antenna radiation pattern.

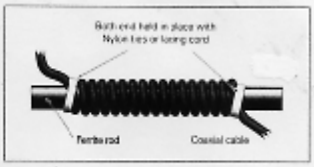
By using a current balun which acts as an r.f. choke to currents on the outer surface of the coaxial cable braid the outlined problems can be overcome. Radio frequency currents at h.f. flow on the surface of conductors and the performance of the currents on the inner surface of the braid is not affected.

Five types of current balun are shown.

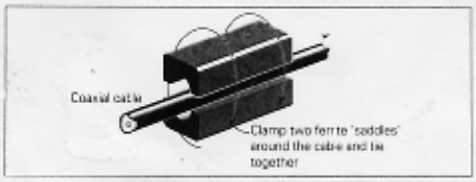
A The coaxial cable is coiled into a 5 to 10 turn inductor. A coil diameter of about 120mm will be needed and the number of turns depends upon the bands to be used. The lower the frequency band, the more coil turns are necessary.

C Up to 16 turns of coaxial cable can be wound on a ferrite toroid (FT240 - No. 61 mix). Stray capacitive coupling between the balun input and the output is reduced by winding as shown.

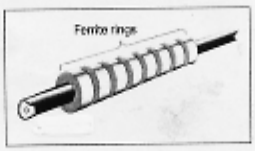
B The feeder coaxial cable (RG-58 or UR-43) is wound along a 150mm long ferrite antenna rod. It will allow 12 or 13 turns and the coaxial cable can be secured at each end with nylon cable ties.



D Split ferrite beads can be taped along the coaxial cable. Type SFB1 will fit cables up to 6mm diameter and SFB2 will be suitable for the larger 18mm diameter cables. Five or six split beads are usually enough.



E Small ferrite beads can be pushed onto the 5mm diameter coaxial cables. About 50 beads are needed if operation from 1.8 to 30MHz is contemplated.



ANTENNA TUNING UNITS.

The antenna tuning unit (ATU) is a vital piece of the station. It matches the transmitter to the antenna, and is generally very wide ranging in its impedance matching capabilities. An auto ATU is less forgiving of impedance miss-match and sometimes will fail to tune. A manual ATU is more versatile and therefore is more use in the field. You may not be able to erect the antenna you want or need, so a compromise will have to be made.

There are many makes on the market, so select the one that serves your requirements. ATU's are simple to make if one can obtain he parts at a reasonable cost. However, research shows that the cost of individual components for 100W transmitters outweighs the cost of a manufactured unit. A 100W unit will suffice for most portable activity. Most manufactured units will have a SWR meter built in, this is really a boon, otherwise an out board SWR meter has to be carried, more kit!

Commercial ATU's used at G0VEH for portable activities.

Both of the above handle 100W and the portable one on the right has a Balun system for 300 ohm feeders.

HEALTH, SAFETY AND WELFARE.

Having spent most of my working life in the open in all weathers and locations I have leant a thing or two about surviving. One of the main dangers is the fact that because we live in a temperate climate it is taken for granted that the weather is generally kind and we are not subject to extremes of weather that other areas of the world are. This assumption kills and injures many people every year because they do not pay attention to the weather environment they are in. some of the dangers encountered are…….

- Heatstroke / sunburn.
- Dehydration.
- Heat exhaustion.
- Hyperthermia.
- Frostbite.
- Injury.

All of these are preventable if basic precautions are taken and a little learning is embarked upon.

Heatstroke. Overheating of the brain. Wear a headdress whilst out in the sun, keep arms covered and keep in the shade as much as possible. Don't do very physical work in the heat of the day. Protect the back of the neck. The symptoms are, headache, nausea, stiff neck, shivering, blurred sight, confusion, Get them medical help immediately. Dehydration plays a part in this. Give water as soon as possible.

Dehydration. This is a problem both in the cold and heat and is caused by a failure to keep up the necessary water intake. The human body needs about 5Ltrs of water per 24hrs to keep healthy. Some of this is taken as liquid and some in the form of solid food. Symptoms are headache, listlessness, tiredness, nausea, dizziness, aching joints, rigors (uncontrolled shivering) cold sweats, failure to sweat, confusion, and unconsciousness, even death.

Drink little and often, don't drink cold drinks, they make you hotter as everything you ingest has to be heated by the body to 98.5F, i.e. core temperature. The colour of urine will tell you if you drinking enough.

Try to ensure you "pee white twice a day".

Heat exhaustion. This problem is caused by overheating of the body by the environment, too much physical work and dehydration.

It is a problem that kills very quickly if not treated immediately. The symptoms are profuse sweating, confusion, headache, failure to sweat, fitting, extreme tiredness, levels of consciousness reducing, unconsciousness.
You do not have much time to save them if they get to the unconscious stage.

They must be cooled down immediately by dousing in water, or if they are conscious, give water to drink little and often, remove tight clothing and monitor temperature. Get them to medical help as soon as possible.

Remember that this is not just in summer time, it happens in winter as well.

Hypothermia and Frostbite. The severe cooling of the body is what this means. It can be seen in all seasons and is a killer. If the body's core temperature falls below 98.5F, you will feel the effects quickly, hence to say 1 degree under.

As the temperature drops, the effects are very noticeable in that personalities change usually for the worst,, This is due to the brain beginning to go into survival mode.

Symptoms of tiredness, listlessness, extreme shivering, shallow breathing, and cold clammy skin, greyish tinge to extremities, loss of all energy and will. The brain will shut off blood supplies to the extremities of the body to conserve heat, hence frostbite.

Damage to organs is not unusual.

Warm them up by body heat, i.e. . get them into a sleeping bag with somebody for warmth. Get them under shelter; Remove outer clothing to get warmth to their body directly. Do not apply direct heat. Do not allow to go the sleep. Feed with a hot drink, and don't allow any activity until they are warm. Get them to medical help as soon as possible.

Remember that wet doesn't kill, wind doesn't kill.. Wet and wind will.

INJURY. If there is one thing guaranteed when in the field, it is that people get cut and scratched and generally damaged in some way.

It is therefore very necessary that a small first aid kit is carried. It does not have to be an operating theatre and you don't need to be a doctor. All that is required is plasters, small bandage, antiseptic cream, headache tablets, safety pins and a triangular bandage.

If anybody requires more than this they are beyond your help and need professional services. What you CAN do is to learn a little first aid.

Summary.

- Dress appropriately for the environment whilst out in the field.
- If in doubt err on the side of caution.
- Learn to read the weather.
- Learn the symptoms and signs in first aid.
- Know what to do if…….
- Be prepared by practice and thought.
- Remember the priorities of SHELTER, WARMTH, WATER, and FOOD.
- Temperature reduces rapidly with height.
- Weather can change in a matter of minutes.

Safety.

When going out portable it is advisable to wear appropriate protective equipment such as safety or good quality shoes. This action may save toes from being injured by hammers, tools, mast pegs etc.

Erecting heavy duty masts should be done wearing good quality safety gloves or gardening gloves. Ally masts that are grazed will cut unprotected hands.
Likewise gloves should be worn when handling guy lines, to protect against burns.

Heads should also be protected by the use of hard hats, but not many of us do that.

When going portable with a large group, i.e. field days etc, ensure that activities are supervised by a member who is experienced and can direct activity. This does save accidents and recriminations.

Make everybody aware of fuels and their dangers and have a sterile (no smoking, naked lights) area for the operation and storage of such.

Keep vehicles and people separate especially at night.

Organisation and supervision is the key to successful days in the field.

Welfare.

This is about your welfare, and is really all about enjoying being in the field.
The use of garden chairs is not recommended for operating because of the angle at which one sits. Also they will become uncomfortable after a while and will give back ache and cramp. A ‘directors’ type chair is recommended, as one sits upright and at table height.

Sitting in a car for any length of time will be uncomfortable, especially in the driver’s seat. Sitting in the rear seats will enable you to stretch legs and will feel better.

Ensure you have a drink, preferably water, tea or coffee. Sweet drinks will make you thirstier and will not quench a thirst. Carry with you a 5Ltr or more container of water. Better still, use a stove to brew up and heat up food.

Food in the form of sandwiches is fine for a day portable, but any longer you will need to eat a more substantial meal. One can use cans or boil in the bag type foods, that only need to be heated in water, which is then used for the brew.

Always break for food or a drink and relax for a few minutes, it will refresh the throat as well as the brain.

Do let people know where you are going and when you will be back. If anything does happen at least somebody will be anxious and can act.

Ensure your phone is charged and working or you have a means of communication, you may need help.

Going portable is much nicer with friends than on one’s own. It is a time for a social gathering as well as radio.

Dave Cutts 2E0EBV operating in the RSGB 2m and 70cm (QRP) contest 6/7 August 2005.

SUMMARY.

Go out to enjoy oneself. This can be done at all seasons of the year providing you plan and prepare yourself and the kit. Build up slowly your expertise and equipment for field work.

It is often a family affair and will assist in keeping the peace with the rest of the family. Picnics, Barbeques etc are always a good excuse for going portable.

Your club members have a wealth of experience so ask around.

GO ENJOY.

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LEFARS