

<The Baofeng Option>

Hello Everyone.

Here we are again. We've talked about EmComms, Radio Basics and Starting a Local Network. We identified that the most effective way to establish a local network is to use the Baofeng Option.

We will take a deeper look at the option, the radio device at its foundation and then how best to get your group their radios.

<Baofeng Option – Describe

First lets briefly describe the option It is about Basing your local emcomms network on the Chinese-made Baofeng UV-5R using GMRS (or walkie0talkie) frequencies

<Baofeng Option – Reasons

The reason this is the preferred option at this time is because it is based on a very capable device, that is relatively easy to learn, affordable to but and most importantly has been proven time and again.

<Baofeng UV-5R>

Having said all that, lets take a closer look at the radio itslef.

We won't spend any real time on the popularity of this unit, other than to say that it is the single largest selling amateur radio of all time. The Baofeng UV-5R is to emcomms what the model T was to the automobile.

It does what it is designed to do - It enables 1-to-1 communication over a distance

<What is it - descriptive text>

So what is it exactly? In generic terms the Baofeng UV-5R is a hand-held radio transceiver that covers both the VHF and UHF frequency bands.

Let's look at each of these terms in turn

<Transceiver>

First and foremost it is a radio transceiver, transceiver meaning that it can send as well as receive radio signals as opposed to a receiver only, like the one in your car – transceiver means two-way communication – transmit and receive (often shown as TX and RX)

<VHF – Very High Frequency>

The UV-5R can transmit and receive in two of the radio bands, which are predominantly used by amateur radio operators. The first band is VHF or the Very High Frequency which covers the range from 30 to 300 MHz.

<UHF – Ultra High Frequency>

The other band is UHF or Ultra High Frequency, which covers the range from 300 MHz to 3,000 MHz (that is to say 3GHz).

GMRS Frequencies are part of the UHF band, as they are in the 460-470 MHz range.

When we discuss purchasing, it is important to determine if the unit you are buying includes the GMRS range of frequencies as they can be blocked, which means they will need to be unblocked. More about that later.

<Handheld Mobility>

The fact that these devices are hand-held is an important consideration. It means you can carry the device with you, in a pocket or a purse – always at the ready.

If you have to move, it moves with you.

It's like a cellphone in that respect.

Now I did recently discover that there are handheld CB radios. We'll be sure to expand on that when we discuss CB radios. In the weeks ahead.

<Programmability - Chirp>

One of the important features of the Baofeng UV-5R is that it is programmable. Programming your radios in advance with the GMRS frequencies saves a lot of time in learning how to use it. You can also include other frequencies of interest for listening only, like repeaters, emergency response services, weather stations and the like.

The unit will hold up to 128 channels and can be programmed using the open-source application called Chirp. We will discuss this further in an upcoming session.

<Extendability – BF with Extended Antenna – Getting More ‘Fars’>

One of the key considerations in EmComms is distance – getting as many ‘fars’ as you can, as some Hams like to say.

The Baofeng on it’s own can normally reach 2-5 kms, while sometimes going up to 12 kms or more in ideal conditions.

The key factor in determining coverage is the antenna - what kind is it and how high is it

The more sophisticated the design and the higher up its placed the greater the coverage.

The Baofeng gives you that option by having a detachable antenna. It usually comes with a short antenna lovingly referred to as a rubber duckie.

You can replace it with another store bought antenna, such as the Nagoya NA-771 which should enable you to get the best coverage possible

You can get a magnetic mount for the roof of your car to increase coverage.

You can extend your reach even further by running a cable from your radio to a fancier antenna, either store bought or DIY, posted up high, like on a tv tower or a rooftop.

We are currently working on some upgrade antenna packages to make it easy for Baofeng owners to extend their range.

One of the other ways to extend coverage is by setting up repeaters. Turns out you can make a repeater using a couple of Baofengs. We will be discussing antennas and repeaters in the weeks ahead.

<Versatility>

The Baofeng UV-5R is a bit of a swiss army knife. There are a lot of things it can do, which you will learn over time.

Things like being able to monitor 4 frequencies at the same time, the ability to create a number of sub-groups around a common frequency, send distress alarms, light the way and play your local FM station.

The device has 40+ menu settings so that when the need arises you can reconfigure it, things like the colour of the light display. There is a video on the website by Rob K of SK that fully details the menu, for anyone that is interested – or has the need.

<Power>

Now let's spend a moment discussing power. The basic UV-5R is 5 watts but you can find 8 watt and even 10 watt variations.

Generally speaking, the more power the better, but you can always change the power output setting in the menu if need be.

<The Battery>

The Baofeng, like all radios, runs on DC power, that is to say it uses a battery. Usually a smaller 2600 milliampere-hour (mAh) Lithium-Ion battery comes with each unit along with a charger that plugs into an AC wall outlet. Some variations also include a USB cable so that you can recharge from your laptop or other USB device.

The charge will tend to last a long time as people tend to use their radio infrequently and for short periods only. The extended 3800 mAh battery for example can apparently last for 3 days.

Many people like to have a spare battery so that one can be recharging while the other is being used.

We will do a whole segment on power and batteries.

<Unlocking>

If for some reason you end up with a Baofeng that can't transmit on GMRS, it means your radio is locked. To unlock a Baofeng UV-5R you need to perform a Factory Reset. Simply hold down three buttons while you turn on the radio. It can be done by one person but an extra hand or two makes it much easier.

When you do it properly the word Factory will briefly appear on the display screen. You will not reset the programmed channels or your menu settings. When your done, test to make sure it did the trick.

We will likely do a video on unlocking in the coming weeks. In the meantime, we have posted a video from the NotARubicon YouTube channel explaining how to do it.

<Purchasing>

So now let's turn our attention on how someone can get one of these units. There are basically two ways you can go this – each person buys individually or you do a group buy.

<Individual>

By Individual we mean each person places an order directly on the platform of their choice which is then shipped to them directly. You know, Amazon, AliExpress, that sort of thing.

You want to make sure people order the right thing. Not all Baofeng UV-5Rs are created equal.

The online market for handheld radios is a bit of the wild west – changes in package configuration, pricing and the constant concern about knock-offs.

You must remember to check and choose the right configuration. For example, be sure to choose the American electrical option and not the European, otherwise you'll need to buy an adapter to recharge the battery.

The other concern is the ability of the unit to work with the GMRS frequencies. You will want to make to sure that the technical spec shows that it will transmit and receive (TX/RX) in the 460-470 MHz range which will save you having to unlock it.

That's why a test purchase is always a good idea, if you can do it.

<Group Buy>

It seems that the most efficient way to get your Baofengs is to organize a group buy. We can certainly help you set it up or you can use the ordering system we already have in place. We get you a good price, the radios are all programmed and tested and we help with the training.

<Logistics>

No matter which way you go, remember there is more to it than just placing an order. Of course we can help with all these considerations.

<Questions>

So that's the Baofeng UV-5R and how you can own one. We will likely discuss Programming and using the devices in the next couple of weeks.

In the meantime, here are some questions to test your knowledge

What is the most popular amateur radio of all time?

What do you call a device that can both transmit and receive?

Is it possible to extend the range of a Baofeng?

What do you call the process for unlocking a Baofeng?

What is the most effective way for a group to get their radios?

<73>

Thank you for your time. Reach out if you have any questions or comments and 73.