New Ham Kit

Courtesy of

BLACKSTONE VALLEY AMATEUR RADIO CLUB
BVARC
W1DDD
SINCE 1953
WOONSOCKET, RI

Information to help get you "On the Air"

Congratulations on Getting Your Amateur Radio License!

It's exciting to pass your licensing exam...and it is also a little intimidating.

Now What?

You're probably asking yourself: "OK, what now? How do I get on the air? Where can I get help and guidance? Who can answer my questions about radios, antennas, and what gear I need? What should I buy and where can I buy it? How much do I have to spend? Once I get set up, how do I operate, make contacts and what do I say?"

Join the Club

First, we invite you to join the **Blackstone Valley Amateur Radio Club (BVARC).** This will put you in contact with other local hams who are happy to help you get started and answer your questions. It's tradition for hams to lend a hand to one another. Experienced ham operators called "Elmers" (mentors) help new hams get oriented to the hobby. So take advantage of their knowledge. You'll find a membership application in this packet.

Here are the benefits of joining BVARC:

- **Monthly Membership Meetings.** The club meets the last Monday of every month (except July and August)
- **The Messenger,** the club's quarterly e-newsletter loaded with club news, interesting articles, helpful tips and a calendar of coming events.
- **Volunteer Examiner Test Sessions** where you can upgrade your license.
- **Annual Field Day** with an opportunity to practice emergency operating skills. It's a great learning experience and a lot of fun.

Two-Meter Repeaters and How They Work

A Technician Class license will give you privileges on VHF and UHF bands. Dual band portable VHF/UHF hand-held radios can be very inexpensive with some costing as low as $30. So you can get on the air without breaking your budget and then upgrade your gear as you advance—both in experience and license class.

There are many Internet sites dedicated to ham radio, including information about best operating practices, news updates, equipment reviews and You Tube videos on many ham-related topics. You will also find Amateur Radio equipment manufacturers and retailers online, so you can compare gear, specifications, and prices.

The Band Plan

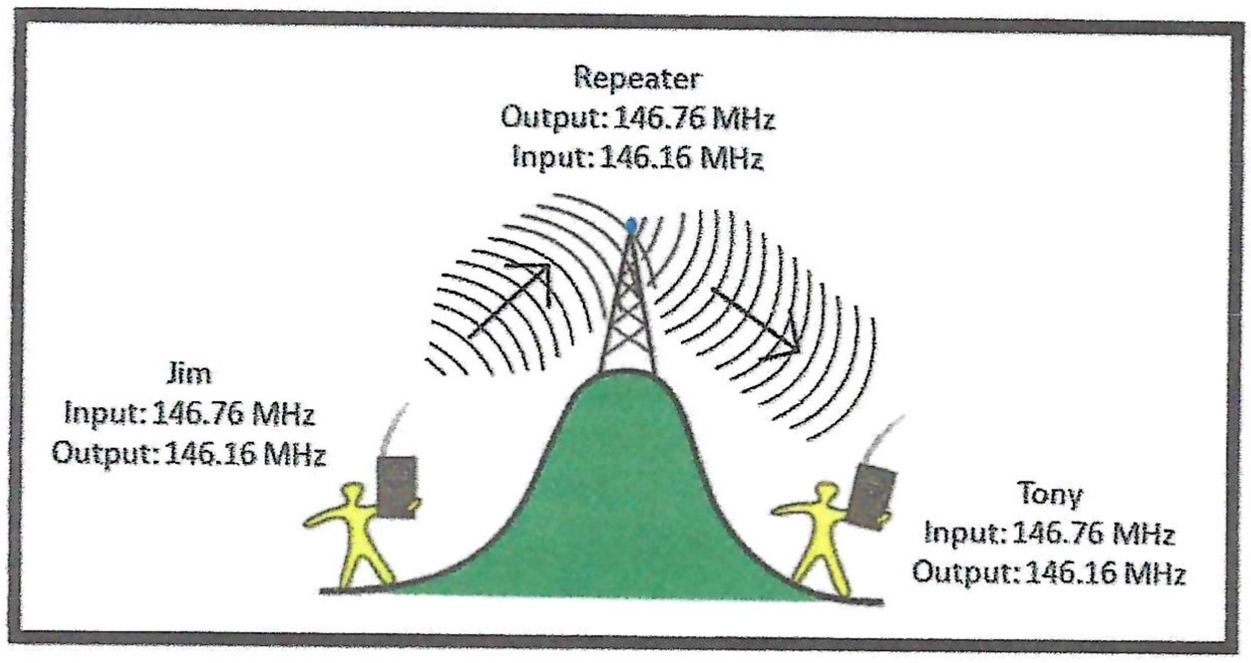
The "Band Plan" is published by the American Radio Relay League, Amateur Radio's national association. The plan shows you the frequencies assigned to Amateur Radio and which portions are available to each license class: Technician, General and Amateur Extra. The plan also indicates which types of operation are assigned to the various bands, such as CW (Morse Code), Single Side Band (SSB) Phone, data and so forth. It's important that you only transmit in the bands allowed by your license and to limit them to the appropriate type for the band in which you are operating.

Getting On the Air—Repeaters

Repeater Basics

Repeaters extend the range of your VHF or UHF radio by relaying your relatively weak signal to other stations, by using a higher power system that's usually located at a high elevation which maximizes its coverage. Repeaters work by receiving on one frequency and re-transmitting on a second frequency.

For example, on the 2-meter ham band these frequencies are 600 KHz (or 600 kilohertz) apart.
On the other bands, the offsets are different. As a rule, if the output frequency (transmit) of the repeater is below 147 MHz, then the input frequency (listening) is in, most cases, 600 kilohertz. lower. This is referred to as a negative input. If the offset is 147 MHz or above, then the input is in most cases 600 kilohertz above. This is referred to as a positive input.



Virtually all ham radios sold today set the offset once you have chosen the operating frequency automatically. Either + 600 MHz or – 600 MHz for the 146.0-147.99 2-Meter Band. Also, either +5 MHz or - 5 MHz for the 440-450 70 Centimeter Band.

PL Tones

PL is an acronym for Private Line. It is a proprietary name for a communications industry signaling protocol called the Continuous Tone Coded Squelch System, or CCTCSS. It is used to prevent a repeater from responding to unwanted signals or interference. Tone Squelch is an electronic means of allowing a repeater to respond only to stations that encode or send the proper tone. In other words, if a repeater is set to operate only when a PL tone of say 67 Hz
is heard by its receiver then it will allow the transmitting station access. If your station (mobile, base or hand held) does not transmit the tone that the repeater receiver has been programmed for, when you key up, then the receiver of the repeater will not recognize your signal and your station will not be usable on that repeater until you set the proper PL tone in your radio to be transmitted when you key your microphone. **If a repeater is in PL mode, that means it requires a CTCSS tone (PL tone) to activate the repeater.**

Rhode Island Repeaters:

Rhode Island has two linked repeater systems on the 2 meter band. These systems provide statewide coverage including parts of Connecticut and Massachusetts.

NB1RI Repeater Network

Output	Input	Call sign	CTCSS	Location	
145.170	144.570	NB1RI	67.0	Cumberland	
145.190	144.590	NB1RI	67.0	West Greenwich, Local	
145.350	144.750	N1BS	67.0	North Providence	
146.985	146.385	NB1RI	67.0	Exeter	
147.075	147.675	NB1RI	67.0	Portsmouth	
147.390	147.990	NB1RI	67.0	Westerly	
448.575	443.575	K1LBG	88.5	Wrentham, MA	70cm

Complete information on the NB1RI Repeater Network can be found at www.nb1ri.net

Quahog Repeater Network

The Quahog Repeater Network is a linked repeater system covering Rhode Island and Southeastern Massachusetts.

Output	Input	Call Sign	CTCSS	Location
449.225	444.225	N1JBC	141.3	North Providence
145.130	144.530	W1RI	77.0	West Warwick

Complete information on the Quahog Repeater Network be found at www.quahognet.com

Nearby Repeaters

Output	Input	Call Sign	CTCSS	Location
146.940	146.340	KR1RI	67.0	Cumberland
146.880	146.280	WC1R	100.0	Newport
146.760	146.160	KR1RI	67.0	Scituate
147.195	147.795	K1SMH	127.3	Attleboro, MA.
147.060	147.660	W1KG	No Tone	Medway, MA.
147.135	147.735	KA1GG	67.0	Taunton, MA.
147.270	147.870	KB1CJP	127.3	Mystic, CT.

The above listed repeaters are stand-alone repeaters. They are not connected/linked to any network. They cover a specific/limited geographical area.

Nationwide Repeaters

Complete information on all United States repeaters broken down by state, can be found at www.repeaterbook.com.

How do you make a call on an Amateur Repeater?

That most exciting day just arrived! You now have passed your Technician Class exam and have been issued your first call sign by the FCC.

You have your station all set up and you are ready for your first contact on a repeater! You choose a local repeater frequency and dial it up on your rig. **First, LISTEN AND LISTEN SOME MORE…** to make sure that the repeater is not already in use.

NOW BRAIN LOCK SETS IN! "What do I do? What do I talk about? Will I remember all those rules, regulations, theory and all that other stuff I had to study?

The simple answer is… probably not… but don't worry!

When you are satisfied that the repeater is not in use, set your transmitter power to the minimum and increase only as needed to make contact with the repeater, begin with the call sign of the station you are trying to contact followed by your call sign.; e.g. "(THEIR CALL SIGN) this is (YOUR CALL SIGN). If you don't establish contact with the station you are looking for, wait a minute or two and repeat your call.

If you are just announcing your presence on the repeater it is helpful to others that may be listening if you identify the repeater you are using AND your call sign; e.g. "This is (CALL SIGN) listening on the 84 machine" – or you could also say "This is (CALL SIGN) listening on 146.84." This allows people that are listening on radios that scan several repeaters to identify which repeater you are using.

So, you just keyed your mic, gave out your call sign and now you hear… your call sign and someone coming back to you with his call sign… he or she un-keys and the repeater is waiting for YOU!

First thing. try to write his call sign down and if he gives his name, that too. Lots of good operators recognize a new ham instantly on the air and they will guide you with patience, understanding, maybe some fun prodding and picking at you to get you to relax and have fun with your new license.

He or she will WELCOME you!

A good operator will never make you feel unwanted on the air. He may ask you to repeat your call sign just to make certain he understood who he is talking to and if you forget to give your name, he will ask for it. Most hams don't like to talk to a "call sign", so getting names and also locations helps to start the conversation.

If you make mistakes… the other station will most likely let you know what you did wrong and inform you as to the correct way in a friendly manner.

Don't be surprised if your new contact asks you all the questions instead of the other way around. He or she is just trying to get you to feel relaxed on the air. As your experience grows in ham radio, always try to remember your first contact and how excited and nervous you were. Now it's your turn and you are the one responding to a new ham and his first contact! Make him or her feel at home and… be a good operator… like your first contact was!

Remember, you must transmit your call sign at the beginning and end of a contact and at least every 10 minutes during any communication. You do not have to transmit the call sign of the station to whom you are transmitting. Never transmit without identifying. For example, keying your microphone to turn on the repeater without saying your station call sign is illegal. If you do not want to engage in conversation, but simply want to check if you are able access a particular repeater, simply say "(your call sign … testing)."

Talking to other stations

Use plain language on a repeater. If you want to know someone's location, say "Where are you…or what's your location?" If you want to know if someone you are talking to is using a mobile rig or a hand-held radio, just ask: "What kind of radio are you using?" You get the idea. Most repeater use is of a "local" nature so signals will be usually of high quality. The use of the phonetic alphabet is helpful at times.

Don't call "CQ" to initiate a conversation on a repeater. Just simply listen to make certain the repeater is not in use and then key your mic and say your call sign and "listening". If someone happens to be listening and they want to talk to you, they will respond.

Getting Experience

One of the best ways of getting experience is by participating in public service events where local radio clubs provide communications support. Such events include 5k road races, Halloween Pumpkin Patrols, and emergency communication drills held by local ARES groups (Amateur Radio Emergency Services). Check with local clubs to learn about their public service activities. These types of events provide real-world hands-on experience that's invaluable.

The Future – HF

Once you get on the air, chances are you'll want to do more – including upgrading your license to gain more operating privileges. Passing your General license exam will open up a whole new world to you, including the enjoyment and thrill of long-distance communications on the HF (High Frequency) bands with hams hundreds or even thousands of miles away.

The General exam is not difficult – if you are willing to invest some time studying. There are many study guides available, both in book form and online. There are also practice tests online so that you can check your knowledge and understand where you need to focus your studies. There are even cell phone apps you can download and install so that you can study wherever and whenever you have a free moment!

Elmers (mentors) are always ready to help you learn and understand. The concepts behind what makes radio work may seem overwhelming and intimidating, but the basic theory is not hard to understand, especially once you begin your journey on the air!

The Consortium—Learning the Basics

A popular belief is that hams who have studied for their license in the past couple of dozen years didn't learn the basic knowledge that their older brethren obtained by simply studying for the exam. In past decades candidates had to understand schematics and explain how different oscillators work, the basic principles of a full wave power supply, how basic antennas worked. Today, students do not learn what they really should know to fully enjoy their new hobby. As a result, many new hams have no idea what a dipole is, how transmission lines operate, propagation and many other building blocks that we take for granted. Bob Beaudet (W1YRC), a long-time BVARC member saw this as a big problem and created a plan to do something about it. Hams, and those wishing to be one, gather monthly (except during the summer) to hear about important basic information that all hams should know. Bob and Jim Johnson (K1GND) moderate the program. The Consortium is a separate entity from BVARC and is free and open to hams and non-hams alike. For more information about The Consortium, visit the club's web site at www.w1ddd.org.