A Repeater Guide for the Atikokan Amateur Radio Club

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Introduction

Your first experience with Amateur Radio will likely be on the local repeater, VE3RIB. This guide is intended to get you started on the right path, with a minimum of embarrassment. This is a first quick-and-dirty cut. I am developing a pocket-sized guidebook, but that will take a couple weeks.

The big thing is to get on the air. Once we get some radios, I'll set some activities up that will help, but don't wait for me. The other hams who monitor this repeater (even from other communities) know that there are several new hams in town, and they will be patient and helpful.

Your First QSO

1. **Listen**. Listen especially to how calls are initiated and concluded, to get a sense for the procedures and the local jargon.

2. **Dive-in**. Make that first contact.

   ○ To call a specific station, state her callsign then yours: "VE3XXX, VE3YYY."

   ○ To answer a call, state her callsign, then yours: "VE3YYY, VE3XXX, go ahead."

   ○ To let people know you are on frequency and willing to chat, say: "VE3XXX (mobile/portable) Atikokan listening."

3. **Don't over-modulate**. Each microphone is a little different, but generally, don't talk directly into the mic element. Hold your mic close to your mouth, but talk over it. Ask the person you are talking to for an audio report ("How's my audio?") and she will let you know.

4. **Pause between keying the microphone and talking**. There are three reasons for this. First, many people talk before they fully key down the mic, and their first syllable gets cut off. Second, our repeater is linked to others, and it sometimes takes a bit for all the systems along the chain to fire-up. Third, our repeater has a kerchunk filter. This prevents short bursts of static from keying the repeater. If the repeater has been idle for a while, the first ½ second of a transmission is not repeated. (Afater your first transmission, the kerchunk filter is disabled until the repeater is idle again.)

5. **Wrap it up**. When you're done, you must ID. Some people will end a conversation the way they started, by saying both people's callsigns ("VE3XXX Dryden, VE3YYY Atikokan clear and listening.") This means the conversation is over, but you are still monitoring the frequency. You really only need to say your own callsign, though: "VE3YYY Atikokan clear and listening." If you are shutting down your radio, you might say: "VE3YYY Atikokan clear and QRT."

The Autopatch

Our repeater has a telephone autopatch allowing you to make local calls. The process is straightforward:

- ID, and let people know you are using the patch: "VE3XXX for the patch."

- Hold down your mic key and press *, then the phone number.

The repeater will announce: "Autopatch, number 5979999." then dial. When the person answers the phone, you can talk. At the end of your call, press # to hang-up. The repeater will say: "Call complete."

Simplex

If you want to carry on a protracted local conversation, and don't wish to tie up the repeater, use a simplex frequency. The two metre calling frequency is 146.520, and is a good one to use.

Regional Repeaters

There are many repeaters in the region, almost all of which are linked on one of two systems.

The **Pinetree Intertie** connects repeaters from Dryden to Winnipeg then North, using UHF radio links. Each repeater is given a two-digit number, and all repeaters can be controlled using similar DTMF commands. Generally, repeaters from Dryden to Kenora are all connected, and all repeaters West of Kenora are connected. To talk to, say, Winnipeg from Dryden, you can connect the link from Kenora to Falcon Lake. This is a very robust repeater system, and very useful if you are travelling in that direction. For a complete listing of the Pinetree repeaters, and instructions, download the manual: http://my.drytel.net/va3ext/PTI_Manual.pdf

As an amateur, you have every right to "play" with the system, but be cognisant of the other users on the system. If you have any questions on the Pinetree Intertie, give Scott, VA3EXT, a call. He can usually be reached in the evenings or weekends through our repeater, VE3RIB.

The **NWO IRLP Network** is a virtual network of repeaters in Northwestern Ontario connected via the Internet. Each IRLP node has a four-digit number. VE3RIB is node #2768. An IRLP node may be connected to any ONE other node at a time. IRLP reflectors may connect to many stations at once. Their four-digit numbers start with "9." Several Northwestern Ontario IRLP systems are connected to Reflector 9000, channel two, which is identified as 9002.

If you want to connect to another station, there are two approaches:

1. Have THEM connect to Reflector 9002. You will be able to talk to them without doing anything at this end.

2. Disconnect from Reflector 9002, and connect to the other station. At the end of your call, disconnect from that station and reconnect to 9002. It's not that hard:

   ○ Say: "VE3XXX disconnecting from 9002 and connecting to 2000."

   ○ Key 73 to disconnect.

   ○ Key 2000 to connect to node 2000 (VA3LU in Thunder Bay.)

   ○ Complete your call using the procedures listed above.

   ○ At the end of your call, say: "VE3XXX clear and disconnecting."

   ○ Key 73 to disconnect.

   ○ Say: "VE3XXX connecting to 9002."

   ○ Key 9002 to reconnect to our reflector.

On the web, go to www.ve3fyn.ca/irlp for a realtime status report on area IRLP repeaters.

Also, go to www.irlp.net for a complete overview of the system.

Basic IRLP Commands

There are only a few commands to remember.

- Node Number: to connect to another node. (See the above websites for a listing of node numbers worldwide.)

- 73: to disconnect.

- A2: to report the IRLP status (our repeater only)

Running VE3RIB Stand-Alone

You may want to run our repeater as stand-alone, not connected to any other repeaters, for a time. An example would be when we are helping with the Bass Classic, and don't want to bother the other repeaters with our chatter. Or, some other connected node may be engaging in a protracted conversation, and you want to have your own chat locally. There are three ways you can disconnect VE3RIB from the system. (Remember to ID.)

1. Key "73" to disconnect the IRLP from whatever node (usually Reflector 9002) it is connected to. You will hear a prompt, "IRLP link clear." Using this approach, the link will stay down indefinitely, but another node can still connect to our node.

2. Key "740" to disconnect the IRLP from whatever node, and disable that port on the repeater controller. Using this approach, the IRLP is disabled completely, as the port is closed, so no other node could connect to our repeater. However, this approach sets a timer; after one hour, the node will automatically reconnect.

3. Key "505" to disconnect ALL ports from the Atikokan repeater. This would disconnect you from the IRLP system and from the Upsala Repeater. Again, a timer will automatically reconnect all ports after one hour.

See the end of the document for a complete list of commands for VE3RIB

Regional Nets

- **The Breakfast Club**: On the Pinetree Intertie every morning at 8:30 Atikokan time, then on 3.743 MHz LSB 9:00 am local time. Local hams from Northwestern Ontario get together and chat.

- **The Manitoba Weather Net**: 3.743 MHz LSB every morning at 9:30 am local time. Hams from Manitoba and Northwestern Ontario report the weather.

- **The Northwestern Ontario ARES Net**. 3.750 MHz every evening at 8:15 local time. ARES Emergency Coordinators from the region check-in (nearly) daily, though anyone may check-in. Often, an informal net follows.

- **ARES IRLP Net**. On IRLP node #9035 at 7:00 pm local time Wednesdays and Sundays.

Building Your First Antenna

Anyone who can manage a soldering iron can build his own antenna. It will save you money, allow you to experience the hands-on part of the hobby, and will let you build antennas specific to your uses. For a home station, a good one is this dipole antenna made mostly from 1/2" copper water pipe. http://dipole.w4zt.com. I can show you a finished product if it helps. The antenna requires the centre conductor and dialectric from a piece of coaxial cable. I can supply that for you.

If you are interested in building this, let me know. If there is enough interest, we could do it as a group project.

Online Stores

The three best Canadian stores for amateur radio equipment:

- www.durhamradio.com
- www.radioworld.ca
- www.elkel.com (click on "English")

Also www.mapleleafcom.com sells cables and antenna equipment at very reasonable prices.

ICS Electronics is on May Street in Thunder Bay. They sell cables, a lot of components and electronics parts, but their prices tend to be a little steep.

Events: Camp 807

Camp 807 is an annual gathering of radio amateurs from Northwestern Ontario and northern Minnesota, held every August Long weekend. This is a good opportunity to put faces to some of the hams you will undoubtedly talk with over the next couple months. Details will be forthcoming, but it is generally a fairly inexpensive and very casual affair.

I believe it will be held in International Falls this year, so get your passport now.

By the way, 807 does not refer only to our area code. It also refers to a popular tube, the '807', which looks remarkably like a (stubby) beer bottle. That should give you an idea as to the overall tone of the weekend.

Other Resources

APRS. This system basically connects a GPS to your radio (sometimes via a computer), allowing you to send your position information over the radio, and ultimately to the Internet where it may be viewed online. It also allows text messaging similar to Twitter, and e-mailing from your radio to an Internet e-mail account. We have an APRS digipeater and I-Gate in Atikokan. There are many throughout the region. Start by going to www.aprs.net.

WinLink. This system allows you to send e-mail using radio links. It is a smart system that will use the Internet where and when it exists, and radio (UHF, VHF and HF) when and where it doesn't. We are capable of Winlink here, on 144.390 MHz. Connect to VE3FYN-10. To make this work, you need a radio (VHF in our case) connected to your computer (not as hard as it sounds.) Start by going to www.winlink.net. Look for an online guide called *Winlink for Dummies* to set up the software.

Regional Repeater Listing

Visit http://my.drytel.net/va3ext/area_repeater_map.html for an up-to-date regional repeater listing, along with a repeater map.

Pine Tree Intertie, Linking - UHF Backbone

Dryden-	**VE3DRY**	**147.255+**	linked to **PTI**
Camp Robinson-	**VE3VBY**	**145.310-**	remote base to **VE3DRY**
Bear Paw-	**VA3BPL**	**145.425-**	remote base to **VE3DRY**
Sioux Lookout-	**VE3YXL**	**146.850-**	linked to **PTI**
Sioux Narrows-	**VE3RSN**	**145.170-**	linked to **PTI**
Kenora-	**VE3LWR**	**147.030-**	linked to **PTI**
BlackHawk-	**VE3RBK**	**147.045+**	linked to **PTI** NEW **New Frequency** NEW
Falcon Lake-	**VE4FAL**	**146.640-**	linked to **PTI**
Hadishville-	**VE4EMB**	**147.360+**	remote base to **VE4FAL**
Milner Ridge-	**VE4MIL**	**145.210-**	linked to **PTI**

NEW <u>IRLP Nodes</u> NEW

Status

Dryden-	**VA3DIS**	**147.375+**	**IRLP Node # 2739**		
Sioux Lookout-	**VA3SLT**	**147.315+**	**IRLP Node # 2590**	**CTCSS (192.8Hz)**	
Ignace-	**VA3IGN**	**147.180+**	**IRLP Node # 2414**	**CTCSS (123.0Hz)**	
Ear Falls-	**VA3EOE**	**146.550**	**IRLP Node # 2468**	*under developement*	
Atikokan-	**VE3RIB**	**147.120+**	**IRLP Node #2768**		
Fort Frances-	**VE3BVC**	**146.570**	**IRLP Node # 2509**	**CTCSS (123.0Hz)**	

Sioux Narrows-	**VE3JJA**	**146.580**	**IRLP Node # 2015**	**CTCSS (123.0Hz)**	
Kenora-	**VE3YQK**	**146.560**	**IRLP Node # 2949**	**CTCSS (123.0Hz)**	
Thunder Bay	**VA3LU**	**146.820-** NEW	**IRLP Node # 2000**	**CTCSS (107.2Hz)**	
Winnipeg, MB	**VE4WRS**	**145.450-**	**IRLP Node # 1066**		
Pinawa, MB	**VA4GD**	**146.490**	**IRLP Node # 1981**		

Utilizing Reflector 9002

Other Repeaters

Dryden-	**VA3YHD**	**53.150-**	**(Down - need duplexers)**
Dryden-	**VA3YHD**	**147.150+**	**PL tone**
Sioux Narrows-	**VA3SXN**	**146.940-**	**Local**
Fort Frances-	**VE3RLC**	**146.820-**	**Local**
Red Lake-	**VE3RLD**	**147.000+**	**Local**
Upsala-	**VE3UPP**	**145.470-**	NEW**Linked Soon** NEW

APRS Digis & IGATES

Dryden-	**VE3DRY**	**144.390**	**WIDE**
Dryden-	**VA3EOD**	**144.390**	**IGATE, WIDE, WX**
Dryden-	**VA3EXT**	**144.390**	**IGATE**
Sioux Lookout-	**VE3SLT**	**144.390**	**IGATE**
Atikokan-	**VE3RIB**	**144.390**	**WIDE**

Atikokan-	**VE3FYN**	**144.390**	**IGATE**
Sioux Narrows	**VE3RMU**	**144.390**	**WIDE**
Sioux Narrows	**VE3JJA**	**144.390**	**IGATE, WIDE, WX**
Fort Frances-	**VE3RLC**	**144.390**	**WIDE**
Fort Frances-	**VA3FNP**	**144.390**	**IGATE**
Fort Frances-	**VE3BVC**	**144.390**	**IGATE**
Kenora-	**VE3YQK**	**144.390**	**WIDE**
Kenora-	**VE3JJH**	**144.390**	**WIDE**
Falcon Lake-	**VE4FAL-3**	**144.390**	**WIDE**

VE3RIB User Commands

VE3UPP	VE3RIB	DTMF	Link Commands	Note
X	X	701	Link 1 on (VE3UPP)	
X	X	710	Link 1 off	1
X	X	704	Link 4 on (IRLP)	2
X	X	740	Link 4 off	1 3
X	X	505	Turn off all links	1
X	X	506	Turn on all links	
1	Link will reconnect after 60 minutes.			
2	On connect, will link to Reflector 9002.			
3	Generally, leave this link on, and use IRLP command 73 to disconnect.			

VE3UPP	VE3RIB	DTMF	Misc. Reporting Commands	Note
	X	C1	Report current time	
	X	C2	Report internal and external temperature	
	X	C3	Report power output to main radio	
	X	C4	Report main battery voltage	

VE3UPP	VE3RIB	DTMF	Autopatch Commands	Note

	X	*	Dial autopatch	
	X	#	Hangup	
	X	C	Answer incoming call	4

4	Reverse autopatch: dial 597-6650, after "Enter access code" press *003.

VE3RIB / VE3UPP Repeater Commands (2 of 2)

VE3UPP	VE3RIB	DTMF	Diagnostic Commands	Note
	X	A1	Signal test	
X	X	A2	Report IRLP status	5
X	X	B	Keypad (DTMF) test	
X	X	003	Recall transmit crosspoints	
X	X	004	Recall receive crosspoints	
X	X	009	Recall all crosspoints	

5	This macro will only run if Link 4(IRLP) is enabled.