

# **C***entral* **O***hio* **R***adio* **C***lub*

Welcome to the Central Ohio Radio Club!

You may be a new ham or an old timer who has just gotten on FM Repeaters. Hopefully this manual will help you feel a little less overwhelmed.

Operating Manual – 2016

## **FM REPEATERS**

Repeaters require two frequencies; one is called the INPUT, on which it receives your signal, and the other is called the OUTPUT on which it re-transmits your signal. Two-meter repeaters use a separation of 600 Khz., 70 cm or UHF repeaters use a separation of 5 Mhz. CORC operates FM repeaters on the following output frequencies: 146.76, 146.97, 147.33, 444.200, and 52.70. In addition CORC operates the 145.49 & 444.000 D-STAR Digital repeaters.

Most 2 meter repeaters that transmit at or above 147.00 Mhz. use a plus offset. This means you transmit 600 Khz. above your receive frequency. Most 2 meter repeaters that transmit below 147.00 Mhz. use a minus 600 Khz offset. This means you transmit 600 Khz. below your receive frequency.

You may find that a repeater appears to be not accessible. To operate these you need to transmit a tone known as "CTCSS", "PL", or just "sub-audible tone". Some repeaters operate in tone to keep interference down not to keep amateurs out. All CORC repeaters transmit 123.0 Hz. on their outputs. (Only exception is 444.200 that uses 151.4 Hz.) This feature allows users to decode PL in their radios - if equipped. This allows your radio freedom from most intermod. You may check with other Hams or a Repeater Directory to assist you in finding the correct PL tones. The Ohio area repeater council's web page is <http://www.oarc.com/index.html> and has information.

## **GETTING STARTED**

Now let's explore the proper way to access a repeater. Assume you have adjusted your transceiver for the 146.76 repeater. Simply follow the steps listed below.

Listen to be certain the frequency is not in use. Only one person may talk on a repeater at a time. It is like a telephone party line. (Some of you may not be old enough to remember these) If you attempt to talk while others are speaking, only the stronger station will be heard. If both are equal strength, neither will be intelligible. This effect is known as "doubling".

Press your PTT (microphone push-to-talk switch), wait for two (2) seconds and then clearly say something similar to:

"This is (your call) listening on 76," or "(your call) listening," or if calling a specific station "(other call), this is (your call)."

Release PTT. After a short delay you will hear a beep. The beep indicates that the "timer" on the repeater has reset. While you were transmitting, the repeater was measuring the time your carrier was on. The maximum time you may transmit between "reset beeps" is 3 minutes. After 3 minutes the repeater turns itself off and no one will hear you, as the repeater has "timed out".

After the "reset beep" has sounded, the station you were calling may begin a transmission. They **DO NOT** have to wait for the repeater transmitter to drop. Note... Once the QSO has started it is no longer necessary to wait 2 seconds each time you wish to transmit.

Continue your conversation, being certain to clearly identify every 10 minutes. You must also identify your station at the end of your transmission. Please, do not over identify. At the end of your conversation just clearly say: "This is (your call) clear"...

## **RESET BEEP - MORE THAN JUST A BEEP**

The "reset beep" has more than one purpose. First it advises the repeater is ready for another 3-minute transmission. Secondly, it allows someone wishing to join in the conversation, time to do so. An example:

You have finished transmitting and release your PTT.

The station wishing to join into the conversation states their complete call sign immediately, without waiting for the reset "beep".

After identifying, the joining station waits to be recognized by one of the stations already in the conversation. The joining station then states their intentions; whether to join the conversation, call another station, obtain road directions, etc.

## **AUTOPATCH**

The autopatch requires a touch-tone pad. To use the patch the following procedure must be used:

- 1) Listen to be certain the frequency is open.
- 2) Transmit and say, "This is (your call) requesting the autopatch".
- 3) Wait for "reset beep". This clears the tone decoder of any noise it may have detected.
- 4) Refer to the "MEMBER CODE SHEET" for the correct manner to initiate your autopatch.
- 5) After calling your number, release PTT and listen for the number to be read back. You will hear either the phone ringing or a busy signal. If you miss-dial, press the POUND (#) button ONCE to drop the patch.
- 6) When you complete the autopatch you must turn it off. Press PTT and the (#) POUND key. Release PTT and wait for the "reset beep". You will hear, "Your call is complete, Thank you, (time/date), Please Identify". Then say, "This is (your call) clear the autopatch."

The 146.76 and 146.97 repeaters have telephone patches on them. They offer both Emergency Abbreviated Dialing and standard dialing. See the "member code sheet" for codes for operation.

## **ECHO TEST**

This feature on the 146.76 & 146.97 repeaters allows a member to check the quality of their station. Simply ID, state you are requesting the echo test, un-key wait for the reset beep, and press the start code. You will have 5 seconds of time to transmit after you hear "start test now". An example, "this is (your call) testing 123321". Release your key and hear what your RF and audio quality sounds like to others. This command is on the "member code sheet".

## **NEWSLETTER**

A newsletter is published 3 times a year, or as needed.

All copy or advertising (which is FREE to members) must be received six weeks prior to publication. Please call for commercial rates. We reserve the right to edit or reject submitted items.

The Central Ohio Radio Clubs Web Page is located at [www.corc.us](http://www.corc.us). Past issues of the newsletter, photos of meetings, membership applications, and other club documents are available there.

## **MEETINGS**

The club generally meets 3 times a year. January/February, June, and November are the months. All are potluck dinners for you to attend. The business meeting is the January/February meeting. Listen to the repeaters & check the newsletters for details.

## **444.200 - W8AIC REPEATER**

The 444.200 UHF repeater requires 151.4 PL to access. The input frequency is 449.200. It is sometimes used by weather net control operators to talk to the Wilmington Weather Office. Please listen during the possibility of severe weather before transmitting. **CAUTION: Three high beeps indicate it is linked to Wilmington.** The normal two high beeps and a low beep indicate it is not linked. It also transmits 151.4 PL on its output.

## **52.70 – W8RRJ REPEATER**

The 52.70 Output 6 Meter repeater has three inputs which are 53.70, 51.70 and 52.94. See the site info tab on the club's web site for location details. No PL tone is required at present for access however; it does transmit 123.0 on its output for your benefit. **Note:** All of the club's repeater antennas are vertically polarized. Using a **horizontal** low band wire antenna on this repeater will **reduce** your signal **20db**.

## **145.49 & 444.000 D-STAR REPEATERS**

The W8CMH D-STAR DIGITAL repeaters are now owned and operated by The Central Ohio Radio Club. If you are interested in registering on these D-Star Repeaters, please contact Chuck, WA8KKN.

## **147.33 - W8NBA REPEATER**

This Repeater offers Internet Radio Linking Project (IRLP) capabilities. IRLP is a fun low cost way to work the world. Check the IRLP tab on <http://www.corc.us>

Additional information is available at <http://www.irlp.net> View the Home Page, Introduction Page explaining how it started in 1997, How it Works page explaining VoIP, and finally the Node Info Page that has the actual Node numbers you need to know to link to a particular Foreign Country or US Repeater. With IRLP you can connect to many parts of the world from your 2 Meter radio. The command codes are located on the "member code sheet".

## **146.76 - W8AIC REPEATER**

### **WEATHER NET**

What happened?? **The reset beep is different!!** It sounds like a "di dah dah". (Morse code W)

This indicates the Central Ohio Severe Weather Net (COSWN) has been activated by the National Weather Service.

There is the possibility of severe weather in central Ohio.

During these nets YOU, the radio amateur, can perform an important public service.

While the repeater is in weather net mode, airtime is valuable.

Be certain you have a valid need to use the repeater. This is not the time to chitchat.

**Please**...Listen for a while to get the feel of what is going on before you transmit, unless you have an actual emergency.

Try to be certain you have sufficient power. A weak, unreadable signal can be confusing, and under certain circumstances, could make the net control station think that you are part of the emergency.

If you have a weather related emergency, chances are that the net control stations are already monitoring. If calling these stations does not bring a response, do the following:

- Give your call and Touch -Tone #5, for 5 seconds. A weather control operator will respond shortly.

## **WEATHER NET PROCEDURES**

The COSWN is one of the best in the nation. This is certainly a credit to the hams in area. It takes a lot of teamwork for the net to run smoothly. The Weather Service becomes a very busy place when a Watch or Warning activated.

Information is coming into the center and data requests are going out. The Weather Service may ask for a spotter report from the weather net.

The control operator will look over the list of hams checked in and ask a station for a report. If there is no station in that area, the net control may ask if someone can move into the area.

A short, precise report is needed to help the Weather Service decide how to react to information they have received.

Let's say that you are in an area in which you experience hail. Please report it! ID on the repeater, and wait to be acknowledged. Say something like; "1/2 inch hail at Broad and High, 30 to 40 MPH winds.

The net is only as accurate as you! The Weather Service needs fast and precise reports.

If the repeater is plugged up with "fair-weather" reports, high priority traffic cannot get through.

It may seem that sometimes the control operator is being short. Please don't take offense.

The net control operator is trained to take information from you and transfer it to the Weather Service as efficiently as possible.

A "Readiness Check" is scheduled every Tuesday night at 7:30 P.M. on 146.76 during tornado season. **Please check in** and learn with the training exercises. This will help you **become prepared** in the event of a real weather emergency.

## **CORC SUGGESTIONS:**

### **DO KEEP TRANSMISSIONS SHORT...**

Emergencies wait not for monologues to end.

### **DO THINK - BEFORE YOU TRANSMIT...**

If you can't think of anything intelligent to say, listen...

### **DO PAUSE BETWEEN EXCHANGES...**

Let the courtesy beep do its job. This is needed to let the controller reset the timer. Also, someone with a high priority message may need to break in or use the machine.

### **DO IDENTIFY PROPERLY...**

ID with your call **CLEARLY** (so control operators can understand it) at ten (10) minute intervals. There is **no need** to over identify your station.

### **DO BE COURTEOUS...**

A repeater is like a large telephone party line, and the same type of cooperation is needed.

### **DO USE SIMPLEX WHEN POSSIBLE...**

Leave the repeaters available for those who need them. Also use the **least amount of power** needed to keep you in contact with the other station. This is an FCC rule.

### **DO SUPPORT YOUR REPEATERS....**

Maintaining a good repeater system is an expensive undertaking. Please do your "fair share" by contributing to the systems you use. **Encourage others to become members.**

### **DON'T ABUSE YOUR AUTOPATCH PRIVILEGES...**

Most business messages are not permitted and are illegal. Don't force the control operator to terminate your call. If you aren't sure, don't make it!!!

### **DON'T BREAK INTO A CONTACT...**

Unless you have something of importance to add. Interrupting on the air is no more polite than it is in person.

### **DON'T FORGET THAT WHAT YOU SAY OVER A REPEATER CAN BE HEARD OVER THOUSANDS OF SQUARE MILES...**

You can be heard by anyone with an inexpensive public service band receiver. Some are potential amateur operators. If they like what they hear, they will want to get licenses. **Don't leave a bad impression by making thoughtless or off-color remarks.**

### **DON'T GIVE SPECIFIC LOCATIONS, TIMES OR DATES...**

When talking about going on vacation or when your house or car may be unattended. Hamburglers may be listening, and **you** may be your own worst enemy.

### **DON'T USE HANDHELDS IN A CAR WITHOUT AN EXTERNAL ANTENNA...**

Even with the good coverage of the CORC system repeaters, in some cases your signal could be unreadable. This ties up the repeater with useless noise.

### **FINALLY... DON'T FORGET: AMATEUR RADIO EXISTS BECAUSE IT IS A SERVICE...**

It is not just a hobby. Help contribute to the "public service" aspects of FM repeater operations, such as accident reporting, supporting area emergency groups, etc.