



## THE REPEATER

*Welcome to the monthly  
Newsletter publication of the  
Fannin County Amateur Radio Club*



### K5FRC Repeaters

**145.470 (No tone) IRLP 3602 ECHOLINK 143902**

**145.130 (No tone)**

**443.750 (No tone) IRLP 7901**

**Digital SSTV 446.460**

David Keene W5DBK, editor-in-training

Email comments to [W5DBK.dave@gmail.com](mailto:W5DBK.dave@gmail.com)

**January 2011** Volume 2 No. 1

---

# Fannin County Amateur Radio Club

## K5FRC - Minutes for December 9, 2010

---

The monthly meeting and annual Christmas Party combination was held this year at Shumardi's Restaurant on Thursday, December 9, at 6:30 PM. There were thirty-seven members present and twenty-one visitors for a total of fifty-eight.

The business meeting was called to order by President Mike Durbin. Mike informed everyone that the purpose of the business meeting was to elect the club officers for the coming year. The list of nominations was read which is: Mike Durbin K5MJD for president, David Keene W5DBK for vice president, Kathy Brewer KE5SLG for secretary, and Carly Tassan KE5ZKV for treasurer. Mike then asked if there were any nominations from the floor. There were none. Danny Loyd KE5WDI made the motion the nominations be approved by acclamation. Motion passed.

Mike then asked for a motion to approve the minutes and treasurer's report as it had been posted on the web. Mike Lindsey KD5UNY made the motion. Motion passed by acclamation.

Mike asked for a motion to adjourn the meeting. Jen Peaco KE5OPS made the motion. Motion passed by acclamation and the party began.

X

---

Kathy Brewer  
Secretary

---

List of prize auction winners:

David Keene won the Club Net participation drawing which was a Wouxun Dual Band Handheld Transceiver with lots of extras donated by Richard Lenoir owner of Main Trading Company of Paris.

**SILENT AUCTION:**

- 1) Health HW-8 classic QRP CW rig went to Lee Laird K5UN FOR \$50.00
  - 2) Minimum Increment Morse code went to Danny Loyd KE5WDI for \$1.00
  - 3) Jove Receiver - Jenn Peaco KE5OPS for \$1.00
  - 4) Icom IC-221 Commercial 70 transceiver - Mike Lindsey KD5UNY for \$20.00
  - 5) Yaesu FT2800M 2-Meter Transceiver - Bill Harris W5NPK for \$45.00
  - 6) Yaesu 2 meter Mobil Unit to Steve Ten Eyck KF5CXT for \$25.00
  - 7) Kenwood 2 Meter Mobil Unit - Steve Ten Eyck for \$65.00
-

### **A note from the President.**

First of all a happy New Year and hope Santa brought you lots of goodies for the SHACK.. After the January 15th meeting we will have a guest speaker, Bob Irish will be there to tell us about his DXpedition. Hope some of you got to work him during the expedition.

I would like to work on the topics of the meetings for the rest of year so we can make plans and make the meetings as productive as possible. Since we have had so may request for technical meetings there should be plenty of topics we can choose from for the meetings. I hope we can make a list and then vote on each item to see where most of the interest lies. Some topics presents already are as follows;

Describe all the features of the modern radios. i.e. CTSS, DTMF signaling, paging, etc.

Antennas i.e. Radiation angle, polarization, feed lines, impedance, VSWR, etc.

Modulation i.e. AM, SSB, FM, QPSK, RTTY, SSTV,etc.

Repeaters and Remote Bases i.e. Design, features, control, etc.

There should be a lot more we can add to the list so bring your list with you..

---

### CABLE SEALING METHODS

It will soon be "outdoor antenna work season" when Spring arrives and a very important part of any antenna is its feedline and connectors. The following excerpt is from an article by Directive Systems and it gives a good description of how to waterproof a connector. Most outdoor fittings require some weather proofing but none more than the "ham standby" PL-259 connector. The PL-259 should always be water proofed and the type N connector can also use a good water proofing for long reliable service.

Dave  
W5DBK

These techniques are becoming standard procedure in the cellular industry. Sealing materials are applied to outdoor RF connectors to accomplish several goals. First and foremost is to prevent water from entering the rf connector. The second reason would be to prevent UV radiation from degrading the connector over a period of time. Sunlight and weather will oxidize the metal surfaces and cause DC resistance to increase on exposed mating surfaces. It is true that Type N connectors are supposed to be weatherproof, but if left exposed to the elements, the connector will tarnish and start looking rather ugly in a short time. Any good taping job will also prevent the connectors from loosening up in the wind. This is a common occurrence for cables exposed to high winds and vibration. A few general rules about weatherproofing. Always apply tape above 32 degrees F. Even then, always protect your tape rolls by storing it under your coat and next to your body to keep tape flexible in cold weather. If

the tape cannot stretch elastically, it will not seal properly. By stretching elastically, we mean that the tape stretches slightly below it's elastic limit. You do not want to stretch the tape to the point where it distorts. Only apply enough pressure to get a smooth wrap on an antenna or cable splice point. Smooth each wrap of tape with your hands to assure proper adhesion. Always cut the tape with a sharp knife and never stretch it to break it. A stretched tape will most likely unravel.

For vertical runs of cable, always run the final wrap from the bottom to the top, and overlap about 50% of the width of the tape. This will provide the same effect as shingles on a house. The water will run down across the joints without trying to go into the joints. In warm climates with much sunlight, it is a good idea to wrap an extra layer or two of vinyl tape over the completed splice to enhance UV protection. Your splice will last longer as a result!

The first step in weatherproofing cables, such as the flexible jumpers around rotators, is to make sure the cable is absolutely dry and the connectors are torqued to their proper limits. For N connectors this is about 15-25 in. lbs. Hand tightening is usually not good enough. A pair of pliers will get you to the proper torque amounts. Step 2 involves wrapping 1/2" or 3/4" wide wraps of vinyl tape, starting 2" below the main feedline, and extending the wrap to 2" above the flex jumper cable connector or strain relief.

The next step requires the use of butyl rubber tape. This is usually available in widths of about 3" . Cut a length of rubber tape to approximately the length of your taped splice, and lay it against the connection along the long axis of the cable. Wrap the rubber tape around the cable connector joint, stretching it as you go, and overlay several lengths, if needed to accommodate a complete wrap around the splice. Small connectors up to 1/2" coax sizes will need only one piece. Form and knead the rubber along the overlap, so that the individual pieces adhere to adjoining pieces securely for a watertight seal. If you are sealing big connectors and large coaxial cable, the back end of the connector presents a large change in wrap diameter that is hard to cover effectively with vinyl tape. For those situations, one solution is to cut a short piece of butyl rubber, fold it in half, and wrap it around in this area to fill the area in and make a gradual transition between the two sizes. It makes for simpler tape wrapping on subsequent tape wraps!

Wrap this butyl rubber layer now with wide 2" vinyl tape along the entire length, being careful to not stretch the tape beyond it's elastic limit, and maintain a 50% overlap as you wind. Extend the 2" tape about 2" beyond the previous wrap. Finish the splice with three wraps of 1/2" or 3/4" vinyl tape, following the same procedure. For vertical runs, start the first wrap from the bottom about 2" beyond the last wrap of 2" tape. Finish with wrap #3 proceeding "uphill" from bottom to top to make the roof shingle effect. It will shed water more effectively.

For antenna connections, the same techniques may be applied. In many cases there is restricted access around the antenna connector. This is true with

our yagis and loop yagis. It is very difficult to manipulate a vinyl tape roll in such areas. A different strategy is required in such situations. Most of the weatherproofing of connecting cables must be accomplished before you attach the cable to the antenna. For these situations, start with a single wrap of 3/4" vinyl tape about 2" below the coaxial cable connector or any strain relief, and proceed with the wrap up to the clamping nut. Do not cover the clamping nut. Leave it free to turn. Then apply a wrap of butyl rubber as shown above, up to the clamping nut as well, taking care to seal all points on the rubber wrap. Then apply 2" wide tape to cover the butyl rubber, extending an inch or more past the butyl rubber layer, followed by a wrap of 1/2 or 3/4" vinyl tape that extends 2" past the previous wrap on the cable side, but again, do not cover the clamping nut. End the final wrap at the clamping nut. Now install the connector on the antenna, using the correct tightening guidelines to get proper sealing of the connector. It must be tight! Applying tape around the connector clamping portion of the connector may be accomplished in three ways. First, you can hold the tape roll next to the connector and push the tape through the restricted area. If you unroll enough slack it is oftentimes possible to relocate the roll to make a continuous wrap using this method. The second method is to cut strips and apply them in overlapping sections as you go around the connector. The third method uses a special tool, such as a pencil, or any small metal rod, to accomplish the wrap. Unroll several inches of tape from the tape roll onto the special tool in a uniform wrap, then unwrap it around the connector. The pencil or metal rod can easily fit around the connector in tight areas. Wrap three layers of 3/4" tape around the clamping area and extend it to 1" beyond the cable clamping nut onto the previously sealed cable. Now cut a 2" long length of butyl rubber and wrap it around the clamping nut area, taking care to seal it properly. Finish with 2 layers of 2" vinyl tape, followed by three layers of 3/4" tape, always starting each wrap 1" beyond the previous wrap. If you are in an area of intense UV, such as Florida, more wraps of 3/4" tape will not hurt and will provide additional UV protection to the joint. In some cases, however, you may run out of room! The secret is to use just enough butyl rubber to make a contiguous seal, and no more. Care at this step will assure success later on.

Hopefully we can all gain reliability with our antenna connections, and as a result, your antenna will not fill up with water during a bad storm, the Friday night before the January VHF Contest! (We can always hope!)

---