



# THE TARA NEWS

*Affiliate of the American Radio Relay League*

**Volume 14**

**Issue 01**

**January 2003**

## Happy New Year

### From the Presidents' Desk



Wasn't that some party on December 17 2002 !!! I cannot remember another party that we've had, where we had that many folks. I know I gave a head count just around 7:30 PM and at that time, we had 60 in attendance. I believe after that we had around 5 more that came in bringing the total to nearly 65! That's pretty impressive, I think.

There are many I need to thank in this message but first I must acknowledge the outstanding job by the ladies in this club. We had Rose Kelly (KC2JDW's wife) who not only brought along a lot of awesome food and supplies to the party, but she also managed to make a lot of holiday wreaths and presents to hand out. The wreaths were used to raise money for the club through the sales of 50/50 tickets, and I believe we took in more than \$130 in tickets sales!! Also, Rose and her family were some of the very first to arrive at the hall and set all the tables and chairs up. That helped us big time!

Next, we had the ladies that setup and served all the food for the entire evening. And let me tell those that didn't make it--we had LOTS of great dishes. We had everything you could imagine. I think ALL of us should especially thank Karen Smith, KB2UUC, for the weeks of planning she did and the hours of cooking and baking. She even had all the tables completely decorated with tablecloths, snack trays, candy dishes and cheese & crackers. Again, I think this was a very nice touch. I really want to thank the following for all they did to feed the gang: KB2UUC -Karen, N2PEK, -Margaret, Rose Kelly, Margaret Kelly, Sharon Collis and KB2SRC - Pat. You ladies made it a very special night!

We had some very good help from the younger crowd, too. I want to make sure they get acknowledged here. We had Ted Ault, KC2GVS and Katie Collis assisting whenever they were asked, and that was quite often.

We sure had an over abundance of food once again, but heck that's just the way the TARA Family likes it. We had such a wide verity of food and deserts that even I couldn't keep track of them, but I know I sure was grateful when it came to eat. For everyone that assisted by bringing along a side dish, snacks, deserts, appetizers or many of the other items, I whole heartily "Thank You!"

There were a good number of you that stayed afterwards to assist with the cleanup, more than I could list without forgetting someone. So, ALL of you please accept my thanks for your help. You made a tough job go by quickly--allowing everyone to get home that much earlier. Al together I had a FANTASTIC time, I hope you did too!

Well, my friends and family, we've closed out another year together. It's been an extremely good year for the TARA family and all of your hard work has paid off. I hope that the new year coming will bless each of you with "Health & Happiness." I look forward to the challenges that lies ahead for this club, I really think this is going to be a banner year coming up. With friends, family & members like each of you, I know that TARA will be around for a long, long time to come. I hope that everyone had a safe and Happy Holiday Season.

*" Mr. Bill " WJ2U*

### In This Issue

**Presidents' Desk**

**Page1**

**Marconi**

**Anniversary**

**New Arrival**

**BREW CREW**

**Page 2**

**Editorial**

**Comments**

**A.R.E.S Elections**

**Page 3**

**WIAW Schedule**

**2003**

**Top 25 2M**

**Repeaters**

**Page 4**

**Recipe of the**

**Month**

**Ham Humor**

**Page 5**

**W3FF Portable**

**Dipole**

**Pages 6,7,8 & 9**

**Club Directory**

**Page 10**



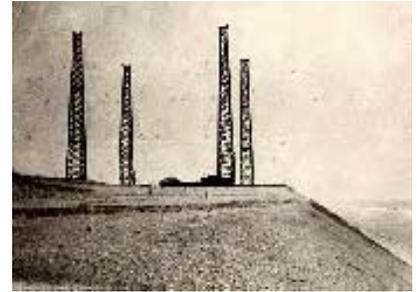
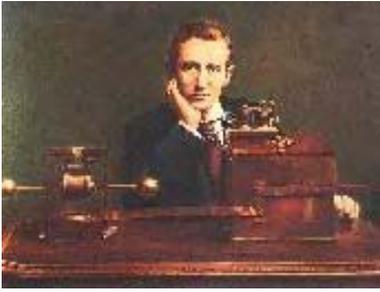
*More Than A Club*



*We're A Family*



# Special Event ARISS Contact To Mark Transmission Centennial



Special event station KM1CC will be on the air January 11-19, 2003 to mark the 100th anniversary of Guglielmo Marconi's inaugural wireless transmission between the US and Great Britain January 18, 1903.

Marconi used a 35 kW rotary spark transmitter and a massive antenna system to transmit a 54-word greeting from President Theodore Roosevelt to England's King Edward VII. The monarch promptly acknowledged receipt of the message via land line and cable.

The special event will take place at the former Coast Guard station at Coast Guard Beach in Eastham, Massachusetts, which is near the original Marconi site. Operation will include several amateur modes, including SSB, CW, FM, digital and satellite. The special event station will open to the public from 9 AM until 5 PM EST (1400-2200z), but operating will take place 24 hours a day.

An Amateur Radio on the International Space Station (ARISS) school contact is to be scheduled during the week long celebration. Selected students from three Cape Cod high schools will speak via KM1CC with a member of the new Expedition 6 ISS crew.

Marconi's daughter, Princess Electra Marconi, is scheduled to attend the a reenactment of the groundbreaking wireless transmission on January 18, when KM1CC will transmit the text of Roosevelt's original message to King Edward VII.

Additional details are on the Marconi Radio Club Web site at <http://personal.tmlp.com/k1vv/w1aa>

KM1CC will transmit a PRESIDENTIAL Commemorative message from President George W. Bush on, January 18, 2003. NASA International Space Station Link – Selected Students from three Cape Cod High Schools (Cape Cod Vocational Technical High School-Harwich, Provincetown High School- Nauset Regional High School) will communicate with astronauts aboard the orbiting International Space Station.

KM1CC on ARRL web page:

<http://www.arrl.org/news/stories/2002/12/23/1/?nc=1>

For a complete events calendar, go to [www.nps.gov/caco](http://www.nps.gov/caco) and click on "In Depth," then "News."

Bob Doherty K1VV Pres. Marconi Radio Club W1AA <http://personal.tmlp.com/k1vv/w1aa> [k1vv@tmlp.com](mailto:k1vv@tmlp.com)

## NEW ARRIVAL



**Our Congratulations  
to the Isby Family  
Nikolas Alexander, Son of  
Elena and Robert Isby of  
Poestenkill, New York  
Dec. 18, 2002**

**Born at 2:40 PM  
Weight: 8 lbs, 13 oz  
Length: 22.25 inches**

## Tara Brew Crew

**Nets: Mondays @ 7:00 pm 145.170**

**Hands On Session:  
Heatly School – 172 Hudson Avenue  
Green Island, N.Y.  
Monday – January 13 @ 7:00p.m.**

**Saturday – January 11 @ 12 NOON  
TARA's Breakfast Munching Bunch  
will meet at Frank's Diner, 25 Hudson  
Ave. at 11:00 A.M. for fortification  
before class starts.**

# *Editorial Comments* *from KB2KFV*



# Rensselaer County A.R.E.S. Elects New Slate of Officers

Happy New Year 2003, to all. I hope that the coming year will be prosperous and peaceful for all of us, but I know that it is just wishful thinking, considering the state of affairs in the mid east and the terrorist threats that we have to deal with on a daily basis.

As Mr. Bill – NY2U stated earlier in the newsletter, 2002 was our best year, to date. From what I have seen in this last year, the club members are working together as one hell of a great team. We need everyone to continue working together in 2003 to make this another banner year.

The T.A.R.A News may undergo some modifications unless we get some assistance from the membership. I need to know what you want to see in the newsletter on a monthly basis that is important to you and I need articles of interest from the members. If you are happy with the content and the present format that I am doing the newsletter in, let me know that, also. **Otherwise, the newsletter will most likely be downsized.** Printing costs have gone back up since we have lost our free copying source. Mailing costs are also driving up the price of the providing the news in hardcopy.

**Any of the membership that is still getting the newsletter via Snail mail is requested to **Please.....please consider downloading your newsletter from the web.** We are well aware that some of you are not on-line and have no other way of getting the newsletter, we understand this and it is not a problem.**

If you have not yet subscribed to the web version please consider this option and if you do, please send me an email at [KB2KFV@n2tv.org](mailto:KB2KFV@n2tv.org) so that we can add you to the email notification list and remove you from the snail mail list.

Any help that you can give us will be greatly appreciated.

**73 from KB2KFV**



At the December 18, 2002 meeting of the Rensselaer Co. A.R.E.S/ R.A.C.E.S Organization, election of officers was conducted.

President: Ken Davis – KB2KFV  
Vice Pres: June Kinerson – KB2JTG  
Secretary: Tom Stewart – KC2FCR  
Treasurer: Ridge MacDonald – KB2HWL

As the new President of A.R.E.S., I feel that the most important thing that we must accomplish is to recruit new membership to our group. I fully understand that over the last ten years a lot of people had lost interest in A.R.E.S / R.A.C.E.S because of inactivity in the organization.

We are back in business and we are dead serious about providing emergency communications to the residents of Rensselaer County. For the last two years, we have been concentrating on just getting the organization back on its' feet. Now we need you, the amateur radio operators in the County to prove to the county that we will be there when they need us.

The County is presently supplying us with a decent but spartan R.A.C.E.S. budget for the purchase of new equipment to upgrade our repeaters and radio systems.

There were two (2) R.A.C.E.S activation's this past summer for two searches and we are thankful to the amateurs who responded and made us look good.

With over 400 licensed amateur radio operators in Rensselaer County it is absolutely shameful that we cannot get more hams to join our group.

I am going to try my damn best to try and get more people to come back, but we need you to come back and help rebuild this organization.

Please contact me at [KB2KFV@AOL.COM](mailto:KB2KFV@AOL.COM) if you have any suggestions or call me at 272-0112.

If you would like to join our group please go to the R.A.C.E.S. page [N2TY.ORG](http://N2TY.ORG) and fill out the online Application. **73 from Ken - KB2KFV**

# W1AW 2003 Winter Operating Schedule

## Morning Schedule:

Time	Mode	Days
------	------	------

1400 UTC (9 AM EST) CWs Wed, Fri  
1400 UTC (9 AM EST) CWf Tue, Thu

## Daily Visitor Operating Hours:

1500 UTC to 1700 UTC - (10 AM to 12 PM EST)  
1800 UTC to 2045 UTC - (1 PM to 3:45 PM EST)  
(Station closed 1700 to 1800 UTC (12 PM to 1 PM EST))

## Afternoon/Evening Schedule:

2100 UTC (4 PM EST) CWf Mon, Wed, Fri  
2100 " " CWs Tue, Thu  
2200 " (5 PM EST) CWb Daily  
2300 " (6 PM EST) RTTY Daily  
0000 " (7 PM EST) CWs Mon, Wed, Fri  
0000 " " CWf Tue, Thu  
0100 " (8 PM EST) CWb Daily  
0200 " (9 PM EST) RTTY Daily  
0245 " (9:45 PM EST) VOICE Daily  
0300 " (10 PM EST) CWf Mon, Wed, Fri  
0300 " " CWs Tue, Thu  
0400 " (11 PM EST) CWb Daily

## Frequencies (MHz)

CW: 1.818 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675 147.555  
RTTY: - 3.625 7.095 14.095 18.1025 21.095 28.095 147.555  
VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 147.555

## Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM  
CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM  
CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

RTTY = Teleprinter Bulletins = BAUDOT (45.45 baud) and AMTOR-FEC (100 Baud). ASCII (110 Baud) is sent only as time allows.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

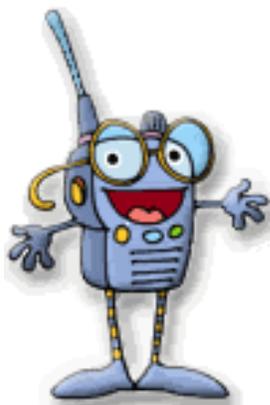
On Tuesdays and Fridays at 2330 UTC (6:30 PM EST), Keplerian Elements for active amateur satellites are sent on the regular teleprinter frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0100 UTC (8 PM EST) Thursdays and 0100 UTC (8 PM EST) Fridays.

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Teleprinter at 15 minutes past the hour, and CW on the half hour.

FCC licensed amateurs may operate the station from 1500 UTC to 1700 UTC (10 AM to 12 PM EST), and then from 1800 UTC to 2045 UTC (1 PM to 3:45 PM EST) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

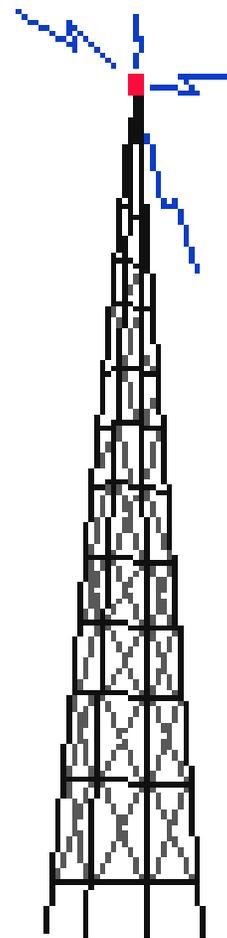
The W1AW Operating Schedule may also be found on page 96 in the January 2003 issue of QST or on the web at <http://www.arrl.org/w1aw.html>.



## Top 25 2M Repeaters licensed in the U.S.

Here are the Top 25 [27] results of the most popular licensed repeater frequencies from the ARRL 2000-01 Repeater Directory CD-ROM for the 50 United States: Courtesy of Frank Vondra Jr - WB0QKK

- [ 1] 146.760 (142)
- [ 2] 146.940 (141)
- [ 3] 146.820 (127)
- [ 4] 146.880 (124)
- [ 5] 146.640 (118)
- [ 6] 147.300 (118)
- [ 7] 146.700 (117)
- [ 8] 147.000 (114)
- [ 9] 147.360 (109)
- [10] 147.180 (105)
- [11] 147.240 (105)
- [12] 147.060 (103)
- [13] 146.790 (100)
- [14] 146.610 ( 95)
- [15] 147.120 ( 95)
- [16] 146.730 ( 92)
- [17] 146.850 ( 92)
- [18] 145.490 ( 89)
- [19] 146.970 ( 89)
- [20] 145.310 ( 88)
- [21] 145.350 ( 88)
- [22] 147.030 ( 87)
- [23] 145.450 ( 86)
- [24] 145.470 ( 86)
- [25] 145.430 ( 85)
- [26] 146.670 ( 85)
- [27] 147.390 ( 85)



# Recipe of the Month

## Deep-Dish Strawberry Pie

Prep Time: 30 minutes

Source: Better Homes and Gardens

File Under:

Printed from BHG.com

### Ingredients

3/4 to 1 cup sugar

1/4 cup cornstarch

1/8 teaspoon salt

3 cups strawberries, halved

3 cups fresh or frozen rhubarb

1 tablespoon butter or margarine, cut up

1 recipe Pastry for Single-Crust Pie (see Recipe Center)

Sugar



### Directions:

1. In a large bowl stir together 3/4 to 1 cup sugar, cornstarch, and salt. Add strawberries and rhubarb. Gently toss to coat. (If using frozen fruit, let mixture stand 15 to 30 minutes or until fruit is partially thawed, but still icy.) Transfer filling to a 9-inch deep-dish pie plate. Dot with butter or margarine.
2. Prepare pastry. On lightly floured surface roll pastry into a 12-inch circle. Cut slits to allow steam to escape. Place pastry on filling. Seal and crimp to the rim of the pie plate as desired. Sprinkle with sugar. Place pie plate on a baking sheet. Cover edge of pie with foil to prevent overbrowning. Bake in a 375 degree F oven for 25 minutes for fresh fruit (50 minutes for frozen fruit). Remove foil. Bake for 25 to 30 minutes more for fresh fruit (about 30 minutes for frozen fruit) or until top is golden. Cool on a rack. Makes 8 servings.

Nutritional facts per serving:

calories: 292 , total fat: 10g , saturated fat: 3g , cholesterol: 4mg , sodium: 118mg , carbohydrate: 43g , fiber: 2g , protein: 3g

## REWARD OFFERED

**A REWARD OF 500 MICROFARADS IS OFFERED FOR THE INFORMATION LEADING TO THE ARREST OF HOP-A-LONG CAPACITY. THIS UNRECTIFIED CRIMINAL ESCAPED FROM A WESTERN PRIMARY CELL WHERE HE HAD BEEN CLAMPED IN IONS AWAITING THE GAUSS CHAMBER. HE IS CHARGED WITH THE INDUCTION OF AN 18 TURN COIL NAMED MILLI HENRY WHO WAS FOUND CHOKED AND ROBBED OF VALUABLE JOULES. HE IS ARMED WITH A CARBON ROD AND IS A POTENTIAL KILLER. CAPACITY IS ALSO CHARGED WITH DRIVING DC MOTOR OVER A WHEATSTONE BRIDGE AND REFUSING TO LET THE BAND-PASS. IF ENCOUNTERED, HE MAY OFFER SERIES OF RESISTANCE. THE ELECTRO-MOTIVE FORCE SPENT THE NIGHT SEARCHING FOR HIM IN A MAGNETIC FIELD, WHERE HE HAD GONE TO EARTH. THEY HAD NO SUCCESS AND BELIEVED HE HAD RETURNED OHM VIA A SHORT CIRCUIT. HE WAS LAST SEEN RIDING A KILOCYCLE WITH HIS FRIEND EDDY CURRENT WHO WAS PLAYING A HARMONIC.**

**A bit of humor written by Mr. Mark Bushnell, Director of Engineering at CCA Electronics, the transmitter people.**

# The W3FF Portable Dipole

This is the antenna I designed for my 'walking portable' station. It is a dipole constructed out of the plastic plumbing pipe CPVC. There are telescoping whips at the ends of each side of the dipole, and these whips are adjusted to bring the antenna into resonance on each of five HF Bands..10, 12, 15, 17, and 20 Meters. The longest elements are on 12 and 10 Meters, where the dipole is actually a full half wave. On the lower three bands, coils are used to shorten the antenna. It takes just about a minute to make band changes. Operation on Six and Two Meters has been tried successfully too. It costs about \$30 to build this multi-band, portable dipole. Note that the coils are not tapped. They are taken out of the circuit entirely on 10 and 12 Meters. I use one coil for 15 and 17 Meters, and a separate coil for 20 Meters. Details on the 2 and 6 Meter operation may be found later in this text.

## Parts List

### Here are the parts to make the dipole:

CPVC pipe is a cream-colored plastic pipe. Buy a 10' section of it. Get the 1/2 inch ID size. It will be about 5/8 inch OUTSIDE DIAMETER. CPVC pipe is found at Ace Hardware stores and many other home improvement outlets in the USA.

You will need 6 CPVC couplers. These are cream-colored also and are straight. Be sure to get the size that fit the above pipe.

One PVC T in the half inch size. This is a slip-slip-thread. The thread is on the bottom of the T. NOTE: This is the only piece of PVC used in this project. Although some builders have recommended using a cross – tee and then extending a vertical piece of PVC above the antenna with a T on the top to run a guy rope through and attach to the elements to relieve sag in the PVC.

While at the hardware store, buy some electrician's tape. You will need a roll of black and a roll of red tape. The red tape is just for marking one set of coils to differentiate them for tuning purposes, so you will need just a small roll.

Also, you will need some hardware to affix the wire to the whip. Here is what I use:

Two 8-32 by 1/4 inch stainless steel bolts, two matching washers and two matching nuts.

### The following parts are available at most Radio Shack stores:

Two Radio Shack replacement whips. The whips extend to 72 inches, and collapse to 13 inches. [RS Part # 270-1408B](#)

Two packages of Radio Shack electrical connectors. I use the blue ones, and I take the wire, strip it, and fold it over before inserting in into the connector. That makes a better connection. [RS Part # 640-3313](#)

One package of tiny ring connectors to use to connect the wire to the whip. These fit the 8-32 hardware. I don't have the RS Part # in front of me as I write this, but you will find them where you find the electrical connectors.

One spool of #20 Radio Shack insulated speaker wire. It comes in 75' spools, and that is more than enough to make several antennas. [RS Part # 278-1388](#)

The only other part you might need is an rf bead to keep the rf off the outside of the coax on some bands. You can try making a loop of say a half dozen turns of coax right below the feed point of the dipole and see if that is OK for your installation. If that doesn't get the SWR low enough to satisfy your transceiver, you can order rf beads from a company like Palomar. I use only one or two beads on my own dipoles.

Buy ferrite beads. Use Mix 43. Buy a core size that fits the coax you prefer. Since we are dealing with a portable antenna here, I use RG-8X coax, and the Palomar # FB-56 fits the bill nicely. Go to: [www.Palomar-Engineers.com](http://www.Palomar-Engineers.com) Phone #: (760) 747-3343.

Note that the beads are low in cost, just \$1.65 each. However, there is a shipping charge on each order of \$6, so you might want to order some additional beads to use for other projects, experimenting, or sharing with your friends.

## Tools Needed

You will need a hacksaw, a small hammer, a screwdriver, a pair of needle-nosed pliers, a drill with a 1/8" bit, (perhaps, also, a 3/16" bit, if you want a little extra room when drilling the holes in the PVC), a crimping tool, and a tool for removing insulation from wire. You will need a measuring tape. Keep a pad and pencil handy to record measurements. A Marks-a-lot felt pen will be needed in the final tuning phase. You should buy or borrow an antenna analyzer if you don't own one.

### Here's how to build the antenna:

Cut two pieces of CPVC, each 22" long. Drill a 1/8" hole about 3/4 of an inch in from each end of the CPVC pieces. Don't drill the whole way through. Angle the drill slightly toward the long end, so that you can slide a wire into the piece of pipe. Drill the holes on the same side of the pipe.



If you leave the speaker wire in its pair form before you cut it, you will be sure to use the same amount of wire on each coil. Cut 28" of wire from the spool, and split it into two 28" pieces. Put one end of one of the wires into the hole you just drilled in the CPVC. Gently push the wire until you see it come out the other side of the pipe. Take a pair of needle-nosed pliers and work the protruding end into the hole at the end of the CPVC. You will have about 3" of wire on each side of the pipe when you are finished.

Do the same for the second 22" CPVC pipe piece.

Crimp one of the end electrical connectors, a female connector, on one side of each piece of the section you just finished. Put a male electrical connector on the other side on each section. You are finished with the 'arms' of the dipole.

Now let's construct the 15 and 17 Meter coils. Cut a 3 1/4" section of CPVC with the hacksaw. This is the form for the coil. Drill a 1/8" hole all the way through the section, about 3/4 of an inch in from each end. Cut a piece of wire 64" long and poke about three inches through one of the holes you just drilled. Start wrapping the wire around and around the CPVC section until you have approximately 22 turns on the coil. Push the tag end through the hole you drilled earlier, and tape the whole coil tightly with plastic tape. Cut the tag end so that you have about 3" of wire coming out of the hole in the pipe. Put a female electrical connector on the one wire, and a male electrical connector on the other protruding wire.

The 20 Meter coil is prepared exactly the same way, but you start with a coil form of CPVC of about 5 1/4", and you use 8'4" of wire. Wrap 41 turns on this coil. For appearance sake, wrap the coils with black plastic tape. Then, on one 15/17 Meter coil, put on a single wrap of RED plastic tape (to differentiate it from the other 15/17 Meter coil). Do the same thing on one of the 20 Meter coils. This completes the construction of the coils. (SEE PHOTO 1)

The telescoping whips are held by CPVC also. Cut two 9" pieces of pipe. Drill a 1/8" hole about an inch in from either end of each piece. (Not the whole way through the pipe.) Take a 15" piece of wire, and feed it into the hole you just drilled and out the other end of the pipe. Leave about 3" of wire sticking out of the hole you just put the wire through. Do this for each piece of pipe. Set the assembly aside.

Each Radio Shack telescoping whip has a tiny hole at the end of it. Enlarge that hole to accept a short bolt (6/32 by 3/8" long) by drilling each whip with an appropriate bit, a bit about 1/8" in diameter. Before going further, take some black plastic tape, and wrap 17 inches of it around the whip at a point just about an inch up from the previous enlarged hole in the whip. This is simply to make the whip fit snugly into the piece of CPVC that you have prepared to hold the whip. Add more tape or take some away to make the fit snug. Cut another 17 inch piece of tape, and wrap it at a point 7 1/2" from the hole in the whip. This gives you the support to keep the whip centered in the CPVC. (SEE PHOTO 2)

Take the previously made up assembly with the 15" of wire in the CPVC, and strip the insulation from the wire for about a half inch. The only reason this wire is not shorter than it is, is because it is much easier to put the wire through the pipe first, rather than by threading it in later. Connect the wire to the 6-32 bolt you have put through one of the whips. Use a tiny lock washer and secure the wire. Now, pull on the 3" tag end of the wire you have coming out of the hole in the CPVC, and lead the whip into the piece of pipe until you see that the hole in the metal whip is adjacent to the hole in the CPVC. Cut off the wire so that you have just 3" protruding. Strip that wire end and put a female electrical connector on the end. The whip should be snug in the CPVC. At the telescoping end of the whip, where it comes out of the plastic pipe, tape the end of the pipe to the whip. This will keep it from slipping out of the pipe.

The PVC T has slip/slip ends on it. The CPVC arms attach to this T. The sizes of the pipes are different, so an adaptor is made as follows: Cut a piece of CPVC 2 1/4 inches long. Place a CPVC adaptor onto that piece of pipe, and tap it in firmly with a small hammer. Insert the pipe end of that assembly into the PVC T. Take a second CPVC coupler and place it onto the pipe. Carefully tap that coupler into the PVC T, so that you have a final assembly that looks like this: (SEE PHOTO 3)

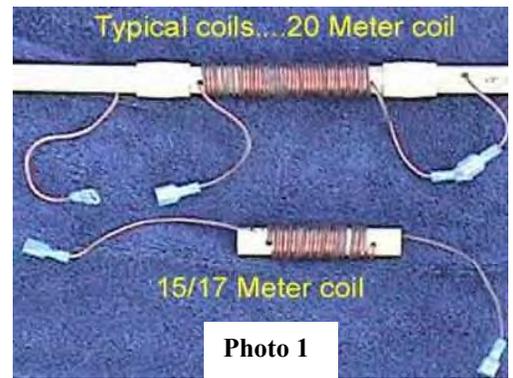


Photo 1



Photo 2



Photo 3

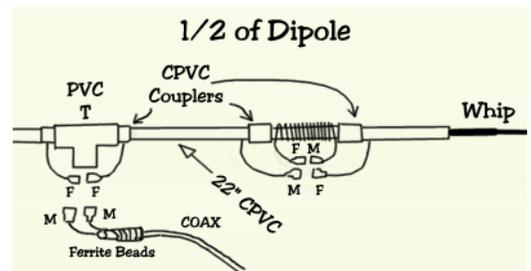


Photo 4



My thanks to Justin, K5JBB, who came up with this idea when he was making one of the antennas early in 2001.

Note that there are 5 electrical connectors on each side of the dipole. The electrical connectors are placed on the wires in a specific order. There is a female connector on one side of the dipole arm and a male electrical connector on the other side. The dipole arm with the female electrical connector is going to be placed next to the PVC T when the antenna is assembled. The other end of the dipole will have the male electrical connector on it.

Place a CPVC coupler onto the 22" arm of the dipole. Put one of the two 15/17 Meter coils into that coupler, noting that the electrical connector you want to use on the 'arm' side is a male electrical connector.

Place a CPVC coupler onto the other side of the coil.

Place the piece of CPVC that holds the telescoping whip into the CPVC coupler to the coil. Note that there is a male electrical connector on the coil. This attaches to the female electrical connector on the whip assembly. This completes the antenna assembly. (SEE PHOTO 4 drawing, last page)



**Photo 5**

Make up a piece of RG8Mini or RG58 or similar light-weight coax as follows: On the end that attaches to the dipole, make a pigtail by stripping back the covering to expose the shield of the coax. Pick out the strands of braid so that when the braid is twisting to a point, it will be small enough to fit into one of the blue male electrical connectors. Bare the inside white or clear wire of the coax. You might want to use some shrink-wrap tubing to strengthen and protect the pigtails. Put one male electrical connector on each of the coax pigtails.

To get the radiation off of the outside of the coax (providing a better match and a lot less RF on the outside shield), you can do either of two things: Coil the coax in a 4" diameter with about 7 turns and secure the turns with black plastic tape. OR... You can also use ferrite beads by fitting them over your coax and taping them on with black plastic tape. Your choice, but the beads are the best way to go. Pick a mix for the HF frequencies. Most of the antennas I have built have worked much better with the beads. This antenna was designed for use with my walking station, so I use 10' of RG-174 coax. It is tiny, and the ferrite bead information is as follows: Palomar Model #FB63-43. I use a half dozen beads on the coax, very near to the pigtails at the dipole feed point. If you use RG8Mini, the Palomar Model # is: FB-56-43. I use one or two of these (longer) beads. (PHOTO 5)

Fit a PL-259 on the other end of the coax (with appropriate reducers, depending on the size of the coax you are using). This completes the construction phase of the project.

You will need a mast to support the antenna. I have been using the aluminum paint masts that one would use to roller-paint ceilings with. They come in varying sizes, and the one I use most is the model that collapses to 6' and extends to 12'. There is a male, threaded, plastic top on most of these tiny masts. Take a piece of black plastic tape, and wind it around the plastic top just one and a half times. Cut the tape off, and press it to the plastic top. You will find that when you prepare the mast in that manner, it will thread nicely directly onto the PVC T of the dipole, even though it is a 'cross-thread'. You are now ready to tune the antenna.

## **Tuning the Dipole**

This procedure is easy if you have an antenna analyzer to help you do the work. It can be done with a transceiver in the CW position by checking the power output at a known level, but using an analyzer such as the MFJ model, is better.

Set up a testing range by using a tri-pod or similar method of holding up the mast and the antenna while you are making the adjustments.

Each band is tuned separately. Start with Ten Meters. BYPASS the coil entirely by simply leaving the coil out of the circuit. Pull out all of the sections on each side of the dipole's telescoping whips. Check the resonance of the antenna with the SWR analyzer. Push the ends of each side of the antenna in slightly until you see that the antenna is in resonance, that is, that you have an SWR in the neighborhood of 1.7 or less. Note the number of sections it takes you to do this. Write this information down on a pad, and move onto the next band.

On 12 Meters, simply pull the whip ends out slightly, and check to see if the antenna is in resonance by doing so. No coils are used on 10 or 12 Meters. If you find that your antenna is just not long enough to resonate on 12 Meters, simply take a 9" piece of #20 wire, install a female electrical connector on one end and a male electrical connector on the other end. Insert this jumper on the HOT or RED side of the dipole where the coil is bypassed. This lengthens the antenna just enough to make a perfect match on 12 Meters.

To load the antenna on 17 Meters, plug in the 15/17 Meter coil, and pull out the whips until they are in full extension. Check the resonance. You might be right on the 17 Meter band with very little adjustment. If the frequency shown on the antenna analyzer is too low, say in the 16 or 17 MHZ range, simply shorten the RED (hot) side by one section. Set the analyzer for 18.140 MHZ and watch as the SWR be longer than the other (it has to do with the ground side and the 'hot' side of the dipole as the coax is connected) to get a very low match. Note on your pad the number of sections out on the ground side and the number of sections out on the hot side. In the "Tuning Tips" section, see the list of how many sections it takes to resonate on various bands.

When you are satisfied that 17 Meters looks good, go

When you are satisfied that 17 Meters looks good, go to the 15 Meter position on the analyzer and start shortening the whip elements to go up in frequency to about 21.300 MHZ. When you get a dip, experiment as you did with the other bands. Just changing the whips slightly will change the resonance as you will see.

On 20 Meters, remove the 15/17 Meter coil, and insert the 20 Meter coil. Use the same tune-up procedure to get a big dip in the middle of the band, say about 14.200 MHZ.

If you have trouble getting a dip on anyone of the bands, it is probably because you don't have beads on the coax. Now, if you are satisfied that the measurements you made are in the ballpark on each band, check it out with your transceiver in the CW position. Just pick a frequency and check for power output. By lengthening and shortening the elements slightly, you will find settings where the power will maximize on each band. Mark those measurements ON the arms of the dipole, so that you will be able to change bands in just a few minutes. Use Marx-alot or a similar product to mark the CPVC arms.

### **Some Tuning Tips**

Tune the antenna away from metallic objects, like cars, other antennas, towers, etc.

Use these APPROXIMATE settings for your antenna. If you have the proper # of turns on the coils, and if you used the correct Radio Shack speaker wire (#20), here are the settings I typically get: 10 Meters. RED or HOT side out 4.5 sections out, and BLACK..4 sections out. 12 Meters...both sides out all the way, with the 9" jumper inserted on the RED SIDE only. (no coils inserted on 10 and 12 Meters) On 15 Meters, pull out 2 sections plus 2 inches on the RED side, and 3 full sections out on the BLACK side. On 17 Meters, it's 3.5 sections out on the RED side, and 5 sections out on the BLACK side. (You should have the 15/17 Meter coils inserted for those bands) And, on 20 Meters, put the 20 Meter coils in, and pull out 3 sections plus 4" on the RED side, and 5 sections out on the BLACK side. These will vary with your antenna, but the settings are an excellent starting point.

**BONUS !** Six Meters works well on all these I have tried. No coils. Push all sections in, and check the resonance. Pull the RED side out an inch or two at a time until you get the frequency you want.

**BONUS !** Two Meters can be used, just by taking the 9" CPVC whip assemblies and putting them into the PVC T. Adjust the whips carefully to resonate on 146 Mhz. Remember to hold the antenna in a vertical position when working stations on FM. Thanks to Larry, K7COP, for investigating this aspect of dipole operation.

The antenna is not efficient on 40 or 80Meters. Email me if you want to try 40 Meters, and I will send you the info by return email.

### **FINALLY....**

If this seems too complicated or confusing, simply email me at [w3ff@aol.com](mailto:w3ff@aol.com) and I will help you with the construction or the tuning. It takes me about an hour to construct a complete antenna. Several builders say it takes them 2 to 3 hours to complete the project. It takes me 20 minutes to tune one, and it should take you less than an hour.

Have fun with it, and let me know your suggestions for improving it!

**Budd W3FF**



***T.A.R.A. Wishes  
All of Our Friends  
A Prosperous  
and  
Happy New Year  
2003***

**TARA OFFICERS: 1 YEAR TERMS**

President: Bill Eddy, NY2U.....273-9248  
Vice President: Karen Smith, KB2UUC...273-6594  
Secretary: Marilyn Davis, KB2JZI.....272-0112  
Treasurer: Nick Demos, NW2D.....383-3983

**TARA DIRECTORS - 2 YEAR TERMS**

Ken Davis, KB2KFV.....(02-04).....272-0112  
Mac Smith, KB2SPM.....(02-04).....273-6594  
Hollins Meaux, N2YQW.(01-03).....465-7678  
Jack Culliton, N2LBZ.....(01-03).....271-6763  
Randy Stein, KA2TJZ.....(01-03).....498-7838

**REPEATER MANAGER:**

Roy Warner, N2OWC.....283-8485

**REPEATER TECHNICAL ADVISORS:**

John Pritt, N1JP.....753-6231  
Dave Edwards, W2GBO.....235-6801  
Robert Isby, N2LUD.....283-3230

**MEMBERSHIP COMMITTEE:**

**REFRESHMENT COMMITTEE:**

Karen Smith, KB2UUC.....273-6594

**RDF COMMITTEE:**

Craig Wood, N2UID.....370-5224

**EQUIPMENT MANAGERS:**

Roy Warner, N2OWC.....283-8485  
Craig Wood, N2UID.....370-5224

**TARA WEBMASTERS:**

Bill Eddy, NY2U.....273-9248

**TARA HF CONTESTING:**

Bill Eddy, NY2U.....273-9248

**TARA VHF/UHF CONTESTING:**

**PUBLIC SERVICE EVENTS:**

Karen Smith, KB2UUC.....273-6594  
Mac Smith, KB2SPM.....273-6594  
Robert Jones, WB2SWA.....273-3072

**EDUCATIONAL DEPARTMENT:**

Ken Davis, KB2KFV.....272-0112

**TARA HISTORIAN:**

Karen Smith, KB2UUC 273-6594

**N2TY-BBS NODE DEPARTMENT:**

Ray Szlasa, N2VLY.... 233-9308  
John LaBarr, KB2UKV 284-2096

**N2TY-BBS SYSOP:**

Tim Roske, AA2WQ ...489-4346

**ATVET(ALB/TROY)VE TEAM:**

Gerry Murray, WA2IWW 482-8700

**FIELD DAY 2003 CHAIRMEN:**

Bill Eddy, NY2U..... 273-9248  
Randy Stein, KA2TJZ... 498-7838  
Steve Kopecky, KF2WA 674-4150  
Nick Demos, NW2D ... 383-3983

**VHF/UHF EQUIP. CHAIRMAN**

Hollins Meaux, N2YQW. 465-7678

**NEWSLETTER DEPT:**

Editor-in-Chief: Perry White  
Editor: Ken "Chief" Davis, KB2KFV  
Co-Editor: Marilyn Davis KB2JZI  
Co-Editor: Karen Smith KB2UUC  
Design/Layout: Ken Davis, KB2KFV

PLEASE SEND ELECTRONIC  
CORRESPONDENCE TO E-MAIL

[KB2KFV@aol.com](mailto:KB2KFV@aol.com) or  
[KB2JZI@aol.com](mailto:KB2JZI@aol.com)

www: <http://www.n2ty.org>

**NOTICE: THE EDITOR AND STAFF OF THIS NEWSLETTER WILL NOT ASSUME ANY RESPONSIBILITY FOR THE CONTENTS, ACCURACY, OR READABILITY OF THIS PUBLICATION. HOWEVER, BY READING THIS NOTICE, IT BECOMES THE RESONSIBILTY OF THE READER TO HELP PROMOTE GOOD OPERATING PROCEDURES AND PRACTICES ON THE AIRWAVE'S .**

# THE TARA NEWS

Troy Amateur Radio Association, Inc.

**P.O. Box 1292**

**Troy, New York, 12181-1292**



Visit us on the Internet

**AT**  
[HTTP://WWW.N2TY.ORG/](http://www.n2ty.org/)

## Next Meeting

**Tuesday, January 21, 2003**

**7:30 p.m.**

**Green Island Municipal  
Center**

**Intersection of**

**Hudson Avenue & George Street**

**HANDICAP ACCESSIBLE**

**Parking Lot on Hudson Avenue**

# Troy's Full Service Repeaters

**145.170/R**

**444.225/R**