

## From the Gavel...



Ok, this is it, my last Gavel! As you know elections are over and we now have a new President, Jeff Stewart, VA3WXM. Welcome aboard! Jeff is the strong

silent type who walks tall and carry's a big stick. I will be able to sleep at nights knowing that the club is in good hands. I will be helping out as 1st VP, along with Ki-Hip Boo VA3PEN as 2nd VP. Asim Zaidi VE3XAP will be secretary and Scott Gregory VA3NMI will continue on as Treasurer. All in all, I think we have a good mix of new and old blood which should make for a smooth transition.

The new executive has already met and is off to a flying start. The meeting was well attended and included some new faces. The first item tackled was a review of the manager positions. If you look at the website you will see that the club Executive page has been updated. The position of concern is the Newsletter Editor. June is Thomas' last issue and no one has stepped up to the plate. As with all positions, you do not have to go at it alone. There are many who contribute articles and you will have help. The newsletter is an important aspect of the club. Don't let it die.

The second major item reviewed was the budget. We finally got our cut of the Hamex profits and club is in great financial shape. We

worked through our operating expenses and all club managers have provided their wish list of projects. A breakdown of the budget will be presented by the first meeting in June.

On May 5th at Sheridan Mall, the club participated in Emergency Preparedness Day. Dan VE3NI and his team manned a table demonstrating how ARES and Amateur Radio serve the community in the event of an emergency. It was also an opportunity for the club to rub shoulders with the city's Emergency Management Coordinator Catharine Blair and the Fire Department. Dan will be meeting with City officials in the near future for a presentation on how ARES can be more involved in the City's emergency plan. This includes the use of the Erindale Fire station as a 6 meter repeater location. These are exciting times for ARES and the club.

Looking forward, I am confident that the club is going to grow and thrive under Jeff's direction. I know I can count on all of you to pitch in and give him the support he deserves. I would like to thank all that helped me through the past 2 years. It's been a pleasure serving the club.

73 ... Rick Brown VE3IMG

### This Month

2. Commentary
3. Club Calendar
4. 40 and 80 metre dipole antenna
5. The TAK-tenna™
9. The Balcony Buddy 2 Meter Antenna
7. DUAL G5RV
8. RAC Application Form

### Sunday Brunch

Sunday brunches are held on the first Sunday of each month. Time is 9:30AM at Shopsy's, 6986 Financial Drive Unit 5 Mississauga (at the corner of Mississauga Rd and Derry Rd). All are welcome to come out and have an opportunity to chat in an informal setting.

### Club Nets

**2 Metre Tuesday Night Phone Net** Join in on the chatter starting at 8:30PM every Tuesday on the club repeater. Hosted by various net controllers. 145.430MHz Tone 103.5 Minus (-) offset. Contact our VHF Net Manager, **Lorne (VE3CXT)**, if interested in becoming a net controller.

**75 Metre Sunday Night Net** Starts at 8:30PM every Sunday. Hosted by various net controllers. Contact our HF Net Manager, **Michael (VE3TKI)**, if interested in becoming a net controller.



## Commentary

You could call this the annual antenna issue. I have been saving up all these articles for this month.

Soon after I bought my first transceiver, I learned an important fact, which is “the antenna is half the radio”. As they say, “If you can’t hear them, you can’t work them”. A good antenna therefore is an absolute necessity. This issue discusses four very different antennas, each appropriate for a different purpose. However, there is a common theme – all four antennas will appeal to the space challenged urban dweller and all can be built for a few dollars.

1. The article on the 40m & 80m dipole came about when Bruce VE3IL was on our 80m Sunday net the other night. He was putting out a terrific signal under very noisy conditions, I thought he was using a power amp but he was not. This is his antenna.

2. I like to slice and dice the reviewer’s ratings on [www.eham.net](http://www.eham.net) when I noticed one antenna under “HF Directional” had a rating of 4.8 after 88 reviews. None of the other antennas in that category came anywhere close. That is why the Tak-tenna is included in this issue. This antenna will make a great companion for ARES activity or the Field Day.

3. Blake, VE3VDC occasionally participates in our 2m Tuesday night net. There was nothing special until I copied him on reverse from his QTH in Hamilton. He told me about the antenna he had built for a few dollars to put up in his balcony. He calls it the Balcony Buddy.

4. My HF antenna is a G5RV. It’s a great antenna and I have had a number of QSOs with Eastern Europe, South America and could once hear Japan. But there is a problem. Because of its orientation, the antenna is deaf in the direction of Africa. Also I can hardly participate in the Sunday night 80m net. The dual G5RV with 360 degree coverage antenna looks like the answer to my prayers. One of these days I plan to build one and put it up.

Building any of these antennas should be a weekend project. If you build one, tell us all how you fared.

73,

Thomas VA3TMB.

## Executive Directors

|                     |                         |
|---------------------|-------------------------|
| President           | Jeffrey Stewart, VA3WXM |
| 1st Vice President: | Rick Brown, VE3IMG      |
| 2nd Vice President: | Ki-Hup Boo, VA3PEN      |
| Treasurer:          | Scott Gregory, VA3NMI   |
| Secretary:          | Asim Zaidi, VE3XAP      |
| Past President:     | Rick Brown, VE3IMG      |

## Club Managers

|                              |                          |
|------------------------------|--------------------------|
| Membership Manager           | Dave Harford, VA3DFH     |
| Education Manager            | Earle Laycock, VE3XEL    |
| House / Visitor Host Manager | Murray Yewer, VE3JMY     |
| Newsletter Editor            | Thomas Bernard, VA3TMB   |
| Net Managers HF Net          | Michael Brickell, VE3TKI |
| VHF Net                      | Lorne Jackson, VE3CXT    |
| Repeater Manager             | David Shilling, VE3XDS   |
| Assistant                    | Michael Brickell, VE3TKI |
| Assistant                    | Sheldon Pimentel, VE3SPJ |
| Assistant                    | John Lorenc (Sr), VA3XJL |
| Trustee                      | John Duffy, VE3DRZ       |
| Club Station Manager         | Rick Brown, VE3IMG       |
| Assistant                    | Stefan Bejusca, VA3OBR   |
| Assistant                    | Asim Zaidi, VE3XAP       |
| Field Day Joint Chairman     | Lorne Jackson, VE3CXT    |
| Joint Chairman               | Thomas Godden, VE3TWG    |
| FSV Manager                  | Dan Goodier, VE3NI       |
| Program Manager              | Thomas Bernard, VA3TMB   |
| Assistant                    | Lorne Jackson, VE3CXT    |
| Webmaster Manager            | Dave Harford, VA3DFH     |
| Assistant                    | Rick Brown, VE3IMG       |
| Legal Consultant             | Lorne Jackson, VE3CXT    |
| Public Info/ Media Relations | Tony Champion, VA3QC     |
| Education Basic Course Prime | Earle Laycock, VE3XEL    |
| Advanced Course Prime        | Thomas Bernard, VA3TMB   |

## Audit Committee

|                      |                       |
|----------------------|-----------------------|
| Auditors Coordinator | Basil Burgess, VE3JEB |
|----------------------|-----------------------|

## Public Service

|                                |                          |
|--------------------------------|--------------------------|
| ARES Emergency Coordinator     | Dan Goodier, VE3NI       |
| Backup                         | Thomas Bernard, VA3TMB   |
| Backup                         | Michael Brickell, VE3TKI |
| Backup                         | David Malar, VA3MLR      |
| CANWARN Manager                | Peter Mosher, VA3PKM     |
| Special Events / Walks Manager | Bob Boyer, VE3XBB        |

## CLUB CALENDAR FOR 2009

### May, 2009

03 Sun Sunday Brunch - Shopsy's  
07 Thu Exec Meeting  
12 Tue VHF/UHF - 2 Meter Net  
14 Thu Club Meeting - Member's night  
19 Tue VHF/UHF - 2 Meter Net  
21 Thu Radio Night at Club Station  
26 Tue VHF/UHF - 2 Meter Net  
28 Thu Club Meeting  
28 Thu Club Meeting - Speaker's Night  
29 Fri CQ WW WPX Contest

### June, 2009

02 Tue VHF/UHF - 2 Meter Net  
04 Thu Exec Meeting  
07 Sun Sunday Brunch - Shopsy's  
09 Tue VHF/UHF - 2 Meter Net  
11 Thu Club Meeting  
16 Tue VHF/UHF - 2 Meter Net  
18 Thu Radio Night at Club Station  
23 Tue VHF/UHF - 2 Meter Net  
25 Thu Club Meeting - Pot Luck Dinner  
27 Sat ARRL Field Day Contest  
30 Tue VHF/UHF - 2 Meter Net  
30 Tue RAC Canada Day Contest

### July, 2009

05 Sun Sunday Brunch - Shopsy's  
11 Sat IARU HF World Championship  
25 Sat IOTA

Provisional Schedule Below...

### August, 2009

01 Sat North American QSO Party  
02 Sun Sunday Brunch - Shopsy's  
07 Fri Worked All Europe DX Contest  
15 Sat North American QSO Party

### September, 2009

01 Tue VHF/UHF - 2 Meter Net  
03 Thu Exec Meeting  
08 Tue VHF/UHF - 2 Meter Net  
10 Thu Club Meeting - Speaker's night  
11 Fri Worked All Europe DX Contest  
15 Tue VHF/UHF - 2 Meter Net  
17 Thu Radio Night at Club Station  
22 Tue VHF/UHF - 2 Meter Net  
24 Thu Club Meeting - Member's night  
29 Tue VHF/UHF - 2 Meter Net

### October, 2009

01 Thu Exec Meeting  
06 Tue VHF/UHF - 2 Meter Net  
08 Thu Club Meeting - Speaker's night  
13 Tue VHF/UHF - 2 Meter Net  
15 Thu Radio Night at Club Station  
20 Tue VHF/UHF - 2 Meter Net  
22 Thu Club Meeting - Member's night  
23 Fri CQ WW DX Contest  
27 Tue VHF/UHF - 2 Meter Net

### November, 2009

03 Tue VHF/UHF - 2 Meter Net  
05 Thu Exec Meeting  
07 Sat ARRL Sweepstakes  
10 Tue VHF/UHF - 2 Meter Net  
13 Thu Club Meeting - Speaker's night  
17 Tue VHF/UHF - 2 Meter Net  
19 Thu Radio Night at Club Station  
21 Sat ARRL Sweepstakes  
24 Tue VHF/UHF - 2 Meter Net  
26 Thu Club Meeting - Member's night  
27 Fri CQ WW DX Contest

### NOTES

1. Meetings start 7:30PM at St. Thomas A Becket Church Hall, 3535 South Common Court unless otherwise noted.
2. Brunch is at 9:30AM unless otherwise noted.
3. Classes are from 7:00PM - 9:00PM at Meals On Wheels at 2445 Dunwin Drive

Visit our website: <http://www.marc.on.ca> for any updates of the calendar.

## 40 and 80 METRE DIPOLE ANTENNA

By John Buchanan, K7CRO and built by Bruce, VE3IL

THE antenna shown in the sketch below is only slightly longer than a 40- metre dipole, yet it performs well on both 80 and 40 metres. The dimensions given a result of several trials of various lengths on both the 40- and 80-metre sections.

The loading coils are made from two lengths of ordinary 3/4" plastic water pipe (outside diameter 1 1/16 inches) 10 inches long, close-wound with 197 turns of No. 18 Nyclad covered copper wire (I used enamel coated wire).

The centre insulator was cut from 1/4 inch thick Plexiglas to the dimensions shown (any kind of insulator will work well). The top hole in the insulator supports the centre of the antenna which is "hung" from the center post about 20 to 22 feet above the ground.

When fed with 50-ohm coax cable, my antenna had an SWR of less than 2 to 1 over the entire 40-metre band and less than 2 to 1 over any 80-KHZ segment of the 80-metre band. With the dimensions shown, the antenna will resonate at about 3850 KHZ. The change in frequency is approximately 50 KHZ for each 1 inch on 40 metres and 50 KHZ for each 5 inches on 80 metres. Changing one section has very little effect on the other.

*Note by VE3IL: When I constructed my version of this antenna, I found that the end wire on each side of the dipole was 52" +/- to make resonance on 80 at the lower end of the band. I have been using this antenna for over 30 years with only minor repairs. For a shortened antenna I have found it to be a good performer.*

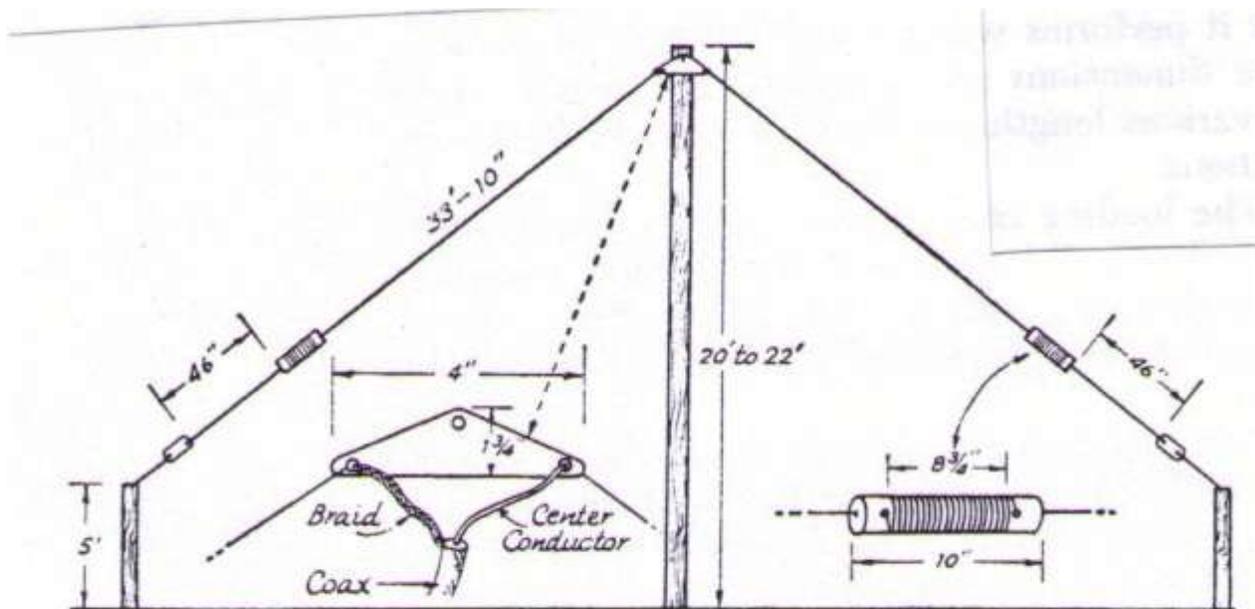


Figure 1 K7CRO's 40/80 Metre Dipole Antenna. Details of the center insulator and the loading coils are also shown.

WHO IS THE MOST DANGEROUS PERSON IN THE WORLD?

A HAM WITH AN IDEA, SOME WIRE AND A BOW AND ARROW IN HIS HAND!

## The TAK-tenna™

By Don Butler, N4UJW, Hamuniverse.com

### *The Space Problem and Murphy's Law!*

Most of you have heard of "Murphy's Law"...you know...he is around when everything goes wrong that can go wrong.

Many hams just don't have the space to put up standard length HF half wave dipole antennas but would give their left arm to operate on the HF bands without being limited in one way or another due to space. Many hams are so restricted that HF antennas, due to their length on the lower bands, are almost totally out of the question. In lots of situations, even a simple half wave dipole on 40 meters just will not fit.....Murphy's law.

Yours truly is limited by the lack of natural supports for any kind of antenna due to being on a lot with absolutely no trees! So if an antenna that I have needs support, then I have to either build it or buy it. Mother Nature has not helped me in any way and the XYL hates guy wires and "junk metal poles" all over the place.

Hams like myself are limited by too many trees, not enough trees, antennas requiring various supports, property lines, overhead power lines, home owners association rules, layout problems with small city lots and on and on. If a ham can be restricted or limited with the antenna system layout for his HF antenna, then Murphy's Law will kick in and see that he will remain restricted in some way. I am certain Murphy has many twins and one of them has probably visited you at one time or another in your search for an HF antenna that will fit your space.

Can you imagine needing about 65 feet horizontal distance to put up a 40 meter horizontal wire dipole or inverted V and all the space you have is just enough BUT.....the neighbor's fence and that power line is in the way. Murphy just kicked you! So you look around and find another possible location.....nope....the top of the house will be too close and there is no way to get around that tree! Murphy.....again! Climb the only available 50 foot

tree....what...no safety harness.....slingshot practice in the dark.... ....what was that sound.....glass breaking?.....Murphy again.....How about that twig of a stick you call a tree.....too short....shut up Murphy....what is a ham to do?

The problem with most HF antenna layouts is the lack of horizontal space and supports and in most cases going up is the only alternative but for one reason or another a vertical is out of the question with all those radials that you just don't have room for....Murphy again.....what is the answer? Well, maybe I have found an easy and inexpensive way to kick Murphy away from your limited "antenna farm" permanently!

NO....it is not a vertical nor one of those EH antennas! It is an electrical half-wave dipole believe it or not!

I may have found one very usable antenna that should work in most locations unless your QTH

is located in the dog house.....but you still may have room! Let me explain!

One day while searching the web for unusual antennas, I was introduced to a "new" concept, (to me), an electrical half-wave dipole based on what is called the Petlowany principal of spiraling a 1/4 wave length "pancake" of wire on each end of a greatly reduced boom length yielding an antenna that was very usable as far as size was concerned. What I saw was a 40 meter half wave dipole antenna compressed into such a small size that I thought it should work poorly or not at all.

Being the "I want to know" for the sake of knowing person that I am, I had to find out for myself whether this was a bunch of static or not.

I set out to experiment with it at 2 meters using this principle and it proved to me that it worked and worked well! This was truly a remarkable principle and I had proved to myself that it worked in such a tiny package!

Using the very poorly built wire antenna with junk box engineering and "make do with what you have" ingenuity us-



**Figure 2 NO....it is not a vertical nor one of those EH antennas! It is an electrical half-wave dipole believe it or not!**

ing this Petlowany principal, gave me an antenna that hit repeaters 60 miles away from inside a single story house over flat terrain! At 2 meters it was made from a broken yard stick as the boom, and a couple of pieces of cardboard, tape and some wire. It was straight out of hillbilly junk yard junction....but.....this contraption actually worked! I was hitting 2 meter repeaters 60 miles away over flat terrain.....from inside the house!

*Enter the TAK-tenna Company*

Now the TAK-tenna company, using principles based on ideas by Petlowany and many others all the way back to the beginning of radio, using some major modifications, lots of

engineering, mechanical and technical improvements, has developed a line of patent pending greatly reduced size HF antennas that may put regular length dipoles in their place where they belong....in non-restricted layouts!

The TAK-tenna line of antennas are extremely reduced space antennas both horizontally and vertically yet remain electrical half wave dipoles. My idea for this review was to see if they worked as well as I had hoped they would, given the fact that thousands of hams are very limited with room for HF antennas and are constantly looking for better ways to get out a better or any signal on the HF bands while having limited or no space for dipoles. And all for the price of taking the family out to a good meal.....unbelievable!

## ***The Balcony Buddy 2 Meter Antenna*** *An easy VHF/UHF antenna solution for cube dwellers.*

**By LD Blake, VE3VDC**

Putting a VHF or UHF antenna on a metal balcony is not a simple matter. There are many things that will limit what you do, especially if you are not on the top floor of the building. Beams are almost always too big or too cumbersome and their mounting structures often take over your whole balcony. Base type verticals are usually way too tall to fit. Magnetic mount antennas don't really have enough metal to stick to and may fall. So, unless you have permission to go beyond the balcony railing, you end up stuck with indoor antennas or using your HT on the balcony.

The "Balcony Buddy" offers a very simple and flexible solution to the problem. It can be mounted to any vertical metal bar on your balcony or fire escape and, because it is so compact it will be almost invisible from the ground, making it a "near stealth" antenna.

For new hams this design also offers an extremely easy first antenna project. It is made entirely from commercially available bits and pieces that you can get at your local ham shop and hardware stores. The only tools you will need are a small screwdriver, an adjustable wrench, a pair of pliers, a measuring tape and a fine cut file. Tuning is simple; accomplished through adjusting the length of the radiator.

The antenna itself is a basic 1/4 wave monopole that uses the metal structure of

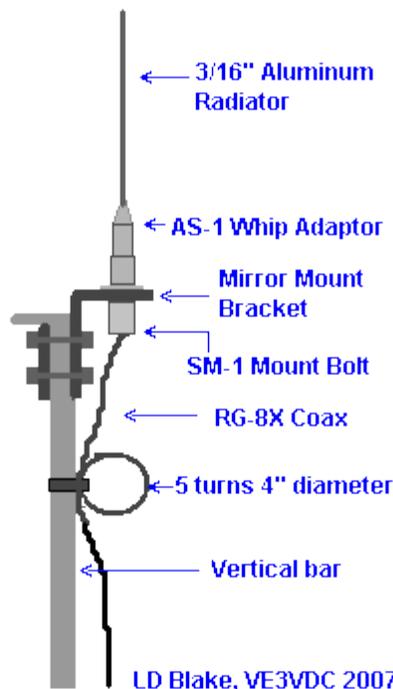
the balcony as it's groundplane. Gain is unity (+6 DBi) but that is better than most indoor or rubber ducky antennas achieve, so you will almost certainly see some improvement in performance by getting your antenna outdoors; especially if you live in a "concrete cliff".

### **My Results**

I built a 2 metre version of this antenna and used it for nearly 8 months on my 6th floor balcony with satisfactory results. I easily got the SWR under 1.2:1 across the entire 2 metre band. I talked all over the "Golden Horseshoe" (the west end of Lake Ontario), working repeaters 80 and 100km away with as little as 10 watts. A few at 50 and 60 kms only needed 5 watts for full quieting. I also was able to work simplex conversations at 50 and 75kms on 5 and 10 watts with no problems.

There are some limitations to this design. At 6 metres the whip can often be too long to fit under a balcony above. On my balcony this left only 5 cms of clearance and the SWR simply would not come down. I also don't think there's much application for this above 70cm. The way the SM-1 comes through a grounded bracket does introduce some capacity that will become more pronounced as frequency increases. I doubt you will get this setup to tune correctly on 900mhz.

### **The Balcony Buddy**



LD Blake, VE3VDC 2007

Overall I'd say this is a pretty good compromise antenna that will serve you well on a balcony. The signal reports are nothing to brag about but it did a whole lot better than an indoor Jpole or the rubber ducky on my handy talkie.

**Editor's note:** Find complete details on what you need, how to build and tune this antenna at <http://www.hamuniverse.com/ve3vdc2meterbalconybuddy.html>.

## DUAL G5RV 360 degree 10-80 Meter coverage!??

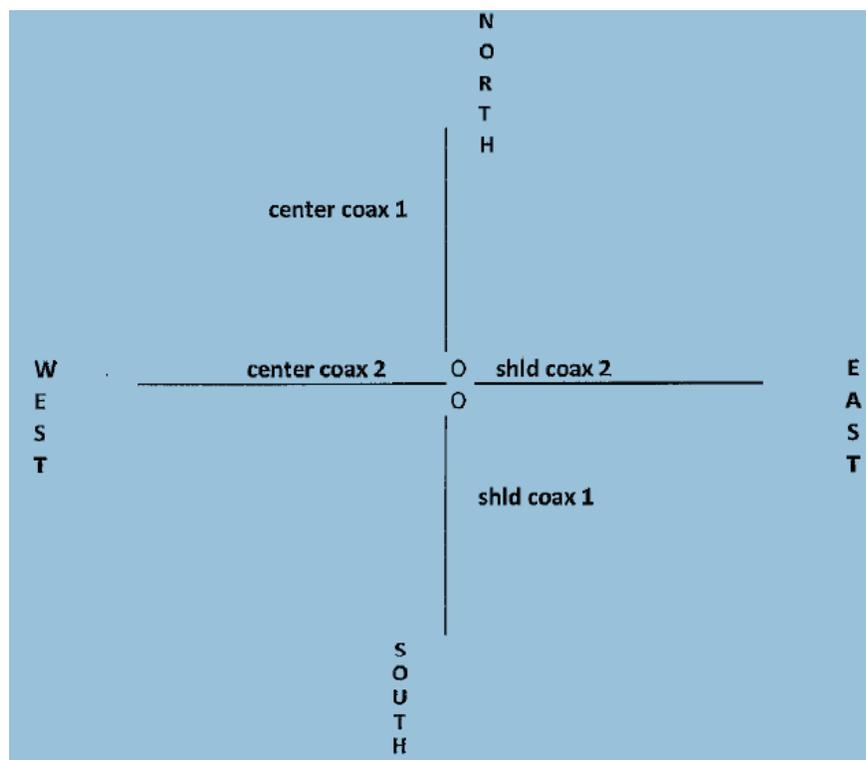
By John, KL7JR (<http://www.hamuniverse.com/kl7jrdualg5rvdipole.html>)

Here's a double G5RV dipole design fashioned from a double G5RV design by VO1TX who swears by it! The concept is about the same as a G5RV design but not critical on vertical radiator or leg lengths. Maybe, "The more the better" applies?

I haven't tried it, but as I said, VO1TX swears by his design. I think this design is ideal if you can only get one antenna up and want pretty much 360 degree coverage on 10-80m, and who knows, if it's made longer (?) it could also work on 160m!

It's just 2 dipoles at right angles connected together then to the vertical radiator then to the coax to shack. In other words, the plus wire from each dipole connects together and to one leg of the twinlead and same for negative (shield) leg then bottom to coax cable. Anyway, Bill VO1TX claims almost 360 degree coverage plus being multi-banded. The tiny circles in the drawing below

sent the feed point connections and the separation of the 2 wires of each dipole (one runs N&S and other E&W).



### 10-80 Meter Double G5RV Dipole

1. Make each leg at least 40 feet long.
2. Use 300 ohm twinlead for vertical radiator (minimum 25 ft long) and attach to coax feedline to radio.
3. Use as flattop (horizontal) or inverted V.

Note: Only one coax cable needed. Attach both "center coax" conductors to one side of 300 ohm twinlead and both shields to the other side of twinlead. At end of twinlead,

simply attach coax (min 50 feet long) and run to rig! Seal all connections well. Experiment with it and have fun!

A close relative of this design is the Skeleton Cone antenna.

*A ham is driving up a steep, narrow mountain road, his antennas flapping in the breeze and flopping into the other lane. A YL is driving down the same road. As they pass each other, the YL narrowly missed them and leans out of the window and yells "PIG!!!"*

*The ham immediately leans out of his window and replies, "WITCH!!!"*

*They each continue on their way, and as the man rounds the next corner, he crashes into a pig in the middle of the road.*

*If men would only listen!!!*

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| If you enter something on line above, a charge of \$20.00 will be added to your membership |                                 |
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