The CAROLINA WINDOM

What People Are Saying

Here is what the magazine product reviewers have to say about the CAROLINA WINDOM.

WorldRadio Product Review

"...Parts quality is very high. Jim manufactures his own baluns and line isolators at his plant.
....This antenna is an outstanding example of engineering and research put into practice. .....Received signal strength on the (CAROLINA) Windom was one to two S-Units higher than on the G5RV (the reference antenna, made by another manufacturer). Over the next several days, all bands were tried with similar results. In most instances, the CAROLINA WINDOM seemed to yield better receiver signal levels and more reliable communications out past 400 miles than my G5RV (the test rig was an Argonaut 509 operating at 2 watts output). I attribute this to the vertical and horizontal radiation patterns produced by the antenna system.

Going on the assumption that a 1-2 S-Unit increase in receiver signal level should yield a similar increase in transmitted signal, I feel that the CAROLINA WINDOM is a superior antenna to my G5RV dipole."

These are excerpts from a product review by Rich Arland, K7YHA. It appeared in WorldRadio.

Since the CAROLINA WINDOM first entered the market place nearly 12 years ago, there have been 6 product reviews of various models of the CAROLINA WINDOM. I will reprint product reviews excerpts and letters from CAROLINA WINDOM users in future catalogs. If you would like to do a little bragging in print, just drop me a letter. You don't have to set records, just let us know what you think of our antenna products

Bill Clarke in 73 Magazine

In his September, 1991 review of the CAROLINA BEAM, Bill Clarke compares the CAROLINA BEAM with a CAROLINA 160 and 80 and 40 meter dipoles.

He starts off his article with **"It's easy to set up, and it works great!"** Here are a few excerpts from his article.

" ..... The Carolina Beam is about as simple to install as any antenna I have seen to date. ..... My time was 20 minutes from 'out of the package' to 'on the air.'
..... My first observation was that the CAROLINA BEAM hears as well as it talks. When a received signal was better on the CAROLINA BEAM, the outgoing signal was better than that from the dipole or the (CAROLINA WINDOM 160).80 meters: As good in all cases, and about 10 dB better than the (CAROLINA WINDOM 160) for local work.

- √ 80 meters: As good in all cases, and about 10 dB better than the (CAROLINA WINDOM 160) for local work.
- √ 40 meters: Same as the dipole and same as the (CW 160).
- √ 30 meters: Same as the CW 160 90% of my contacts. Remainder slightly better.
- √ 20 meters: 50:50, with no clear winner. This is probably due to the distinct pattern differences be tween the (CW 160) and the CAROLINA BEAM. Having both to select from made a real difference in making DX contacts.
- √ 17 meters: In all cases, the CAROLINA BEAM outperformed the (CW 160) by 5 dB or better .....
- √ 15 meters: As with 20 meters, this band was quite variable.
- √ 12 meters: A distinct low-angle worker. The CAROLINA BEAM always outperformed the (CW 160) by at least 5 dB.
- √ 10 meters: Same as 12 meters."

In this test the CW 160 (which is 265 feet long) was supported 48 feet in the air. The CAROLINA BEAM is 100' long and was supported at 40 feet. The fact that the CAROLINA BEAM was as good or better than the much larger CW 160 is extraordinary. And, the CAROLINA WINDOM 160 is well known for its exceptional performance on all bands.

Can the Carolina WINDOM be the best performing, simplest, easiest to put up, wire antenna? I think so, and so do some of these CAROLINA WINDOM users who wrote to us.

Writing from Hawaii, Hal writes: "I'm writing to let you know that you have another satisfied customer... The antenna (CW 80) was only about 30 feet up at the feed point ... however, the antenna worked remarkably well." In making comparisons to a nearby ham with a A4S with 40 meter capability, "the owner of the A4S would consistently get better signal reports on his end, however if the DX station was more than 3000 miles away, I would hear the station better." " There was one time, Mark could not hear the station at all, and I had them S7-9." "I was transferred to Diego Garcia (VQ9) in March, and was looking forward to getting on the air here." "I ordered the CAROLINA WINDOM/2 (now the CAROLINA WINDOM 40)." " I have operated 2 ½ hours in three days since installing the antenna. It does help that DVQ9 is fairly popular, but I have made over 200 contacts. 200 contacts in 2 ½ hours. Japan, Russia, Netherlands, Johannesburg, Tromelin, China, Finland, West Malaysia, Singapore, (and the list goes) on. UNBELIEVABLE. All this using a Drake T4XC/R4C and 70 - 90 watts output. Who am I? I am just a Radioman Chief Petty Officer, 18 years in the U.S. Navy who communicates HF on a daily basis for a living, then goes home and does it for fun. I do not impress easily. You have one hell of an antenna!"

During first week of operation I worked the following on 75/80 meters using only 300 watts PEP, with the antenna at 30 feet: HP1, Y22, HR1, F6, A92, YU, ON, EI, YT, G, PA, DJ, CM, KP, VP, SP, IK.

On 75 meters it works great, as I had expected it to work. My surprise came on 20 meters. ...I worked numerous DX stations and most were surprised at the signal with only 100 watts. I am very pleased with the antenna - Thanks. (WA6HXE)

Just a note to tell you how pleased I am with my CAROLINA WINDOM. It works great. I am 78 and was licensed at age 17 and it is the best long wire I have ever used. 73, W1GAY

I would and do recommend the CAROLINA WINDOM to everyone I've talked to on the bands....The 2 Hams that helped (put it up) will also buy-they are impressed. (KA4SSH)

Got the (SuperLoop 80) up about 2 weeks ago. I am sure you have received many good comments on this one. Add my unsolicited testimonial. In 53 years of active hamming, this is the best all band antenna I have ever used. This includes my Double Extended Zepp with homemade 600 ohm open wire feed line that was 80 feet high. Thank you for all the hard work that went into the SuperLoop 80. 73, Jack, K4MI

When band conditions are poor, and 40 and 80 meters are the only bands open at night, it's easy to have a competitive signal on the air. Practically everyone is using a simple dipole. In comparison, a high performance antenna like the CAROLINA WINDOM stands out like a shining beacon. But the bands will be getting better over the next couple of years and you will have to compete with stations using beams. I have pulled some letters out of the file that came in during the last sunspot high when conditions were good and competition for DX was at its greatest. Even under the competitive conditions, the CAROLINA WINDOM is an even bigger winner.

Writing about a CW 160, George, AD1S/V73S writes: "My first contact was with YS1RRD - second call on SSB - didn't have time for the linear to warm up so worked him with 100 watts. - he said my "actual signal report in San Salvador was 10 dB over S9!"

Good quality, good performance to date (KB2EVV)

..Works very well...good buy for the money (J.Stacey)

They've done it again! Congratulations Fran and Paul. A new 40 meter record, using only 96 microwatts into a two element V-beam on the transmit end and once again the incredible CAROLINA WINDOM 40 at the receiver end.

A New World Record

For the 2nd time

The CAROLINA WINDOM was there!

The CAROLINA WINDOM 40 was used on the receiving end to dig this record breaking 96 microwatt (.000096 watts) signal out of the 40 meter QRN and QRM. Here are the highlights of the World Record breaking achievement. Remember, this is the second time Fran Slavinski, KA3WTF and Paul Stroud, AA4XX have broken the mile-per-watt record on 40 meters. Their first record was accomplished with 221 microwatts. The second record was logged using only 96 microwatts over the path from Paul's QTH is in the North Carolina Woods, 16 miles south of Raleigh. Fran was using a CAROLINA WINDOM 40 up about 30 feet and Paul was transmitting with a two-element V-beam. Contact was established using microwatt power as these operators avoided the conventional practice to making contact QRO, and then reducing power until the signal is lost. They did it the hard way!

In the original record setting operation, Rich Arland, K7YHA was also listening for Paul's 221 micowatt signal. Rich is an avid QRP operator, columnist and writer. Rich adds this interesting note, "A comparison between signal reports received at Fran's QTH with my S-meter readings definitely points to the outstanding performance of the CAROLINA WINDOM/2 versus a standard 40 meter dipole."

In my opinion, dollar for dollar, in over 20 years of both military and amateur experience, this is the best simple wire antenna. Wide band coverage, low SWR, low QRM, omnidirectional and low cost; as the saying goes "Who could ask for anything more?" (KD4RFW)

It's not often that you can buy a product and get what you pay for, however, in the case of the "CAROLINA WINDOM" you can and then some. ...the results were unbelievable, there was at least 10 dB difference between the V, dipole and the (CAROLINA) WINDOM. I had people drive 200 + miles just to see if I did indeed have up 3 antennas, I even put the Windom up where the dipole was and vise-versa with the same results... I saw people standing in line to buy them at the Charlotte Hamfest. (N4RQZ)

Thanks again, Jim, for a well made product that performs better than your claims. (N1EJF)

"I just worked BY4RB in Peeking, China. The story is interesting. I worked him using my new (rig) and triband beam on 15 CW. My RST was 569. My friend Jerry, N4JF, was visiting. We switched ops so he could work BY4RB. I switched to the CAROLINA WINDOM/2. Jerry worked BY4RB on the first call! RST 559! What an antenna. This thing is unreal! (Dave Ingram, K4TJW, columnist and

Quality and performance are impressive. I replaced a G5RV with the CAROLINA WINDOM in the identical location. .... My initial findings are that the CAROLINA WINDOM is at least 1 S-unit better than the G5RV. (Geno McGahey, AL7GQ)

Writing about the CAROLINA WINDOM/2, "My wife and I believe it is the best wire antenna we have ever used..... (Bill Welsh, W6DDB. CQ columnist)

What Makes The CAROLINA WINDOM Work So Well?

At hamfests, I spend a lot of time talking about antennas. The number one topic is "What makes the CAROLINA WINDOM WORK?" Here is the story in a nutshell.

The magic of the CAROLINA WINDOM is its 'Vertical Radiator.' When the vertical radiator is removed, the antenna still operates, but not surprisingly, the radiation patterns are just about the same as they are for any multiband antenna of the same length.

Presented at right are two radiation patterns. Each is a CAROLINA WINDOM 80 operating on 20 meters. In *Figure1*, the vertical radiator has been removed. In *Figure 2*, the vertical radiator is operating. What an amazing difference the Vertical Radiator makes. As you can see in *Figure 1*, when the vertical radiator is absent, radiation at low takeoff angles diminishes as the radiation pattern approaches the horizon. On the other hand, in the pattern where the Vertical Radiator is operating, radiation from the antenna continuously increases up to a point less than 5 degrees above the horizon. This is where "ground-effects" prevent a zero-degree takeoff angle. This is a significant radiation pattern improvement at the important very low takeoff angles.

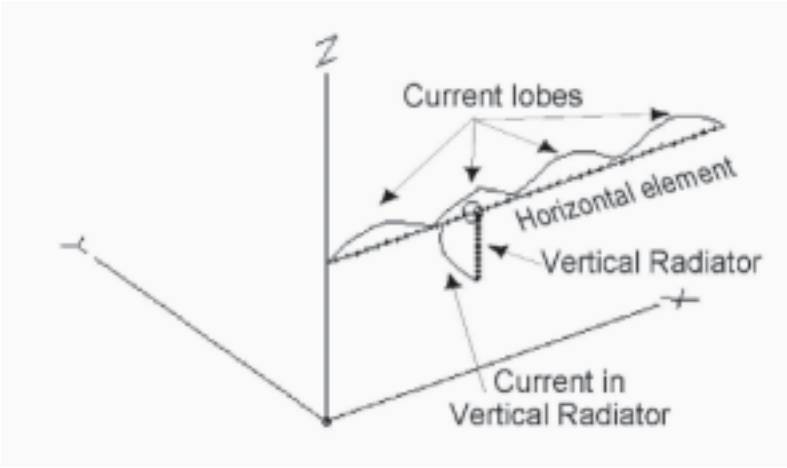

Figure 3

Current distribution of the antenna is shown in 3. It is the high current in the Vertical Radiator that causes the radiation pattern to change from a high takeoff angle (Figure 1) to a low takeoff angle (Figure 2)

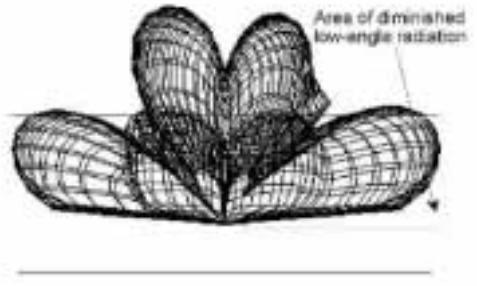

Figure 1

CAROLINA WINDOM 80 operating on 20 meters with the Vertical Radiator disconnected.

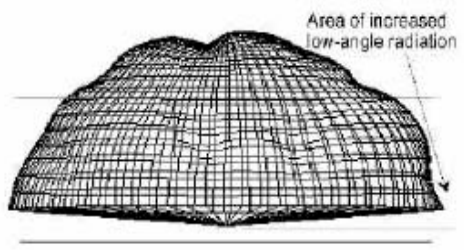

Figure 2

CAROLINA WINDOM 80 operating on 20 meters with the Vertical Radiator operating.

Important

I have new antenna modeling software in hand and will put representative radiation patterns for the various antennas on our web site as they are developed.

The Vertical Radiator is an inverted vertical antenna. Its counterpoise is the flattop portion of the antenna. Both the horizontal and vertical elements of the CAROLINA WINDOM combine to form an antenna system which produces an exceptional radiation pattern. Radiated energy is concentrated at low to moderate takeoff angles. Such a pattern is not possible with conventional horizontal wire antennas.

The difference in low-angle radiation is very significant. It accounts for the one or two S-units improvement over dipoles reported by CAROLINA WINDOM users.

New, Smaller, Better

Here are the new Matching Transformer and Line Isolator compared to the standard Matching Transformer.

This is the new Low Profile CAROLINA WINDOM 80 LP

Show is the complete assembly, including the Matching Transformer, Line Isolator and new Vertical Radiator, #16 hard drawn wire and end insulators.

We've needed smaller Line Isolators[tm] and baluns for some time. Until just a few months ago, it wasn't possible to build the smaller baluns and Line Isolators[tm] without accepting compromises in performance. Fortunately, new ferrite types became available, and we are now able to combine the new ferrites with improved winding and assembly techniques to produce a special series of small baluns and Line Isolators[tm] and matching transformers that are the equal of their big brothers. In fact, in some cases, except for the power rating, the specifications are better than the originals.

One exciting thing is that this opens up a completely new arena of products never before possible. You will see in this catalog, many CAROLINA WINDOM models offered in a new configuration that has far less visual impact due to the small size of the Matching Transformer and Line Isolator[tm]. This solves the problem of stealth that's necessary for those who have to keep their antennas as invisible as possible. The new, smaller versions also lend themselves to portable and emergency operation. With our new 33-foot telescopic mast, you can have a high efficiency emergency or field day antenna in the air in just minutes.

As you can see from the photograph, you can now hold a complete CAROLINA WINDOM 80 in just one hand. Now, you can be ready for anything. And, did I mention that these antennas could handle up to 600 watts of SSB or CW in the ham bands? I was aiming at 100 watts but the design is so good, the power rating could be increased sixfold - to 600 watts on SSB and CW. That's because the components used are top quality and expensive. What that means is that in most instances, the smaller baluns and Line Isolators[tm] cost more to build than the larger versions. This is why there is no difference in price between the various versions. It had to be that way because we simply wouldn't compromise efficiency, bandwidth, and other critical characteristics. The only thing that has changed is the size and power rating.

- √ QRP
- √ Stealth
- √ Portable
- √ Emergency
- √ DX'peditions

Improved CAROLINA WINDOMS

"Low Profile" models now rated at 600 watts

All Models have been improved!

Optimized support height is 30 - 40 feet

In response to popular request, I'm proud to announce the latest in our continuing development of CAROLINA WINDOM technology. We've been able to reduce the size of the matching transformer and Line Isolator without any compromise in performance. The result is a lean, mean DX-machine for those occasions when a portable or stealthy, but very high performance antenna is needed.

Specifications

All electrical and physical specifications except those listed in the "Type" listings are identical to those of the standard CAROLINA WINDOMS.

Important - a transmatch (tuner) is still required as with standard CAROLINA WINDOMS.

The New 'Low Profile' CAROLINA WINDOM's radiation patterns are identical to those of the standard CAROLINA WINDOM. This means you get all of the incredible performance for which the CAROLINA WINDOM is famous. The only thing you lose is the size and weight. *All CAROLINA WINDOM "LP" versions are made with #16 hard drawn wire.* For permanent installations, #14 is available at extra cost for a custom-built antenna. However, for stealthy hidden antennas, portable, emergency, DX'pedition operation and similar applications, the standard #16 wire version with the new, smaller transformers is the ideal choice. The matching transformer and Line Isolators are one-fourth the size of the standard units. The combination of small physical size and low weight, combined with CAROLINA WINDOM performance, simply can't be beat.

Standard Type - This is the conventional CAROLINA WINDOM made with **full-size components, #14** stranded, hard-drawn stranded antenna wire and a 1.5 kW power rating. Other wire types are available on special order.

LP Models - These are the new 'Low Profile' versions of the standard CAROLINA WINDOMS. The only difference are the smaller sized components, the #16 antenna wire and the 600-watt power rating. Performance is the same.

CAROLINA WINDOM Improvements

After 18 years, the CAROLINA WINDOM has been dramatically improved. Most of the improvements are mechanical, but there is also a major change in the Line Isolator.

Vertical Radiator™ - The Vertical Radiator is now replaceable, but with its excellent construction, that should never be necessary. The Vertical Radiator is now made with built-in strain-relief. The new strain relief is at least 10 times stronger than the hand-built units. We are having these Vertical Radiator elements custom-made for us. Only the best coaxial cable with an exceptional braid percentage is used. It's a very premium quality coaxial cable. Should there ever be a problem with the Vertical Radiator, it is easily replicable at very low cost.

Strain-relief - As mentioned above, strain-relief of the connector on the ends of the Vertical Radiator is now factory installed and extremely rugged. It is no longer necessary to install connector strain-relief on site. Simple weatherproofing of the connectors is all that is required. And, we supply the Coax Seal™!

Line Isolator - The new CAROLINA WINDOM Line Isolator is built just like our standard Line Isolators. There is an SO-239 connector on each end. This permits improved weather sealing and almost guarantees that moisture will not enter the Line Isolator.

Use Larger Coax Types - With this new, stronger Vertical Radiator assembly, it is now practical to use coaxial cables like RG-213. I still recommend using RG-8X because the weight of heavier cables reduces the height of antennas supported by their ends. However, those of you who feel more comfortable with larger size coax types can now use them.

I am always looking for ways to improve our antenna systems. The CAROLINA WINDOM has been a top performer for 18 years. Slight improvements have taken place, but for many years nothing changed with the antenna. I still can't come up with a performance improvement. The antenna is still tops. However, I think you will like the new mechanical changes and the new Line Isolator. It's the best CAROLINA WINDOM, ever!