

ACARC

Azalea Coast Amateur Radio Club

June 2016
Edition



ACARC

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(K4UWH)

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Newsletter

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Museum Ships Weekend



The annual museum ships weekend sponsored by the Battleship USS New Jersey will be held the weekend of June 4th -5th. We will be operating both Saturday & Sunday on board the Battleship North Carolina as one of 98 museum ships (so far) as a participant. We will meet at K & W Cafeteria at 8:00 AM both days for breakfast (optional) and then proceed to the Battleship around 9:00 AM. Contact the ship on the club repeater (147.18 MHz) if you need to be escorted on board. ***All club members are highly encouraged to attend and assist!***



Upcoming Important Events

- | | |
|-------------------------------|---|
| June 5 th | Museum Ships Weekend – BB-55 Activation |
| June 11 th | ARRL VHF Contest |
| June 21 st | ACARC Monthly Meeting 7:00PM |
| June 25 th Weekend | Annual ARRL Field Day |

From The VP

by Linwood Todd (NT4F)



Big month in Amateur radio. Just looking at the June QST Contest Coral, there is something almost every day in June at least every weekend. There are a couple of events that should be of interest to local folks here. The ARRL June VHF Contest, Saturday the 11th @ 1800Z through Sunday the 12th @ 0259Z. This is the biggest and best one of the year in my opinion.

For the last several years I've been camping down at Fort Fisher Recreational area on the weekend of the contest. FM13 is a very rare grid square, not much land too much water. Many hams have contacted me to arrange a contact from there when the bands co-operates. What's really nice about six meters and up is the antennas are much smaller than HF and when the band is open not a whole lot of power is needed to make contacts. A simple dipole and a 100 watts work most of the time. I know unless you are a Department of Defense active duty or retiree you can't stay there. **BUT, There is nothing that's says you can't drive down there mobile and operate.** Most modern radios now days have six meters on them. Try it you might like it!!

The other big Contest is the annual Field Day held the last full weekend in June. This event is a lot of fun ... and work! It gives the ham a chance to exercise his/her expertise in putting up workable antennas and operating HF over a period of up to 24 hours continuous. This event is not just for the young male ham, but for everyone who might be interested in ham radio ... or who knows someone who is. Everyone is invited. You don't have to be technically inclined to help. So come on out. For more information and a point of contact, email David McGough, KB4UXC, kb4uxc@gmail.com .

See ya next month

Wishing Everyone Good Health

Most of you probably already know that Our President, K4UWH (Charlie) is now at home. He was definitely not a Happy Camper at the Rehab Center. I talked with him on the phone and he is making some progress. One thing he said is that he was able to walk up a ramp going to the doctor's office for a visit the other day and that the atmosphere and food is much better at home. Please let me know if any club member or member's family is not well. Actually I had some sickness here at home. My XYL (Faye) had outpatient back surgery back in late April and I was a home nurse for about two weeks. Also, don't forget about Birthdays. Just send me an email for either (no Birthday years are necessary, especially mine)

June Birthdays

10th - NKOS (Hutch)

21st - KD4TXY (Linda)

ACARC sent New Style Birthday Cards to WA4CR (Karen) in April and to K4UWH (Charlie) in May. The new card has the Station Call Letters and the Operator's Handle on the front now for a better display at the station. The Happy Birthday Greeting is in the inside of the card with only the Month and Day of the Birthday

Here's a sample:



Other Special June Dates To Remember

14th - Flag Day

16th - First Day of Summer

19th - Father's Day

73, George

km4dsi@arrl.net



How Far Can I Go?

By Linwood Todd (NT4F)

How Far does your signal go and who is hearing you? Is the band open and to where?

Just a couple of questions that we all have when we sit down at our radios. Wouldn't it be nice to know? What if we are looking for some particular part of the world to show off to our family or friends? I did an experiment with a friend of mine in Indiana this morning 5/25/2016 and was amazed at what I saw. This was around 8:30 am and he was transmitting on 40 meter JT65 calling CQ. So I type in "pskreporter" in Google and selected "display reception reports." Up popped a world map. I filled in the appropriate blanks with 40 meters, his call sign and he told me to use "JT" for mode and reduce the time down to 15 minutes ... hit "GO". WOW he was everywhere. If you put your cursor on one of the pins you'll see what station was hearing him, Distance and signal strength. Neat huh? I haven't used this except for this experiment, so I'm looking forward to learning more about this. Hey try this with your station, see who hearing you.

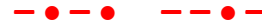
So what if you want to know if six or ten meters are open? Just go to "dxmaps.com" and select either six or ten meters. You can see who is working who. This works for all the bands. I especially like this for those two bands and it will tell you the type of propagation.

Just a few tid-bits for your perusal

"Elmer" Program

New hams are enthusiastic and would welcome our club's help in getting them introduced to the wide array of activities open to them. Our club's "Elmers" can help new Technicians try packet radio and satellite operation, for example. Many seek to broaden their horizons, and you can help them develop their interests in upgrading by introducing them to HF operating. Recruit new hams for your licensing classes. Our club can show new hams that they don't need to be on their own when facing the often intimidating task of learning more about their new hobby.

PLEASE consider being an "Elmer" for the club. Contact our Vice President, Linwood Todd (NT4F) if you can lend a hand and to be added to our club's website for those seeking assistance.



KD4OUN Extended Super-J

This is an inexpensive, high-performance homebrew antenna constructed almost entirely of 450-ohm ladder line. It only uses 300-ohm twin-lead and coax in the balun/impedance match, and final connection to the transceiver. None of the ideas here are totally original, and in fact are all contained and thoroughly documented in separate sections of the 1992 (and hopefully later) edition of the ARRL Antenna Handbook. However, to my knowledge, this is the only combination of all of them in one antenna.

I am giving all measurements in wavelengths A) to allow for the substitution of different transmission lines with different velocity factors, and B) it is very easily constructed for different VHF/UHF bands, and should even be practical on 6 meters. Once I even built one as an 11-meter base antenna for my mother and it worked beautifully, although it was rather long. Luckily she had a very high tree to hang it in.

Electrically, it is rather simple. The antenna itself is either a 2 or 4-halfwave, vertically stacked, end-fed

collinear. Phasing of the elements (C-B and B-C in the 2-element picture below) is accomplished by the 1/4-wave phasing stub (A-B). The phasing stub is simply pulled back towards the antenna to form a circle and tied with a piece of string so it won't interfere with the driven elements. Since it is a total length of 1/2 wave out and back, the top section will be in phase with the bottom section, and will cause a significant gain at the horizon. The feed (D-C) is a standard J-pole-type shorted 1/4-wave and is fed with balanced line in order to take advantage of the low dollar cost (about \$15.00/100ft). compact size, and fantastic loss characteristics of commercial 450-ohm ladder-line (comparable to 1/2" hard-line at 2 meters).

The ladder-line feedline can be any length as it is matched perfectly at both ends. I made mine 80 ft. long, and the resulting antenna rolled into a 1" x 10" disk that stowed easily in a school-sized backpack with room to spare for my HT, a small gel cell 12-volt battery, wrist rocket, 50-lb fishing line, and a bag of pogy bait.

The matching network at the radio end of the feedline is a combination of a 1/2-wave 4:1 coax balun and a 1/4-wave feedline transformer. The coax from the radio feeds into the balun at 50 ohms, and is simultaneously converted from 50 ohms unbalanced to 300 ohms balanced. The idea is simple - the 1/2 wave of coax feeds the other line of the balanced line (the one not connected to the center conductor of the coax) 180 degrees out of phase. To match the 200 ohms balanced output of the balun with the 450-ohm balanced input of the feedline, I took advantage of the transmission-line theory that states that with a 1/4-wave section of transmission line, (input impedance) X (output impedance) = (transmission-line impedance) squared. To be totally honest, I was sitting in the classic "Thinker" pose in the office (also known as the library, loo, hideaway from kids etc) wondering how to make the match when it hit me that 2 x 4.5 was the same as 3 x 3. After working the math out to verify that 200 X 450 was indeed 300 squared, I used a quarter wavelength of cheap 300-ohm TV twin-lead (the kids weren't too happy when their cartoons went off the air, but I popped in a videocassette to hold them over till I made it back

into town to buy more twin-lead) between the balun and feedline for a perfect match.

The antenna has been tested at several field days and as my primary base antenna for several years with very impressive results. It always amazes people by it's cheapness and performance having blown several commercial and tower-mounted antennas (it merely hangs from a line that has been shot into a tree) away in strictly informal and unscientific tests (I'm making it into repeaters at 5 watts that my friend down the street can't do at 25). It is free for anyone to copy, use, and improve on, with the exception that if I find someone making and selling it commercially, I would pretty much demand due credit (preferably in the monetary sense :). The original plans were published in a much-earlier edition of our local club's newsletter as proof of the date of conception.

If anyone could do me a favor and perform scientific analysis testing on this design, I would really like to hear the results. As a single custodial parent, I barely have time to appreciate that it works so well, let alone play with it and develop it even more.

Subjects to look up for further documentation of the concepts used by the KD4OUN Super-J collinear:

These are all covered in depth in the ARRL Antenna Handbook.

Collinear arrays

J-poles

Transmission lines velocity factors

4:1 coax baluns

Phasing lines

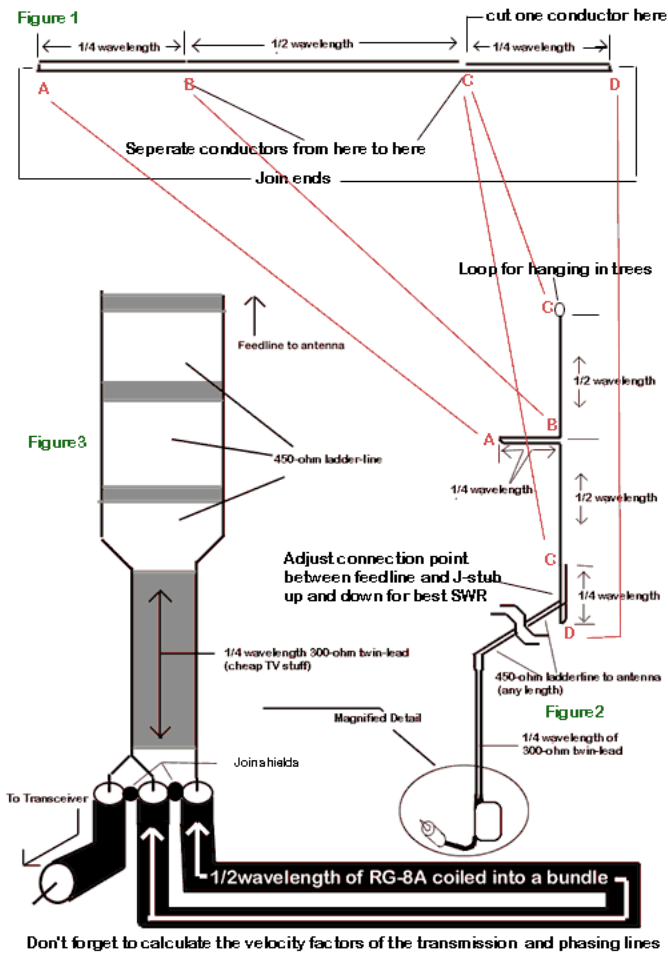
Maritime Super-J antenna

Mobile J-pole (uses the 4:1 coax balun at the feedpoint)

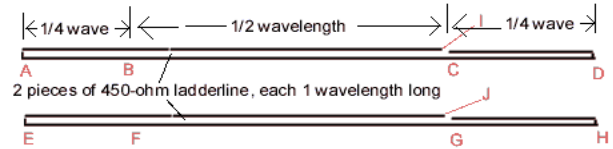
Transmission-line impedance transformation
(1/4 wave transformers)

Transmission-line loss characteristics

The straightforward simple version...



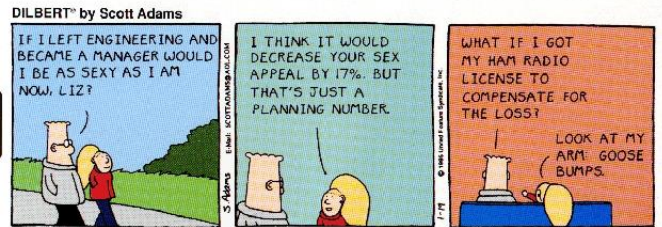
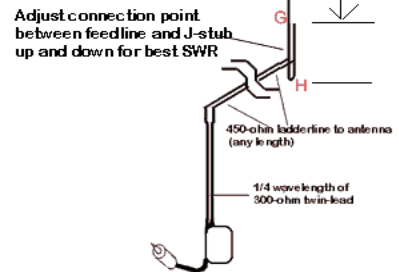
And for even better performance....



This antenna is virtually identical to the one above except for the additional collinear elements. Although you can theoretically keep on stacking elements forever, going much more than four is probably not worth the effort, and may even hamper your signal as it forces the lower hanging parts of the antenna closer to the ground.

The red letters on the above raw ladderline correspond to the same letters on the finished antenna (right)...simply cut, bend, match, and solder!

To install this antenna, get a line over the highest limb you can (I use a bow and arrow or slingshot/ fishing sinker to shoot my line up) and then use the line to haul your antenna as high as possible in the tree. To ease the stress on the soldered joints, I left the plastic tabs on the ladder line when I seperated the two halves, and then wove a piece of 170-lb nylon cord through them and actually hung the antenna from the cord rather than merely tying the end of the wire to the rope



June 2016 DX Information

June						
2016 Jun02	2016 Jun07	Marshall Is	V73HA	EB7DX	DXW.Net 20160514	By CX3AN fm Majuro Atoll; 40-6m; CW SSB; holiday style operation
2016 Jun03	2016 Jun17	Cayman Is	ZF2MN	M00XO	DXW.Net 20160517	By 2M0JMN fm NA-016; HF; holiday style operation
2016 Jun05	2016 Jun23	St Martin	FS	LotW	DXNews 20160112	By K9EL as FS/K9EL fm NA-105 (DIFO FS-001, WLOTA 0383); 80-6m, including 60m, focus on 6m; CW SSB RTTY; 500w; 3 ele yagi on 6m, dipoles, vertical; QSL also OK via K9EL and Club Log
2016 Jun07	2016 Jun09	Micronesia	V63AN	EB7DX	DXNews 20160514	By CX3AN fm OC-011; 40-6m; CW SSB; holiday style operation
2016 Jun09	2016 Jun14	Palau	T88AN	EB7DX	DXNews 20160514	By CX3AN fm Koror I (OC-009); 40-6m; CW SSB; holiday style operation
2016 Jun11	2016 Jun25	St Martin	FS	W5LAC	DXNews 20160307	By W5LAC as FS/W5LAC, also fm Sint Maarten as PJ7/W5LAC; HF
2016 Jun14	2016 Jul15	St Kitts & Nevis	V47JA	LotW	W5JON 20160505	By W5JON fm St Kitts; 160-6m, incl 60m; SSB; verticals, yagi on 6m; QRV for IARU HF Contests; QSL also OK via W5JON direct
2016 Jun15	2016 Jul14	Mauritius	3B8	EB7DX	DXNews 20151204	By M0RCX as 3B8/M0RCX; 40-6m; SSB RTTY JT65 PSK31; 100w; QSL also OK via eQSL
2016 Jun17	2016 Jun29	St Barthelemy	FJ	Home Call	W9DR 20150910	By W9DR as FJ/W9DR and W9AEB as FJ/W9AEB; W9DR on 6m, CW SSB, beacon at 50.115,7; W9AEB on 40-10m; CW SSB
2016 Jun20	2016 Jun28	Maldives	8Q7HW	DK1HW	DXNews 20160125	By DK1HW fm Mushimasgali I (AS-013); HF; CW SSB PSK31; 100w; verticals in seawater
2016 Jun22	2016 Jul11	Dominica	J79XE	WB4WXE	WB4WXE 20160506	By WB4WXE fm Upper Salisbury; 6m when open, 40-10m when not; 600w and 5 ele yagi on 6m
2016 Jun23	2016 Jul08	Bahamas	C6AUX	VE3IKV Direct	VE3IKV 20160108	By VE3IKV fm Mayaguana I (NA-113); 6m, possibly some HF; CW SSB; 8 ele yagi
2016 Jun28	2016 Jul04	Malta	9H3G	JH3FUK	JA3FVJ 20160514	By IT9BTI JH3FUK JA3TJA JA3QWN JA3FVJ; 40-10m; CW SSB RTTY PSK; Spiderbeam, vertical dipole; QSL also