

ANCHORAGE AMATEUR RADIO CLUB



Next General Meeting
September 2nd, 2016
Carr Gottstein Building - 7:00pm



The next Anchorage Amateur Radio Club meeting- Friday Sept. 2 will be our night to nominate Officers and 3 Directors. To celebrate this great event, there will be at least 10 door prizes. Two of the prizes will be dual band handheld transceivers.

You must be a paid up member to vote. The membership chairman will be ready to sign you up in case you have been too busy to mail in that check.

Please come to support your club and you might walk away with a great prize.

I'm still working on a speaker. I'll let you know who it is as soon as they confirm.

Thank you,

Allen- KB1QCE

**AGAIN, THANK YOU
TO EVERYONE WHO HAS
PARTICIPATED IN ANY OF THE CHARITY
EVENTS/HAM RADIO EVENTS AS WELL
AS TAKING OVER ANY POSITION THAT
HAS OPENED! WE APPRECIATE IT VERY
MUCH!**

I recently received an email from a gentleman who works for the ABC, Fox, and CW stations here in Anchorage, he shared this with me and would like me to pass it along. This October The CW will air a new show called Frequency that includes Ham radio.

If you would like to see the preview, go to www.cwtv.com .

Click on the search finder  , type in **FREQUENCY**.





FOR SALE

Posted August 4th.

Large office desk for the home or office still in very nice shape. I personally used this desk as my computer desk, with several HAM radios spread across the desktop plus it was big enough for several soldering projects all at the same time.

Very similar to this Costco model:

<http://www.costco.com/Merritt-U-Shape-Desk-with-Hutch.product.11681187.html>

Looking to sell the desk for \$300 or best offer.

Thanks!

Sean P. Jensen

KL2CO

sean.jensen@gmail.com

Reviewed-3 July 2016

Kenwood TS-940S/AT HF transceiver (150 KHz – 30 MHz) with all band transmit mod, and service manual. Last used in 2007, needs internal batteries replaced. Includes Heil BM-10 boom headset mic with HC-4 DX element. \$700

24-hour clock by Seth Thomas, \$20

Sennheiser HD-485 open-air, over-the-ear 32-ohm headphones \$45

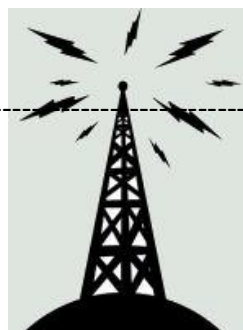
Sennheiser HD-600 open dynamic hi-fi professional 300-ohm headphones \$250

Kenwood TH-21AT 2M synthesized HT \$35

HyGain 674-PR CB 23-channel AM/SSB radio \$15

Solder gun Weller D550PK 200/260W professional heavy duty, \$30

Mike AL7KC 460-0242 (text or call) or email AL7KC@yahoo (dot) com



Reviewed- 6 July 2016

I HAVE FOR SALE THE FOLLOWING R.A.R.E (readily available if researched electronically) items:

DRAKE ... TR4,MN4,RV4, AND POWER SUPPLY ... \$300 FOR ALL

HEATHKIT ... HW8, HG10, AND HW16 ... \$200 FOR ALL

CLEGG 22'er MKII ... \$75

BIRD 43 WATT METER 2-30 MHz WITH THREE SLUGS - 50W., 250W., AND 1000W. ... \$200

PRICES I THINK ARE FAIR ... IF NOT, MAKE OFFER.

Shipping, actual cost. Possible delivery.

PHONE 776-3429 OR kl7jd@alaska.net

1 August 16-

For Sale by the Elmendorf Military Club Station KL7AIR

1 Kenwood TL-922A Amplifier. In great condition with low hours. 1.2 kw out. Wired for 220vac and uses a single 3-500 tube.
\$700

Contact the club at:

club@kl7air.us or leave a message on the recorder at 552-2664

Will ship but the buyer is paying for that service, this is a heavy amplifier.

September 2016

Sun

Mon

Tue

Wed

Thu

Fri

Sat

				1	2 General Meeting	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20 Board Meeting	21	22	23	24
25	26	27	28	29	30	

IF THERE ARE ANY EVENTS THAT YOU
WOULD LIKE ON THE CALENDER, PLEASE
LET ME KNOW!



ACTIVE NETS IN ALASKA

VHF

The local VHF Nets have a Packet side as well. Look for 2 meter Packet at 145.01 (Eagle) and 147.96 (Valley).

The Eagle and Valley Packet Nodes provide a "talk" or chat function. Also if you are unable to connect directly to ontof the nodes, try digipeating through "EARS" on either frequency. Do this by typing "c eagle v ears" or "c vally v ears" on the appropriate frequency. Dee KL7AIR.US for more info on the digipeaters.

ARES Net: 147.33 103.5Hz - Thursdays at 8:00 PM local

No Name Net: 146.43 simplex Sundays 8:00 PM

South Central Simplex Net: 146.52 FM, 144.2 USB, 446.0 FM, 432.2 USB, 223.5 FM, 927.5 FM, 1294.5 FM, 52.525 FM, 50,125 USB, 29.6 FDM, 28.4 USB, 145.01 packet (Eagle node) and 147.96 packet (Valley node).

Tuesdays 8:00 PM local

Alaska VHF Up Net: 144.200 USB Saturdays 9:00 AM local

Statewide LINK Net: 145.15(-) PL 123.0Hz; Sundays 8:30PM local

Alaska Morning Net: The Alaska Morning net is held Monday through Saturday from 9am- 11am on the IRLP Reflector 9109. This net can be reached via several hosting nodes in the area. Please visit <http://status.irlp.net/index.php?PSTART=2&mode=3> to find the closest node. Also, the net can be reached via Echo Link on 9191 (WL7LP-R) and Allstar nodes 27133 and 29332.

The Alaska Statewide ARES net is held Thursday evenings at 8:30pm (following the Anchorage ARES net) on IRLP 9109, Echolink WL7LP-R and Allstar 27133 or 29332 as well as the Sunday evening Alaska Statewide Radio Link net at 8:30pm.

HF

- **Alaska Sniper's Net:** 3.920 MHz 6:00 PM daily
 - **Alaska Bush Net:** 7.093 MHz 8:00 PM daily
 - **Alaska Motley Net:** 3.933 MHz 9:00 PM daily
 - **ACWN (Alaska CW Net):** 3540 kHz, 7042 kHz, 14050 kHz Non-directed, CW calling and traffic watch for relaying NTS of other written traffic. AL7N monitors continuously. Receivers always on WL2K. (RMS connection available (AL7N@winlick.org))
 - **Alaska Pacific Net:** 14.292 MHz 8:30 AM M-F
 - **ERC HF Net:** 3.880 MHz—Sunday 8:30PM
-

DATA YOU CAN USE

Frequency	Tone	Call Sign	Features	Area
147.18 -	88.5	ADES		Ft. Richardson
146.88 -	no tone	AL7LE	Phone patch	Kenai Soldotna
146.82-	103.5	WL7CWE	IRLP	Anchorage
146.76 -	123.0	KL3K	IRLP	Seward
146.94 -	103.5	KL7AA	Phone patch	Anchorage to Wasilla
224.94 -	no tone	KL7AA		Anchorage
444.70 +	103.5	KL7AA	Phone Patch	Anchorage
146.67 -	103.5	KL7AIR	MARS Station	Anchorage & Highway North
147.30 +	141.3	KL7ION		Very Wide Area
146.85 -	no tone	KL7JFU		Mat Valley
146.91 -	no tone	KL7JL		Homer
147.15 +	107.2	KL5E	Phone patch	Eagle River & Chugiak
147.84 -	103.5	WL7CWE		Wasilla Repeater
147.33 +	103.5	WL7CVF	Cross linked to 443.900	Very Wide Area *
443.900 +	103.5	WL7CVF	Cross linked to 147.330	Very Wide Area **
Note:	443.9 Grubstake UHF is currently			

South Central Area Simplex Frequencies	
146.52 MHz	National Calling and Emergency frequency
147.57 MHz	DX Spotting frequency
146.49 MHz	Anchorage area simplex chat
146.43 MHz	Mat-Su Valley simplex chat
147.42 MHz	Peninsula simplex chat

WINLINK	Callsign	Frequency
Anchorage ARES RMS	WL7CVG-10	144.9
Palmer (MATSU) RMS	KL7JFT-10	145.19
FAIRBANKS RMS	KL7EDK-10	147.96
South Central Digipeater	WL7CVG-4	144.9
Anchorage AARC RMS	KL7AA-10	144.98

ANCHORAGE RUNFEST EVENT

The Runfest was held on Sunday August 21. The Runfest consists of 5k, half marathon, full marathon and 49k Ultra Marathon, and there are participants from around the world.

The event kicks off at 0800 and finishes around 1530. It was a perfect day for the runners as there were cool temperatures and only light rain.

As with any event in which we Hams participate, it was a great opportunity to play radio, test our individual equipment set-up and performance, and analyze if there is anything we can do next time to improve our capability for the “real deal emergency”.

I would like to give a very hearty THANK YOU to the individuals that gave of their time to volunteer, and do something for their Club and for the community.

In no particular order I would like to recognize the following dedicated souls:

Lara Baker, AL2R – Net Control

Jan Abbott, KB1QCD – Net Control

George Wilkinson, KL1JJ – Race Director Shadow

Mike Hayward, KL4TW - Westchester

Fred Brantingham, WL7IJ – Lyn Ary

Alice Baker, KL2GD - Postmark

Dan Knapp, KL4CX - AWWU

TJ Sheffield, KL7TS – Bike Mobile

Emily Rowher, KB7AMA – Valley of the Moon

Craig Rowher, KF7PFN – Valley of the Moon

Allen Abbott, KB1QCE - Woodside

Pat Gionson, KL3JH - Davenport

Ray Hollenbeck, KL1IL – Goose Lake

Larry Bettis, KL3UL – East High Turnaround

We are already looking forward to next year’s event!

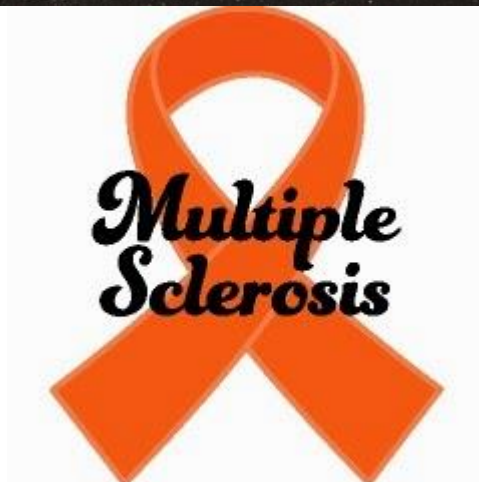
Keith Clark, KL7MM - Coordinator



MS WALK



KB1QCD tough duty supporting the MS folks.





Monthly Events



1st Friday each month: AARC general meeting - 7:00 PM in the Carr-Gottstein Building, on the APU Campus. Talk in will be on 147.33+ repeater.

1st Tuesday each month (except for holidays): VE License Exam 6:30 PM, at the Hope Cottage offices, 540 W International. Bring photo ID, copy of license (if any) and any certificates of completion. Contact: Jim Wiley, KL7CC 688-0660.

1st Thursday each month: Moosehorn Amateur Radio Club General meeting - 7:00 PM Location is at Borough Emergency Response Center on Wilson Way in Soldotna (behind Soldotna FD. Call for directions on 146.88 repeater (no tone). Moosehorn ARC also holds a weekly luncheon every Thursday, locations and times change — contact George Van Lone, KL7AN: donnav@acsalaska.net

2nd Saturday each month: PARKA (Polar Amateur Radio Klub of Alaska) Meeting at 11:00 AM. Polar Amateur Radio Klub of Alaska. All amateurs welcome. Denny's on Denali Street in Anchorage. Some business is discussed. Originally established as an all woman organization, membership now includes spouses or significant others. Talk in on 147.30+.

2nd Saturday each month (except for holidays): VE License Exams at 2:00 PM. at Hope Cottage 540 W. International. Be sure to bring photo ID, copy of license (if any) and any certificates of completion. Contact: Jim Wiley, KL7CC 688-0660.

3rd Tuesday each month: AARC Board Meeting at 7:00 PM at Hope Cottage 540 W. International. All hams are invited and encouraged to attend.

2nd Wednesday of each month: EARS general meeting at 6:00 PM. EARS meetings are held at the EARS shack location. Contact info - Ron Keech, KL7YK for information. EARS: 552-2664 (recording); Talk in on 146.67-. Email: club@KL7air.us or kl7yk@arrl.net

4th Saturday of each month: Valley VE Testing at 7:00 PM. Sessions will be held at Fire Station 61, at 7 pm on the fourth Saturday of each month unless it is a major holiday weekend. Contact Ken Slauson, KL7VE, Ken.Slauson@gmail.com or 907-376-8698.

The last Friday each month: MARA meeting at 7:00 PM, Wasilla Fire Station 61. Talk-in help for the meeting can be acquired on the 147.33 repeater. Further details can be found by contacting Don Bush, KL7JFT, dbush@gci.net.

Every Monday at 11:00 AM: Meeting of interested Amateur Radio Operators — and lunch at Denny's on DeBarr — across from Costco. Many code and HF operators attend this function. Come talk radio. For information, contact Kathy O'Keefe, KL7KO, kokalaska@gmail.com

Every Saturday at 7:00 AM: Meeting of a group of Amateur Radio Operators at Denny's on Denali for breakfast. Topics? Radio, photography, and upcoming events For information, contact Kathy O'Keefe, KL7KO, kokalaska@gmail.com.



AARC JULY BOARD MEETING MINUTES



The AARC board of directors monthly meeting was held at Hope Cottage, in the conference room, on July 19th, 2016. The meeting was called to order by President Lara Baker, AL2R at 7:00pm. The following officers were present:

President Lara Baker, AL2R

Vice President Kent Petty KL5T

Secretary Lil Marvin KL7YF

Treasurer Alice Baker KL2GF

The following directors were present:

George Wilkinson KL1TJ, Sydney White KL4DG, Richard Tweet KL2AZ, and TJ Sheffield KL7TJ.

The following directors were excused, Jim Wiley KL7CC; Allen Abbott KB1QCE; Rich Gillin was unexcused.

Keith Clark KL7MM was present as trustee and a visitor.

The minutes were read. Richard moved and Alice seconded to approve the minutes, the motion passed.

Treasurer's Report: Alice received a \$500.00 restitution check and a \$2,500 check from Boniface Bingo which was marked for the third quarter. No check had been received for the second quarter. Boniface Bingo is in the process of changing bookkeepers.

Finance Report: The \$500.00 restitution check brings the club back to normal on restitution payments.

Grants: Lara has not started on writing grant requests yet. He will get to it.

Gaming: TJ reports the club's gaming income for 2016 was \$12,500.00 as of July 1st. Last year, at this time of year, the income was \$16,186.00. He reported the club has a baseline expenditure of \$4,000 to \$5,000. There are fixed costs (such as utilities, etc.) and variable costs (such as field and the club's carryover projects) which the club must keep in mind, and which will hopefully soon be completed.

VE Report: New extra class exams have been used. VE exams are proceeding normally.

Trustee: Working Wednesdays are proceeding as usual. There is nothing new to report.

Membership: There was no membership report.

ByLaws: The 501© (3) status request is still awaiting a response from the federal government.

ARES: Providence Hospital Medical Comply is now stipulating when and where ARES members can come and use Providence 's equipment. There is club liaison with Providence's emergency communication center. Sydney White will be the liaison with Alaska Native Medical Center's emergency communication center.

Kent Petty discussed a new project. TJ Jombleson is selling his amateur radio equipment located on Bruce Chandlers property, The Chandlers are all giving the use of the site, including the power and internet by the club. George moved and Keith seconded to pay TJ Jombleson \$800 for purchase of 60ft. Of Rohn 25 tower, lack system in the building VHF and UHF antennas, high quality coaxial cable, dc power distribution panel, 2.4GHz mesh antennas and other assorted equipment. The meeting was closed at 8:00pm by President Lara Baker.

The AARC general meeting was held on Friday evening on Aug. 5th, 2016 in the Carr-Gottstein building on the Alaska Pacific University campus. The meeting was opened at 7:00pm by President Lara baker AL2R. Introduction were made. Rob Keach requested volunteers for a Mars Department of Defense drill to be held on August 15, 2016 from 7:00am to 4:00pm. This is a quarterly exercise. Volunteers will be asked to check in and answer various questions (i.e. Where are you currently located, etc.) Answers will then be received and tabulated by the military respondees will receive a QSL card from the DOD. Contact KL7YK@ARRL for more information.

Allen Abbott KB1QCE solicited ideas for future speakers for the club's general meetings. President Baker suggested having a speaker give an active shooter training talk. Allen is working on getting a past director of the Nike site to discuss the site summit restoration. The September general meeting will deal with the nominations for officers. Club members are asked to carefully consider candidates. According to the Club By-Laws if a person runs unapproved, they do not need to be formally elected. Otherwise the election is to be by competitive election only.

Allen asked for volunteers for the MS walk around Lake Hood to be held on August 27th.

The AARC AGC convention and training center will be next weekend.

Aug. 21st Runfest needs about 26th volunteers. AB5JB will hold a tailgate sale including 2 Tech 465 B oscilloscope. The meeting was closed at 7:48pm by President Baker.

Respectfully Submitted,
Lillian Marvin KL7YF, Secretary.

A 2 Meter and 70 CM Portable Tape Measure Beam

Work the OSCAR ham satellites or go transmitter hunting with this inexpensive portable dual band handheld tape measure Yagi.

John Portune, W6NBC

Many hams have made 2 meter tape measure beams for transmitter hunting. In this article we'll take that design two steps farther. First, we'll reduce cost and then we'll add OSCAR satellite Mode J capacity. A bonus is that a double boom design lets you fold the antenna up conveniently for transport or storage.

Keeping the Cost Down

When I first saw a tape measure 2 meter beam for transmitter hunting, I said: "What a great idea." So I bought a kit with tape measure material, PVC pipe, PVC X fittings and stainless steel hose clamps. It worked very well. Later I thought: "This would make a great ham club project if I could just get the cost down." Lightning struck — there's an easy approach that doesn't use expensive stainless steel hose clamps or PVC X fittings.

Simply drill $\frac{1}{8}$ inch holes through a $\frac{1}{2}$ inch inside diameter PVC boom and push the tape measure elements through. (See Figure 1.) It works just as well and is much less expensive. The long elements do need a short length of $\frac{1}{4}$ inch wood or fiberglass dowel and a couple of tie wraps to stiffen them in the wind. The dowels push through the same holes. Now the most expensive parts of the beam is the RG-58 coax and the connector. Since then, local club members have made many 2 meter tape measure beams for transmitter hunting.

Working the OSCARs as Well

More recently I became interested in working Mode J OSCAR satellites — 2 meter FM phone toward the satellite, 70 cm FM phone from the satellite. What kind of antenna should I use? At a local club meeting I learned that there are several commercial handheld satellite beams on the market. The lecturer gave us a live demo of one during an actual satellite pass. But were there any good homebrew designs?

Then I remembered my handy little



Figure 1 — Dual purpose, dual boom portable tape measure Yagi for 2 meters and 70 cm.

2 meter tape measure transmitter hunting beam. Why not just add a 70 cm beam to it? The one shown is the result. I did not make any changes to the existing three element 2 meter transmitter hunting beam. For though it is a little shorter than most commercial satellite beams, and is optimized more for front to back ratio, it works just fine for the "birds" and of course still for transmitter hunting. I did, however, optimize the new 70 cm beam for forward gain. Figure 2 shows EZNEC elevation plots for both, with the beams turned vertically.

As just a bit of simple theory, the 70 cm beam needs to be rotated axially 90° from the 2 meter beam. This makes the two invisible to each other. I've seen designs in which they are in the same plane. I tried this and found it unsatisfactory. The reason, I believe, is that a 2 meter Yagi has a third harmonic resonance near 70 cm. The directivity of the 2 meter Yagi on UHF is poor. If you mount

the two beams in the same plane, the patterns clash. I modeled this with EZNEC and saw that it is a poor idea.¹

Folding for Storage

A particularly handy feature of this design is the dual boom. I had at first thought to just drill extra holes in the existing single boom for the 70 cm Yagi. In terms of performance, that would have been fine. But on the 2 meter only version I had been folding the element ends back under tie wraps for transport or storage (see Figure 3). Had I added a 90° fixed position UHF beam, the whole structure would have become cumbersome. Two rotatable booms is a better approach. By holding the booms together with two tie wraps one can easily rotate the beams into

¹Several versions of EZNEC antenna modeling software are available from developer Roy Lewallen, W7EL, at www.eznec.com.

the same plane for storage or transport. Most of the figures in the article show them in that mode. The folded-up dual-band beam is now no bigger than before.

Compatible Element Spacing

One of the slightly tricky parts was to design a 70 cm beam with elements that fit well between the existing elements of the 2 meter beam. Fortunately, the spacing of Yagi elements isn't critical. Experience has shown me that one can select almost any spacing, within limits, and by simply then adjusting element length, you get pretty much the same performance. Figure 4 gives placements and sizes. The elements are made from ordinary small-width tape measure material.

Baluns and Feed Point

The impedance at the center of the 2 meter beam will be less than 50 Ω . By shortening the driven element and inserting an inductive hairpin in shunt with the feed point, the impedance will be raised to 50 Ω resistive. Make an inductive hairpin as shown in Figure 5 from #12 AWG solid copper wire, 8½ inches in length. It yields reasonable SWR and is easily adjusted. The 70 cm Yagi's driven element naturally matches 50 Ω with-

Q51291-Portune02

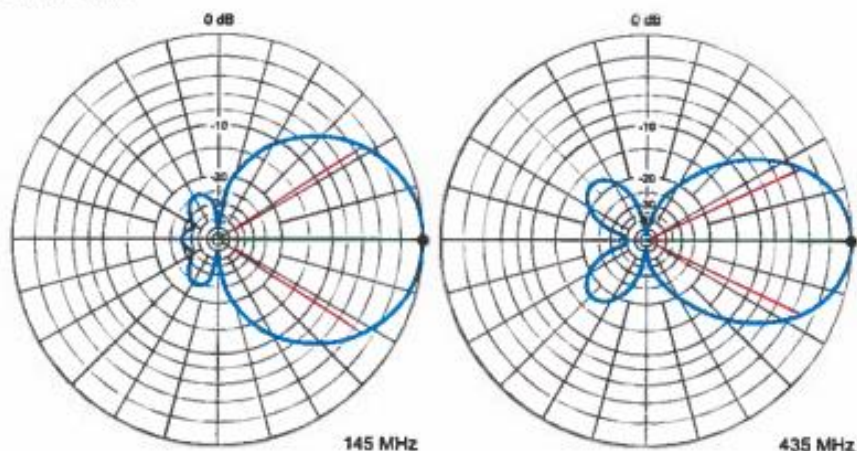


Figure 2 — EZNEC elevation plots with both Yagis vertically polarized. As shown, the 145 MHz gain is 7.5 dBi, the front-to-back ratio is 29 dB. For 435 MHz, the gain is 10.4 dBi, the front-to-back ratio is 38 dB.

Hamspeak

Diplexer — Passive device that accepts energy from two sources on different frequencies and combines them into signals on a single port. Alternately, it can accept signals on two frequencies combined into a single stream and separate them into signals on two ports based on their frequency.

EZNEC — Antenna modeling software that provides a user friendly interface to the powerful Numerical Electromagnetic Code (NEC) calculating engine. Several versions of EZNEC antenna modeling software are available from developer Roy Lewallen, W7EL, at www.eznec.com.

OSCAR — Orbiting Satellite Carrying Amateur Radio. Name given to a set of Amateur Radio satellites. The number following the name indicates the deployment sequence.

OSCAR Mode J — Amateur satellite mode referring to a single channel FM repeating satellite that has a 2 meter uplink and a 70 cm downlink.

Yagi — Multielement directive antenna array in which one or more elements are driven by connection to a transmission line and the others are parasitically coupled. Yagis are generally characterized by high gain for their size accompanied by narrow operating frequency range.

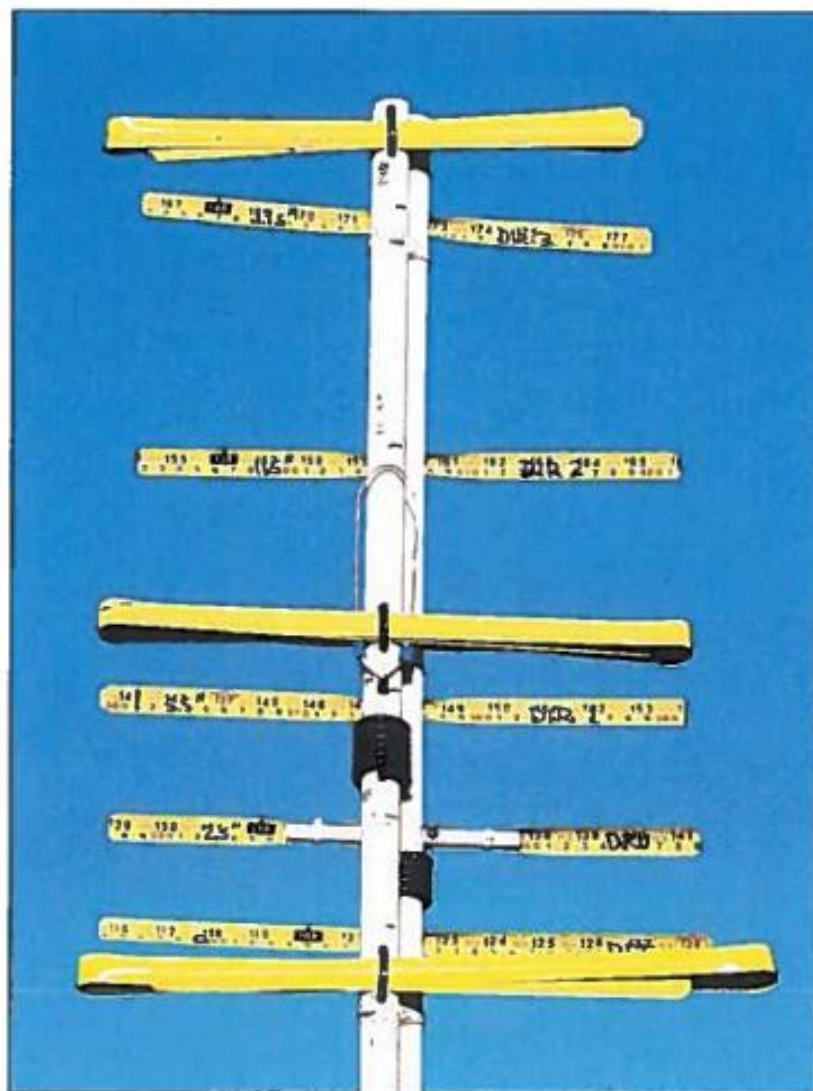


Figure 3 — Booms rotated 90° and 2 meter elements folded back. Note tie wraps to hold ends.

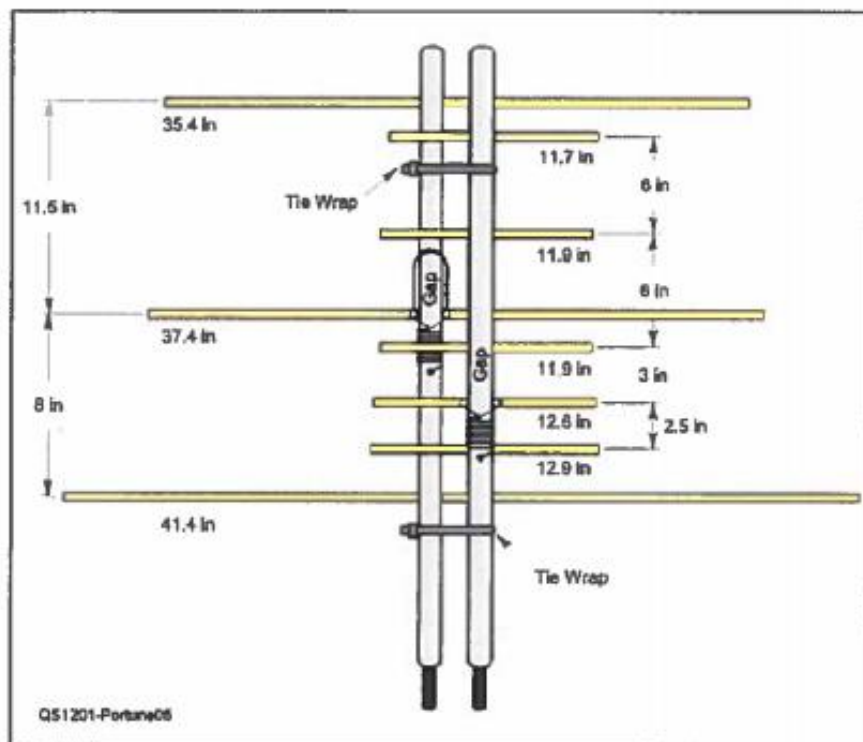


Figure 4 — Dimensions with booms rotated. Note the boom rotation tie wraps.

out any added tuning elements.

As with most coax fed antennas, baluns on both beams is highly recommended. Shown are choke baluns made by wrapping the RG 58 feed coax around the boom several times. Secure the ends through holes in the boom. For 2 meters, six turns is adequate; for 70 cm, use four turns. Run the coax down the inside of the boom and out the end. Use two 6-32 screws and four nuts to connect to each driven element. Leave a 1/4 inch gap in the middle. Scrape the paint off the tape measure material and tin the area with solder to provide a good connection. Separate out a short length of the coax's inner and outer conductors and crimp on ring terminals.

Using the Yagi with a Dual-band Radio

I normally make my OSCAR contacts using two separate handheld transceivers, one for each band. You may, of course, use a dual band handheld, but in that case you will need a diplexer to connect the two antenna feed lines to the radio's antenna port. There are also several satisfactory homebrew diplexer designs on the Internet.

I claim no special magic for this antenna design. The Yagis are classical designs and the tape measure method well known. The charm is the mechanical arrangement. By eliminating PVC X fittings and stainless hose clamps, it is inexpensive, and by also using two booms it folds up neatly. I now can seamlessly combine two of my favorite ham radio disciplines, transmitter hunting and ham satellites in one handy portable antenna.

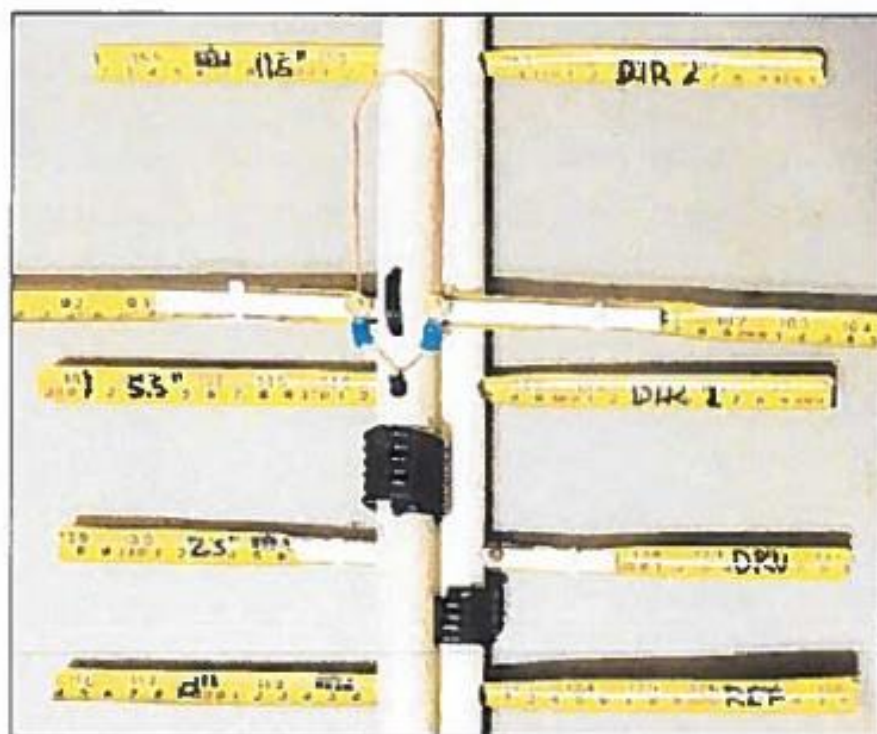


Figure 5 — Feed-point detail showing choke baluns, element stiffeners and hairpin match on the 2 meter beam. The booms have been rotated into storage mode.

Photos by the author.

ARRL Member John Portune, W6NBC, received a BSc in physics from Oregon State University in 1960, his FCC Commercial General Radiotelephone license in 1961 and his Advanced class amateur license in 1965. He spent five years in England as G3AJH and upgraded to Amateur Extra class in 1985. John retired, first as a broadcast television engineer and technical instructor at KNBC in Burbank and then from Sony Electronics in San Jose, California.

John is active on many bands and modes, predominantly from his HF-equipped RV mobile station. He has written various articles in ham radio and popular electronics magazines and remains active as a VE team leader, ham license teacher and website designer. You can reach John at 1095 W McCoy Ln #99, Santa Maria, CA 93455, or at jportune@aol.com or via his website at w6nbc.com.



If you have any questions or would like anything included, please email me at swmarie96@gmail.com!

-KL4DG

(This month's newsletter is short and sweet, if you have any stories or jokes to share please email me!)

