

# STATIC



May 2012

## THE \$4 SPECIAL

By Permission of Joe Tyburczy, W1GFH

Sure, you can find "all-band wire antennas" for sale in the back pages of Ham magazines costing \$150 or more. But beware: *Marconi spins in his grave everytime a ham buys an aerial instead of building it.* The plain and simple truth is that wire antennas for the HF bands were intended to be *hand-made* and not store-bought.

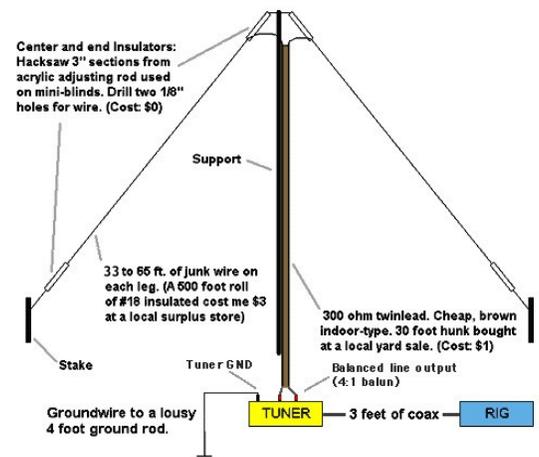
Untold generations of intrepid Radio Hams have fashioned their own equipment out of spit and baling wire. Do you think the spark-gap dudes of the 1920's just went out and bought ready-built G5RV's from HRO or AES? No way! They slapped together aerials out of bedsprings, chewing gum, and frozen cow poop. For them, every day was Field Day. I think that home-built antennas should be awarded 10 db of "honorary gain" simply by virtue of their ingenuity. And in this world of microprocessor controlled micro-rigs, constructing one may be your only chance to build something and actually see it work on the air. Think about it.

RadioWorks, Alpha-Delta, MFJ, B&W, Van Gordon, W9INN, and W7FG...nothing wrong with the wire antennas they sell. But buying one is no substitute for "rolling your own". Don't be overawed by their advertising rhetoric. You can make an antenna every bit as good as theirs, and even better in many cases.

### Just Do It

Don't be intimidated by SWR, either. Your rig will not blow up and kill you. Most modern rigs will politely refuse to transmit into a really bad match. A perfect 1:1 SWR is for sissies, anyway. All \*real\* hams have conducted perfectly good QSO's at 3:1 (or more) at some time or another. You may be surprised to know that the vast majority of hams didn't fret about SWR until after WWII when coax cable and SWR meters ("SWR Bridges" as they were first known) became available on the commercial market. Before that time, you simply cut your antenna to frequency, loaded the transmitter final for best output according to the plate current meter, and that was that.

I am a big fan of "balanced line" (twinlead, open wire line, etc.) vs. coax. By using balanced line and a tuner you can have one, single-element antenna that works well on all bands. You can't do that as easily with coax. The basic "W1GFH \$4 SPECIAL" shown below is a variation on the type of versatile skyhook I've been using for years.



(cont. page

## LBARA MEETING SCHEDULE

MONTH	BOARD	REGULAR
MAY	NOTE: BOARD	5/17
SEPT	MEETINGS WILL NOW	9/20
OCT	TAKE PLACE ONE	10/18
NOV	HOUR PRIOR TO THE	11/15
DEC	REGULAR MEETING	12/20

### MAY'S CLUB MEETING

# SKYWARN

**Dick Jernigan, W7DXJ, will bring the Club up to date on the latest meeting with the National Weather Service out of Las Vegas, NV. Representatives of the NWS recently held a exploratory meeting in Kingman about reestablishing the SKYWARN network in Mohave County. Dick will let us know about what occurred at this meeting and the up-coming training for radio amateurs to begin in November. This is important to all members...be sure to attend.**



### Monday Night Net (7 PM)

System	Location	Freq	Offset	PL
MCARS	Bullhead City	145.27	-	131.8
	Kingman	146.76	-	131.8
	Kingman	448.25	-	131.8
	Lake Havasu	146.62	-	131.8
	Willow Beach	147.12	-	131.8
CRRRA	Lake Havasu City	146.96	-	162.2
	Lake Havasu City	224.24	-	156.7
	Lake Havasu City	146.64	-	156.7
	Lake Havasu City	449.95	-	141.3
BARN	Lake Havasu City	447.54	-	136.5
	Las Vegas, NV	449.95		136.5
	Onyx(Palm Springs)	449.34	-	136.5
	Orange County, CA	447.54	-	100



(cont. from page 1)

Now at this point, some of you may be looking at the diagram and muttering, "Jeez Joe, that's just a dipole fed with twinlead and used with a tuner". Well of course it is. Virtually all antennas are di-poles" (i.e. "two sides") in some form or another. This one just happens to be made from low-cost materials.

I won't go into the theory here, but trust me: balanced feedline, properly used, does not "leak" RF and is less lossy than coax. I've tried the commercial 450-ohm ladder line, but prefer 300-ohm TV twinlead, and the cheaper the better. Radio Shack TV twinlead is ideal. Home Depot has some good stuff, too. Forget all the obsessive junk about standing waves, impedance and velocity factor. What you really need to concentrate on is getting an interesting set of *antenna insulators*.

### Hang It Up

Back during the disco era when I first got on the air, I got a pair of really cool antique *pyrex antenna insulators* from a flea market table in Derry, NH for 25 cents each. They looked like the kind Hiram Percy Maxim used in 1910, and seemed able to pull in exotic DX all by themselves. The other day I found out that Radio Shack wants \$5 apiece for insulators made from some kind of white plastic crap. So I improvised my own by sawing up pieces of an acrylic adjusting rod from a discarded miniblind. I think Hiram would've been proud of me.

Hang the center of the antenna from a tree limb, or use a support as pictured. The exact height of the antenna's feedpoint is not crucial. The higher, the better. 20 feet might be considered the minimum. 60 feet is ideal. However, in the real world, 30-50 feet is average.

The ends of the antenna will be "hot" with RF, so it's a good idea to keep them out of reach of people and pets, say, at least 10 feet above ground. However the antenna will still function if you bring the ends down closer to the ground.

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### Love Your Tuner

My first tuner was a 1980's wood-grain cabinet style MFJ-941 I got at a swap meet for \$15 a long time ago and featured an internal balun and connections for balanced lines on the back. Make sure YOUR tuner is an outboard manual type antenna tuner such as this, and not an automatic" or internal tuner that is a pushbutton feature on many modern rigs. Because they must use small, light-duty components, these built-in tuners are typically limited to handling mis-matches of 10:1. The mis-matches YOUR feedline will be seeing can be as high as 100:1. But don't worry. The he-man sized coils and air-variable caps in a typical outboard tuner will handle it just fine.

Don't believe the folklore about MFJ tuners being junk. It's true, they are cheaply made and their Quality Control is spotty, but the majority of them work perfectly OK if they aren't abused. So do old Dentron's, Drake, Vectronics, Nye Viking, etc. A link-coupled balanced tuner arrangement like the Johnson Matchbox would be even better, but use what you have. Or make one. Ham radio (unlike some other hobbies) isn't a competition to see who can own the best or most expensive gear. *The idea is to get on the air with what you have or can afford, enjoy your self making contacts, and as time and money permits, try something else.*

I had a 65ft. per leg version of this antenna working in Massachusetts, and it'd tune up on all bands 80-10. At my Burbank, California QTH, I used a 35 ft. per leg version, and it tuned up on 40-10. By the way, you'll notice it's an inverted vee --- a real advantage if you don't have room for a full-sized dipole in your yard. If you still don't have room, bend and angle the legs to fit the space you've got. Antennas gently bent into Z-shapes still work fine!

### The Magic Of Twinlead & Wire

The uncut feedline comes straight in thru a clever window sash arrangement first used by hams in the 1920's. Alternately, you can attach the wires to feed-through bushings (which can be anything from two steel bolts...to a pair of banana jacks end-to-end) set into holes in the wood sash or a glass pane (or a plexiglass panel). 300 ohm twinlead only needs about 2" separation from metal objects in its path. Unlike coax, its "gotta be free" -- don't coil it up, kink it, bury it, or lay it on the ground. Gently brushing against tree limbs or tied to non-conductive surfaces like wood or plastic is OK. The 100 watt output of most transceivers makes TV twinlead a safe and practical choice, but a number of hams have used it successfully with power ranges up to 1KW PEP. You can obtain or construct an external 4:1 balun to make the transition from your twinlead feedline to a short length of coax, then bring the coax into the house via a single feedthrough hole if you'd like.

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# SATURDAY MORNING'S BREAKFAST

You're all invited to join LBARA members for a great breakfast each and every Saturday morning at Rusty's Resturant located at the southwest corner of Lake Havasu Ave and Kiowa Blvd. Breakfast is served at 6 a.m. (or earlier if you want a good seat!) Most important, the food is great!!!!



## 2012 ARCA / WILLIAMS HAMFEST



*Presented by the Amateur Radio Council of Arizona  
and the City of Williams*

**JULY 20 & 21, 2012**



ADVANCED NOTICE

ADVANCED NOTICE

WILLIAMS RODEO GROUNDS, 800 RODEO ROAD, WILLIAMS, AZ

GATES OPEN AT 5 P.M. THURSDAY, JULY 19 FOR SET-UP.

HAMFEST OPENS AT DAWN FRIDAY, JULY 20.

**FREE ADMISSION!**

**JULY 22, 2012 - GRAND CANYON TRAIN TRIP**

MEETINGS, SEMINARS, ACTIVITIES,  
COMMERCIAL VENDORS, HUGE  
SWAP, VE TESTS, BAR-B-QUE DINNER,  
SUNDAY GRAND CANYON TRAIN TRIP

ALL SPACES - \$15 per Space  
DRY CAMPING - \$15 per Space  
or FREE with Selling Space

**BEFORE JUNE 1, 2012**

## PRIZES

DOOR PRIZES EVERY HOUR  
RAFFLE TICKETS  
\$2.00 Each, 3 for \$5.00 or 60 for \$100.00

Talk-In - 146.78 - (91.5 Pl)



After June 1 & ON-SITE - \$20 per Space  
Selling and/or Camping  
(all prices are for entire weekend)

**FOR RESERVATION INFORMATION**

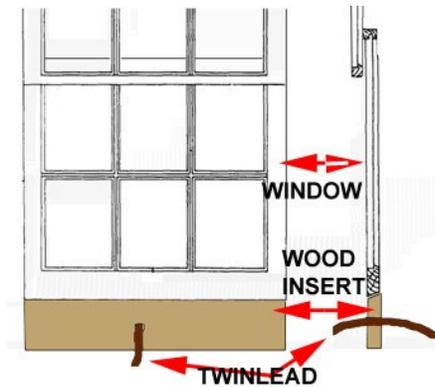
Visit the ARCA Web Site

[www.arca-az.org](http://www.arca-az.org)

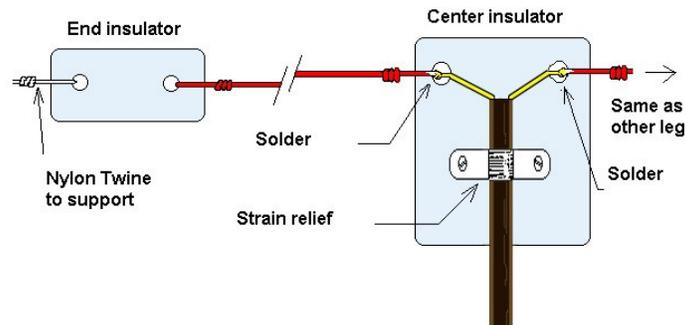
On-Line Reservation Available on Web Site

Or Call - 602.881.ARCA (2722)

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OK, back to construction for a moment. Here's a variation of the \$4 Special that uses center and end insulators made out of plexi-glass sheet. But you can improvise yours out of an old DVD, sawed-up PVC pipe, a plastic Coke bottle...or anything you'd like.



Many of you will recognize THE \$4 SPECIAL's design as the venerable "double zepp" aerial, a variation of the "end-fed Zepp" -- the skyhook responsible for the dramatic Hindenberg tragedy in Lakehurst, NJ. It seems the blimp's radio op decided to work a little DX while waiting for landing clearance. He sent out a few CQ's. Unknown to him, the ladder line had twisted in the breeze, shorting the bare conductors. A brilliant spark flared up, and....well, that's another story altogether.

*When* you put up your antenna is also crucial. I must mention here the importance of what many early hams called "antenna weather". That is, snow, sleet, freezing rain, or combination of all the above. It has been proven time and time again that any antenna installed in conditions better than abysmal will not function worth a damn. Or, put another way, it takes bad weather to put up a decent antenna. Dark and cold New England winter days are ideal for this activity. Any antenna erected on such a day will inevitably produce miracles .

Alas, I never had a 100 foot tower to hang this antenna from. The one in Mass. was up 50 ft. and worked what I considered terrific DX. The one I have now is only up 30 ft. and gets good to average results. It won't outdo a yagi at 100 feet. Very few things will.

But for \$4....who can complain?!

**73.....Joe Tyburczy, W1GFH**

## IMPORTANT NOTICE TO CLUB MEMBERS

Lana Lotspiech, N7WST, has stepped up to the plate as the Club's Membership Chair. When you next see her, tell her how much you appreciate her assistance to the Club. Thank you Lana.

Lana has begun the process to bring our Club roster up-to-date and has recently sent out a request via email to each of you to provide or up date your personal information. A number of her emails have come back as undeliverable, so it is evidence that we need your correct information. If you have not done so, please contact her at <gtvillageidiots@gmail.com>. Note that you have not received a new roster for 2012 and will not do so until we are sure all the information is correct.....Jerry France, Pres.

## ALTERNATE MEANINGS FOR COMMON WORDS

- **Coffee**, n. The person upon whom one coughs.
- **Flabbergasted**, adj. Appalled by discovering how much weight one has gained
- **Abdicate**, v. To give up all hope of ever having a flat stomach.
- **esplanade**, v. To attempt an explanation while drunk.
- **Willy-nilly**, adj. Impotent.
- **Negligent**, adj. Absentmindedly answering the door when wearing only a nightgown.
- **Rectitude**, n. The formal, dignified bearing adopted by proctologists.
- **Pokemon**, n. A Rastafarian proctologist.
- **Balderdash**, n. A rapidly receding hairline.
- **Flatulence**, n. Emergency vehicle that picks up someone who has been run over by a steamroller.
- **Lymph**, v. To walk with a lisp.

## Upcoming Activities and Hamfests

*June 2, 2012*

*July 20-22, 2012*

*Kachina ARC Hamfest - Show Low, AZ*

*ARCA/Williams Hamfest - Williams, AZ*

# Are you looking to upgrade your license?

## Give our VE Exam Team a call.

## See Ed Gillespie, AB7EM at #453.7412

# FOR SALE/TRADE

Ted Taft, WA7WBM, has the following equipment for sale. You may contact him at 680.1245.

## HF Equipment

- Kenwood TS50 with power cord, mobile mounting bracket, microphone, manual, and original box. **\$350**
- Astron RS 35 power supply. **\$125**
- LDG Z100 autotuner with manual. **\$100**
- Daiwa cross needle SWR meter, with manual. **\$40**
- Kenwood MC-50 Desk Microphone. **\$80**
- DSI Model 3550 550 MHz frequency counter with manual. **\$10**
- Radio Shack SWR/Power meter. **\$15**
- MFJ-259 HF/ VHF SWR Analyzer. **\$150**
- Autronic CW Key (made on 60's) **\$40**

## VHF/UHF

- Kenwood TM-731A mobile dual-bander, with manual, microphone, and Kenwood MX-72H duplexer for mobile dual band. **\$125**
- Yaesu FT-470 handheld dual-bander, with manual and charging station. **\$90**

All equipment was working at time my station was dismantled and has been in a non-smoking environment.

## LBARA OFFICERS AND DIRECTORS

Jerry France	President
Carl Schiller	Vice-President
Al Keys	Treasurer
Lyle Sibbald/Lyle Ross	Secretary
Dick Jernigan	Director (2 YR)
Reiner Schick	Director (2 YR)
Jim Gould	Director (1 YR)
Cliff Baril	Director (1YR)
Jim Varner	Sgt-at-Arms
Ed Gillespie	Web Master
Jerry France	Static Editor
Jack Fritchey	Membership Chair

## VISIT OUR WEBSITE

[www.lbara.net](http://www.lbara.net)

## FROM THE EDITOR

If you have anything you would like to see included in these issues, please let me know. I'm always looking for articles, news items, construction articles, or anything that might be of interest to our readers. You can contact me at 928.855.7941 or email at [grf@uneedspeed.net](mailto:grf@uneedspeed.net) or [francej@ajsinsurance.com](mailto:francej@ajsinsurance.com).

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# STATIC

## ATTENTION READERS

Please note that this issue represents a “work-in-progress” and there are a number of changes to be made in subsequent issues. I would greatly appreciate your comments, both good and bad, as well as any suggestions for future issues. This issue also begins our first attempt to deliver the **STATIC** to your doorstep electronically. Please keep me abreast of any email address changes you may have and I promise to have this delivered promptly and accurately. Also, I still have a number of articles awaiting publication and will do so in the future. This is your newsletter, so keep the articles, letters, and pictures coming. I can be reached at home (855.7941) or via email at [grf@npgcable.com](mailto:grf@npgcable.com) .

## EQUIPMENT FOR SALE

**EDITOR’S NOTE:** List your items for sale here. Ham radio related only, please. Include a picture if you like (please use a jpg format). Email all to me at [grf@npgcable.com](mailto:grf@npgcable.com)) along with your name and phone number.

