



THE AIRWAVES

June 2010

SIERRA AMATEUR RADIO CLUB

An ARRL Special Service Club

RACES ARES

P O Box 1442

Ridgecrest

California

93556-1442

BOARD	President	Harry Stephens	KI6PSZ	446-3095	KI6PSZ@webstephens.com
	First VP	Fred Moses	KG6STR	371-3582	kg6str@verizon.net
OF	Second VP	Gene Brewer	W5DQ	382-5201	w5dq@radioroom.org
	Secretary	Paula Herr	N6VGW	375-5324	n6vgw1@gmail.com
OFFICERS	Treasurer	Julie Stephens	KI6YRA	446-3095	KI6YRA@webstephens.com

SARC OWNED AND MAINTAINED REPEATERS

Randsburg	WA6YBN 145.34 MHz (-), PL 100.0 Hz, Wide Area, Emergency Power
Ridgecrest	WA6YBN 146.64 MHz (-), Translator, No Squelch Tail, Emergency Power
Ridgecrest	WA6YBN 147.00 MHz (+), PL 107.2 Hz, Local, Emergency Power

SARC Committees

Technical Assistance: Greg, WA7IRW 446-4383	Public Relations: Fred, KG6STR 371-3582
Program: Gene, W5DQ 382-5201	Airwaves Editor: Mike, WA6ARA 375-5324
RF Interference: Bill, WA6QYR 375-8566	Emergency and Public Service: Mike, W6PM 793-0541

THE AIRWAVES CALENDAR

Every	ARNewsline Audio News 1900 (7:00 p.m.) on 146.64 MHz	26 – 27 June	FIELD DAY! Details inside
	IWV Emergency Net Visitors Welcomed!	14 July	SARC Annual BBQ
Monday	1930 hrs (7:30pm) WA6YBN Translator 146.64 MHz (-)	11 August	SARC Annual Ice Cream Social

Night
East Kern County Emergency Net
Visitors Welcomed!
Rand repeater 145.340, pl 100
2000 hrs (8pm)

09 June SARC Board Meeting 7:00pm– Heritage Inn

09 June SARC General Meeting 7:30pm– Heritage Inn

"History of Shipboard Communications Systems" by Gary Hareland. KF6LEF

AMATEUR RADIO LICENSE EXAMS

Every Even Month, Second Saturday

12 June Volunteer License Exam Session

Location: Guns 4 Us, basement classroom

417 East Ridgecrest Blvd, Ridgecrest CA

No handicapped access Pre-reg by **7 June**

Limited to 8 applicants All must register at 9 AM

Contact Elvy Hopkins NØLV 760-384-3589

E-mail <lvrh7589@iwvisp.com>

Editor's Note - SUMMER PLANS

Summer is the time when the club goes “dark” for July and August. This is the last newsletter until September. In lieu of the July meeting (July 14th) we usually hold a BBQ. Typically this is held at Ron Ogren's (WA6PEV) place on Brady street just north of Ridgecrest Blvd. THIS HAS NOT BEEN CONFIRMED AT PRESS TIME. Listen to the Monday night net for details. For the August meeting on the 11th we usually hold an Ice Cream social. At this time the location has not been set. Listen to the Monday night net for details.

President's Shack

Greetings, fellow radio enthusiasts!

Well, the strange antenna challenge didn't work out for me this year, but next year I'll be ready with something to try, and may even feel comfortable leading a group effort. Lately those of us in the “brain trust” have been talking a lot about Field Day.

Speaking of the brain trust, to become a part of it all you need do is come to Crest Donuts on most any Saturday morning, usually for an hour, beginning at 10. Not sure what the summer “beat the heat schedule” will be (probably a 9:00 start), but we'd love to see you there. Ask around or monitor the 146 machine for Saturday am traffic.

Details of the club's Field Day 2010 efforts will no doubt appear elsewhere in this issue of *The Airwaves*, but suffice to say that I'm excited about it being a GOTA (“Get On The Air”) – type event to help our newer members get their feet wet in the HF bands. Getting on the air with UHF/VHF is easy enough: get a hand-held or mobile rig and start talking. Getting started with HF is a little more daunting to a new licensee, as it can be tough to know what questions to ask, know whom to ask, and summon the courage to ask them. On the other hand, some of the more experienced folks who are frustrated when “new licensees never get on the air” are eager to help, if only they can find out “who needs what”. So please find the details in this issue, and consider attending in any capacity you wish. It should be a fun day for all!

As we prepare for our summer meeting hiatus I hope to see everyone at the next (June) meeting; after that, the next formal meeting won't be until September, with a BBQ and ice cream social in-between.

73,

Harry, KI6PSZ@webstephens.com

SARC May Board Minutes

No board meeting, there were an insufficient number of board members.

SARC May General Meeting

The general meeting was called to order by the first VP, Fred KG6STR, at 7:30pm.

Visitors Carl KJ6HHP and JR KJ6HHL were in attendance. Both new hams from the recent SARC class.

Linda Finco, KF6CMW, of the China Lake Mountain Rescue Group (CLMRG) gave an interesting talk on the organization, including it's history, how it functions and communications. More information can be found at their web site www.clmrg.org

Ed, KI6PSP, showed off a computer build-up he had completed. Of particular note is the very low power and high reliability he had achieved.

The treasurer, Julie KI6YRA, reported on the funds available in the club's coffers as \$5728.

The public service activity for May of the Walk for Life in Death Valley was discussed. It went well and we made some good in-roads into the Death Valley community.

Thanks to Lorilyn, KF6LEW, for the goodies. Paula N6VGW volunteered for June.

The meeting adjourned about 900pm.

Treasurer's Report

As of May 29, 2010, Submitted by Julie Stephens, KI6YRA, SARC Treasurer

Beginning Balance	\$5,728
Income	\$275
Expense	\$(726)
End Balance	\$5,277

Club Badge Orders: Orders received prior to March 30 have been placed with the supplier. Supplier has confirmed receipt of the order, but has not responded to requests for an estimated ship date. You will be notified as soon as we receive the shipment. Thank your for your patience.

FOX HUNT!

The bi-monthly Fox Hunt are canceled. Look for them to begin up again in the fall. Too many of us are going to be out of town to have an effective hunt.

Field Day 2010

SARC has been successful in generating new hams in the valley. The class we have offered has been well attended with about 40 folks getting their Technician or higher license over the last couple of years. But there has been one thing missing, what do you do next? How do you put what you learn in class into practical operation? At the same time SARC has been lacking in plan for a Field Day operation.

A group of us have decided to combine the two into a Field Day participation concentrating on the new ham, using the GOTA (Get On The Air) style operation. This will be a low key operation, more based upon demonstrating how to get on the air, and actually getting the newer hams on the air. The emphasis will not be on racking up the most number of points, rather having fun!

This will be a "sprint" style operation. That is, we will set up, operate and tear down the same day. We do not anticipate a 24 hour operation. Probably will be a "2B" operation, 100 watts using battery supplemented with solar. Antennas will all be wire, built on the spot. There will probably be one station on 40 and a second on 20 / 15 / 10 meters

The primary site is Horseshoe Meadow day use area with backup Fish Creek Campground. There are still some details that need to be worked out for the final location, but you will be able to drive to the location. Also there will be transportation available. Both sites are high altitude so it will be cool. Rest rooms are available. If someone wants to stay the night walk-in tent camping is available up the road at Horseshoe or at the Fish Creek campground (if we go there).

The plan is to meet at one of the local eateries for breakfast early and then caravan out to the site around 7am. There should be plenty of seats available for the ride if you don't want to drive. We should get to the site about 9am and start the process of setting up the stations, building antennas,

etc. Operation will start at 11am. Around 5pm we will have BBQs going for dinner and start tear down at 6pm for return to Ridgecrest.

That's it in a nutshell. This will be different from what SARC has done in the past. If someone wishes to organize Field Day locally as had been done before, we will use an alternate call sign; otherwise WA6YBN will be the call. Mike, WA6ARA, is coordinating this effort (wa6ara@gmail.com, 760 375-5324)

NEW RADIO

John KC6UWM



I was on looking on Ebay for a used 2 meter HT (handy talkie) when I came across this new FDC-150A radio for \$10.49 and \$49.99 for shipping or \$60.48. My first thought was this is too good to be true for a new off the shelf radio; so I took the risk that I may get ripped off. Well I did not get ripped off. The radio is sold out of Hong Kong, China. It sounds fair on the air, and will do almost everything that the big 4 (Icom, Yaesu, Alinco and Kenwood) HTs will do. The FDC-150A has 2 power levels, 1 watt and 5 watts. It can be set up for repeater operation. The off set frequency (0 to 10 MHz), and the + or - off set manually, there is no auto off set for repeaters like the big 4 have. It also does not show the + or - on the LCD screen, but does show the frequency you are transmitting on when you transmit. It will always show the receive frequency. It has the standard CTCSS and DCS tones available to use (transmit and receive tones set up separately), 99 memories, operates on 6 volts + or - 15%. The squelch has 10 settings, 0 to 9, managed thru the keypad. Other features are auto power off, keypad

beep on or off, battery indicator, HI/Low power indicator, memory number, back light on, off, or auto, auto or manual keypad lock, tone off or on, frequency step can be set for 5, 10, 6.25, 12.5, and 25KHz, memory scan and VFO scan. All of the specifications can be found at <http://www.feidaxin.com/>. The antenna would be the first thing to change out; you will need an SMA female to BNC or female to female SMA adapter. One other note, this radio will transmit out of the Amateur 2-meter band right out of the box, no mod needed! (**Editor's note** – which may make it somewhat illegal. Be aware of this and use it appropriately.) The frequency range for transmit and receive is 136MHz to 174MHz.



My personal take on this radio is that you get what you pay for. The radio is nice and seems to operate well, and has several useful features. The radio does tend to warm up in your hand when transmitting for more than 60 seconds at a time. You can purchase accessories' for the radio, ear phone, extra battery pack, programming cable etc. A word to the wise; when shopping on Ebay, always check the seller's history and rating, how long they have been doing business on Ebay. Before buying something on Ebay, always READ the shipping details. I have found this same radio varying in price as much as \$40.00.

You Can't Teach an Old Dog New Tricks

By Hal G Hazel / KM6JM

How many times have we heard that expression? Probably too many times. But maybe we can all learn something new here.

While preparing to teach my portion of the recent Technician Class Amateur Radio licensing class, *Antennas and Feed Lines*, I came across a chart in the 2010 ARRL Handbook (Fig – 1). It shows the resulting **additional** loss of signal due to various SWR levels.

Back in my younger years, I read several QST and antenna articles about the fanaticism that many Amateurs have about transmitting into an antenna with anything higher than a 1:1 SWR. Many of these Amateurs would spend hours, and sometimes days, adjusting their antenna to reach that heavenly number. Although I did not count myself in this group, I definitely understood their need to obtain the lowest SWR possible.

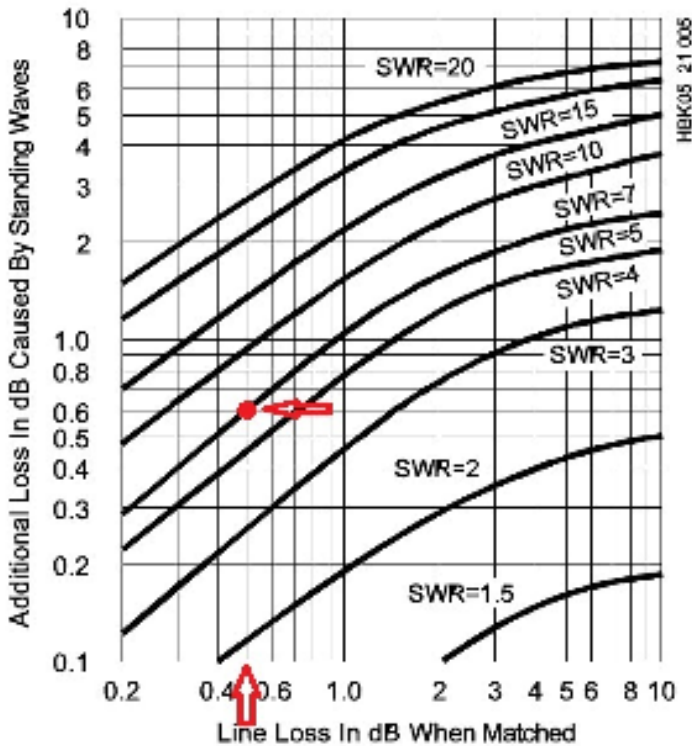


Fig - 1

assumption that the line is perfectly matched. For example, Belden 9913 has a matched-line loss of 0.49 dB/100 ft at 14 MHz. Locate 0.49 dB on the horizontal axis. For an SWR of 5:1, move up to the curve corresponding to this SWR. The increase in loss due to SWR is 0.66 dB beyond the matched line loss.

SW R	1:1 Feedline Loss (dB)	Additional SWR Loss (dB)	Power at Antenna
1:1	1.103	-	34.905
2:1	1.103	.211	33.247

Fig - 2

8219 (RG-58) and 45 watts of power at the transmitter, if you have an SWR of 1:1, your power at the antenna will be 34.9 watts due to the feed line loss of 1.1 dB. If you have an SWR of 2:1, in addition

All of these articles basically said that any SWR less than 2:1 is fine. As long as your rig was not reducing output power due to high SWR, usually 2:1 or higher, don't worry about trying to tune your antenna for that mystical 1:1.

Can you imagine the uproar that caused? An SWR of 2:1? No way! To me, and many of my Amateur friends, that was heresy! I could not imagine any *real* Amateur would ever think of transmitting into an antenna that was over 1.5:1.

And now, many years later and many years of operating under my belt, I've come to realize that those old timers just may have been right. Using the chart on the left (Fig – 1), you can determine the total loss in decibels in a feed line having an SWR greater than 1. First determine the matched-line loss for the particular type of line, length and frequency, on the

To put those numbers into perspective, here are a few charts showing various types of coax, lengths, and SWRs. The numbers were obtained by using the "Coax Cable and Line Loss Calculator" available at the Orchard City Amateur Radio Club website. In Figure 2, a typical mobile installation is considered.

Using a frequency of 146.000 MHz, 20 ft of Belden 8219 (RG-58) and 45 watts of power at the transmitter, if you have an SWR of 1:1, your power at the antenna will be 34.9 watts due to the feed line loss of 1.1 dB. If you have an SWR of 2:1, in addition

to the 1.1 dB loss in the coax, you will have another .211 dB loss. This changes your power at the antenna from 34.9 watts to 33.25 watts. A petty little 1.65 watts difference. So, as long as your antenna has an SWR of 2:1 or less on all the 2 Meter frequencies you plan on transmitting on, don't kill yourself looking for that 1:1 to show up on your SWR meter.

Let's look at a base station installation. The first chart, Figure 3, is a 2 Meter setup still operating on 146.000 MHz with 45 watts of output power, but this time with 75 ft of feed line. As you can see in the chart, the additional feed line loss and resultant reduction in power at the antenna due to an SWR of 2:1 is miniscule compared to the matched 1:1 feed line loss. It also shows that unless your feed line length is very short, you DO NOT want to use a RG-58 type of coax to feed your base station 2M antenna.

Feedline Type	Center Conductor	SW R	1:1 Feedline Loss (dB)	Additional Loss due to SWR (dB)	Power at Antenna (watts)
Belden 8219 (RG-58)	Stranded	1:1	4.138	-	17.354
Belden 8219 (RG-58)	Stranded	2:1	4.138	.439	15.685
Belden 8237 (RG-8)	Stranded	1:1	1.757	-	30.026
Belden 8237 (RG-8)	Stranded	2:1	1.757	.291	28.079
Belden 9913 (RG-8)	Solid	1:1	1.164	-	34.418
Belden 9913 (RG-8)	Solid	2:1	1.164	.220	32.721
Belden 8267 (RG-213)	Stranded	1:1	1.958	-	28.671
Belden 8267 (RG-213)	Stranded	2:1	1.958	.311	26.689

Fig - 3

Now let's look at an HF installation. Figure 4 shows the various feed line losses and power available at the antenna when operating on 14.225 MHz with a 100 watt transmitter and a feed line length of 75 ft. Here you can see that there are acceptable losses when using RG-58 type coax. Although the additional loss due to SWR is no longer miniscule when compared to the 1:1 feed line loss, the additional loss is still acceptable. Looking at the additional loss column for an SWR of 3:1, RG-58 has approximately .56 dB additional loss. RG-8 only has .29 dB additional loss while RG-213 shows an addition loss of .32 dB. You can get even less loss by using a solid center conductor type of coax.

Feedline Type	Center Conductor	SW R	1:1 Feedline Loss (dB)	Additional Loss due to SWR (dB)	Power at Antenna (watts)
Belden 8219 (RG-58)	Stranded	1:1	1.159	-	76.585
Belden 8219 (RG-58)	Stranded	2:1	1.159	.219	72.821
Belden 8219 (RG-58)	Stranded	3:1	1.159	.561	67.308
Belden 8219 (RG-58)	Stranded	4:1	1.159	.908	62.134
Belden 8219 (RG-58)	Stranded	5:1	1.159	1.241	57.549
Belden 8219 (RG-58)	Stranded	10:1	1.159	2.642	41.684
Belden 8237 (RG-8)	Stranded	1:1	.501	-	89.114
Belden 8237 (RG-8)	Stranded	2:1	.501	.11	86.879
Belden 8237 (RG-8)	Stranded	3:1	.501	.288	83.392
Belden 8237 (RG-8)	Stranded	4:1	.501	.476	79.866

Belden 8237 (RG-8)	Stranded	5:1	.501	.662	76.513
Belden 8237 (RG-8)	Stranded	10:1	.501	1.513	62.895
Belden 9913 (RG-8)	Solid	1:1	.348	-	92.302
Belden 9913 (RG-8)	Solid	2:1	.348	.080	90.625
Belden 9913 (RG-8)	Solid	3:1	.348	.209	87.961
Belden 9913 (RG-8)	Solid	4:1	.348	.347	85.206
Belden 9913 (RG-8)	Solid	5:1	.348	.486	82.528
Belden 9913 (RG-8)	Solid	10:1	.348	1.139	71.013
Belden 8267 (RG-213)	Stranded	1:1	.560	-	87.896
Belden 8267 (RG-213)	Stranded	2:1	.560	.122	85.467
Belden 8267 (RG-213)	Stranded	3:1	.560	.317	81.702
Belden 8267 (RG-213)	Stranded	4:1	.560	.523	77.927
Belden 8267 (RG-213)	Stranded	5:1	.560	.726	74.366
Belden 8267 (RG-213)	Stranded	10:1	.560	1.645	60.181

Fig - 4

To sum it up, don't worry about trying to adjust your antenna for that magical 1:1 SWR. As long as your rig is not clamping down on it's power due to excessive SWR, generally 2:1 or higher, the additional feed line loss due to SWR is usually tolerable. Besides, once you tune your rig a few KHz away from your prime setting, the SWR starts creeping up.

The 1 1/4 meter (222-225 MHz) HAM BAND, How good is it? **Todd Evans, W6TOD**

My Name is Todd Evans, W6TOD. I have been licensed since 1985 and experimenting with the 1 1/4 meter (223MHz) band for about 20 years now. Like many folks, I started with an FM rig, 25 watts, a modest yagi antenna. From China Lake Acres, I could talk through at least 11 repeaters, many close to 100 miles away. I would frequently get better signals from some southland repeaters by pointing the antenna straight at Owens Peak, a large 8,200 ft. granite topped mountain west of Ridgecrest. I did not really think that this was particularly special and assumed all VHF and UHF bands might behave the same. That was a poor assumption. Later, I acquired SSB and CW equipment and a higher gain yagi for 222 MHz, plus moved into south Ridgecrest. Through the years, I noted 222 actually out performing 2 meters in some cases while working other states via tropospheric ducting, meteor scatter, and sporadic Es propagation (meteor and Es =farther skip distances, but higher attenuation, less probability compared to 144 MHz.) Then I observed once again, how well Owens Peak enhanced signal levels from some down south stations 100 miles or more away. I also conducted moon bounce on 222 MHz along with 144MHz and had very favorable results. The biggest challenge was getting folks to get on the 222 MHz band. Equipment was not nearly as available as 2 meters (144 MHz) because the Asian and European hams are not allowed to operate there.

Aside from the lack of participation, I determined that this 1 1/4 meter band was as good or better than 2 meters in certain circumstances, as outlined below.

Moderately better immunity to powerline interference (inundation of receiver bandpass) on FM, in a typical Inyokern Rd. mobile environment, compared to 2 meter FM.

Moderately better results using an H.T and rubber duck, inside of a vehicle as compared to 2 meters.

Drastically better results bouncing a signal off of mountains and terrain to reach non-line of sight areas as compared to 2 meters (see short story of trip to Panamint Valley). Also way better than the 70cm(440MHz) band in this application.

From my South Ridgecrest home, On Friday May 21, 2010, I activated a 10 watt FM constant carrier, morse code id'd beacon on 223.520 MHz through 3db of cable loss and pointed the compact 7 element yagi toward the area of Panamint Valley. In my truck, I have a 223MHz hand held hooked up to a little 1/4 wave mag mount antenna. My goal was to drive to a friends house near the Panamint Valley and observe signals along the entire route and once at the remote area, set up a small yagi and transceiver for my friend using the low power beacon to find the best "bounce" path and of course the best S/N. I copied the little low power beacon nearly the whole time during the drive. Amazing, when you consider the terrain and the fact that I was outside of the main lobe of the beam during the first half of my drive. Certainly better than my many observations of that same drive using 2 meters.

Once I reached my destination, I noted that the beacon signal was quite weak on m little quarter wave mag mount, but once we set up the small yagi and pointed it into the large mountain behind Ballarat, signals were full quieting ! Direct beam heading back towards the beacon on this very difficult non-line-of-site path resulted in no signal at all! It has been my observation that the 1 1/4 meter band bounces signals better than 6 meters, 2 meters or 70 cm through our diverse Mohave Desert terrain.

Once I got back home after leaving all the gear with my friend, we conducted one more test using comparable radios, power levels and antennas. We compared 223.500MHz simplex performance against signals on 147.770 MHz simplex. The 1 1/4 meter (223MHz) signals were quite notably better on this path.

I highly encourage Ham radio enthusiasts who have not yet discovered this band to give it a try. Below is a partial list of new and used radios and antennas that if you put the effort into finding them are available for plug and play. Hope to hear you and work you on this great band 222.00 to 225.000Hz 1 1/4 meters. Questions or comments welcome. w6tod@yahoo.com or (760) 375-4240

73, Todd w6tod

Recommended Radios: New or Used

Jetstream 50 watt mobile FM	Alinco DR-235TMK III 25 watt FM
ADI AR-247 FM 25 watt	Kenwood TM621A or TM631A 144/220 FM 25 watt
Kenwood TM331A FM 25 watt	Yaesu FT736R Multimode Multiband FM,CW,SSB 25watt

Recommended Antennas (Highly Recommended)

- Hustler G7-220 7db Omni Vertical
- M2 222-7EZ 7 element yagi FM(as good or better than Cushcraft 11 element)
- Cushcraft 11 element yagi FM (Nearly as good as M2 222-7EZ
- M2 222-10EZ 10 element yagi FM
- M2 222-5WL 15 element yagi FM or SSB/CW
- M2 222-7WL 23 element yagi FM or SSB/CW
- Cushcraft 220B 17 element yagi SSB/CW ONLY

AMATEUR RADIO BEYOND THE HT: '6M Activity in the IWV'

Gene W5DQ

Well the sporadic E (Es) season is upon us and in full swing as I write this. If you have a Technician Class or higher license and a radio capable of operating on 6M SSB (or CW but mainly SSB) and you're not active on 6M, you don't realize what you're missing. I would encourage you to get on 6M around 50.125 and higher and listen. It doesn't take a lot of power or antenna to operate on 6M when the band is open. A basic 100W HF/6M transceiver will work just fine and for an antenna, the basic dipole at around 15 to 20 foot will give very satisfactory results. If you do plan to use the dipole, try to orient it broadside towards the east to start with. If you want to really get into many areas when the band is open, consider a loop antenna or a small 6M beam (3 elements is only about 8 foot long and easily turned with a small TV antenna rotor). Also 6M antennas do not have to be very high. In fact, keeping them at around 1 wavelength or appx 18-20 feet is optimal for taking advantage of ground gain in any directivity the antenna possesses.

With my 7 element yagi at 40 foot, I am hearing 6M stations over most of the country almost daily. Stations are being worked from the Pacific Northwest and Western Canada out across the Midwest ranging into the western Great Lakes area down into the Tennessee River Valley area and into the Carolinas, Georgia, Florida and from New Mexico and Colorado all across the South and Midwest. So far the only areas not heard this season are up in the Northeast and New England, where I only need 4 states along with Alaska to complete my 6M Worked All States.

Yesterday Alaskan 6M beacons and a few Japanese DX stations were reported on the website '[VHFDX.NET](http://www.vhfdx.net)'. If you want to see what areas are being spotted as active, surf to the [VHFDX.NET](http://www.vhfdx.net) website by clicking on this link

<http://www.vhfdx.info/spots/map.php?Lan=E&Frec=50&Map=NA&mycall=&myloc=&freq=&prop=>

Here you can see activity for 10M and higher bands for all regions of the world. You can even setup the options on the website to alert you when there are band openings for our area. I use this and it is really handy to know when 6M might be starting to open so I can keep an eye out for new grids or DX.

Well good luck in your activities and I wish you many big openings on 6M. Some additional information on 6M can be found at these websites:

UK Six Metre Group <http://www.uksmg.org/news.php>
Six Meter Int'l Radio Klub <http://www.smirk.org/>
[50MHz](http://www.50MHz.com) Beacon Map @ [6MT.COM](http://www.6MT.COM)
http://www.6mt.com/index.php?option=com_wrapper&view=wrapper&Itemid=123

ASK ELMER!

The Question ... As a recent upgrade to a General License, its probably time to get a radio upgrade too. The catalogs and QST have great do everything, has every whiz-bang units for about \$10,000. Out side my current price range. What's a good unit for a new general ham in the \$1,000-1,500 range? What features should I look for?

The Answer ... If you ask 10 Amateurs that question, you'll probable get 10 different answers. And of course, the first response will usually be "It depends." I hate those answers, don't you? Well, in this case, it really does depend on what you want to do. Will you be operating voice, cw, digital modes?

Check out the specifications of the radio you are considering and ensure that there are adequate features to support the mode(s) you will be using. Do you need an antenna tuner? Does the rig you're considering come with a built-in antenna tuner? Some rigs might fit your price range initially, but they could be stripped down models. If you want an antenna tuner, SSB filter(s), CW filter(s), those all might be extra. Many of the smaller/compact rigs have most of their features available only by accessing the various menu settings. Will you be using a computer and software such as Ham Radio Deluxe to control many of the features of the rig? If so, then you probably won't have to dig through all the various levels of the menu to make your adjustments. Do you like to have a bunch of knobs and buttons on the rig? If so, you most likely won't like one of the many compact rigs.

My favorite rig right now that fits in the price range you specified is the Yaesu FT-950. It is a fairly new rig, it has 8 knobs and a whopping 62 buttons on the front panel. It supports the simultaneous connection of 2 CW keys/paddles (Yes Mike/WA6ARA, 2!!!), separate jack on the rear for digital mode input/output, 2 antennas, the same micro-Tune (optional) units available for the Yaesu FT-9000, FT-5000 and FT-2000 series, and a whole bunch more. If you're going to operate voice, it has a killer "parametric microphone equalizer." You can shape your audio to have a wonderful broadcast studio sound or adjust it to get that extra "DX" punch to bust through the pile-ups. Another of the many great features of the FT-950 is that you can upgrade the rig's firmware via a serial cable connection between the rig and your computer. AND, Yaesu is actually providing updates! Check out the ARRL review in the March 2008 issue of QST.

For more information on picking a rig, check out <http://www.arrl.org/what-rig-should-i-buy> for more information on how to select a rig. You can also read the reviews by the ARRL at <http://www.arrl.org/reviews-listed-by-manufacturer>. You can get information on each rig from real users at <http://www.eham.net/reviews/>.

Something New ... We are going to try something new. The next **Ask Elmer** question will be published here. If you wish to answer the **Ask Elmer** question, jot down a couple lines and send it to the editor (wa6ara@gmail.com). The best answers will be published here. The same goes for a question, have one for **Ask Elmer**? send it in as well.

September Ask Elmer question... I want to design a simple 4 element yagi 2 meter antenna. I'd like to use, 1/2 inch diameter copper pipe for the elements and have a conductive boom. Can anyone recommend a software package? To help in the spacing and dimensioning

There is nothing new in this old world! **Elvy, NØLV**

"Talk Over Power Lines" can be found in the December 1924 issue of Popular Science found at <http://www.popsci.com/archive-viewer?id=FSkDAAAAMBAJ&pg=40&query=Gislaghi>

You will have to scroll up/down to find it and magnify/scroll lt/rt to read it. And to find about what the radio hobbyist was doing in 1924, keep scrolling down to find "Confessions of a Radio Gyp" about bootleg tubes, fake condensers and coils. Keep going to find "How I Play Radio Doctor" and "A-B-C's of Radio Language" plus three more.

FOR SALE



Heathkit SB-1000 Linear Amplifier. 100 watts input, 1,000 watts output on 10, 15, 20, 40, 80 and 160 meters. The following upgrades have been implemented: (1) 10 meters operation has been added and (2) the UHF oscillation fix is included. It is \$400.00 of best offer (OBO)

For more information or to see the amplifier (which belongs to Bob Huckins), please contact John Denson at 375-6556.

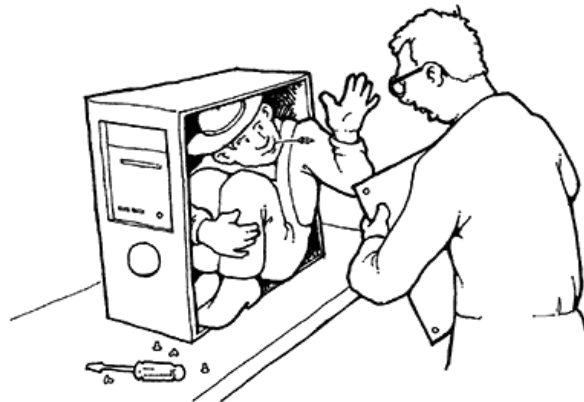
And...For Free-

Learadio commercial aircraft transceiver post WWII. Receiver model RCB tunes 180-400 Kc, 500-1200 Kc, 2800-6500 Mc. (2 receiver units) Transmitter model T30-AB crystal control with Learadio crystal for 3105 Kc; two power units with 12v input 250v output dynamotor, loop direction finding antenna for out side aircraft. Built by Lear Avia Inc Dayton Ohio. Contact Bill WA6QYR bburns@ridgenet.net or 375-8566

RACES, ARES and INDIAN WELLS VALLEY EMERGENCY NET MEMBERS

In case of impending or current emergency, monitor the SARC translator on 146.64/04 MHz or the backup simplex frequency of 146.52 MHz. W6PM, Mike or AI6A, John, the local RACES ECs, will coordinate mobilization. An Emergency Net Control Station will direct radio communications. Check in. State your capabilities. Be prepared to go outside the IWV for at least three days. An E-Pac should contain: your RACES card, radios and accessories, batteries, charger, paper, pen, clipboard, flashlight with spare batteries, timepiece, headgear, sunglasses, spare glasses, your medications, your medical history, first aid kit, severe weather clothing, non-perishable food, 3 gal. water, sleeping bag.

Check out the SARC Web Page www.qsl.net/wa6ybn/



The Farmer in the Dell

Local Repeaters

SARC OWNED AND MAINTAINED REPEATERS

Updated: April 25th 2010

Click the Freqs for Coverage Map of Repeater

Status	Location	Call	Freq in MHz	Tone	Notes	Distance
Up	Randsburg	WA6YBN	145.340 (-)	CT 100.0	Wide Area, Emergency Power	S 18.6 Mi
Up	Ridgecrest	WA6YBN	146.640 (-)	-	Translator, No Squelch Tail, Emergency Power	S 2.5 Mi
Up	Ridgecrest	WA6YBN	147.000 (+)	CT 107.2	NOT currently linked to 145.340	W 2.5 Mi

Open Area Repeaters

Click the Freqs for Coverage Map of Repeater – Contact K16PSP@GMAIL.COM if any data is invalid, or missing

Status	Location	Call	Freq in MHz	Tone	Notes	Distance
Up	Ridgecrest	W6DWF-10	145.050	-	WinLink Node @ 1200 Baud (Available 1000-2200)	
Up	Ridgecrest	KM6JM-10	145.050	-	WinLink Node @ 1200 Baud (Backup for W6DWF-10)	
Down	El Paso Pk	WI6RE-2	145.050	-	Packet Digi	S 10 Mi
Up	El Paso Pk	WI6RE	144.390	-	APRS W1 Digi, iwvapr.net – K16PSP@gmail.com	S 10 Mi
Up	Trona	K6YYJ	146.970 (-)	PL 123.0	<u>RF Linked</u> to 447.020. TX Audio is low	E 15.9 Mi
Up	Little Lake	W6TD	147.210 (+)	-	<u>RF Linked</u> to Mazourka Peak	NW 24.9 Mi
Up	Mazourka Peak	W6TD	146.760 (-)	PL 100.0	<u>RF Linked</u> to Little Lake	N 96.5 Mi
Up	Ridgecrest	W5H MV	447.020 (-)	CT 123.0	<u>RF Linked</u> to 146.970. Input is about -4 KHz off.	SE 2.6 Mi
Up	Ridgecrest	WI6RE	446.500	CT 100.0	IRLP-3741, contact tiplerek@iwvisp.com for codes	W 2.8 Mi
Up	El Paso Pk	WI6RE	448.800 (-)	CT 100.0	IRLP-3877	S 10 Mi