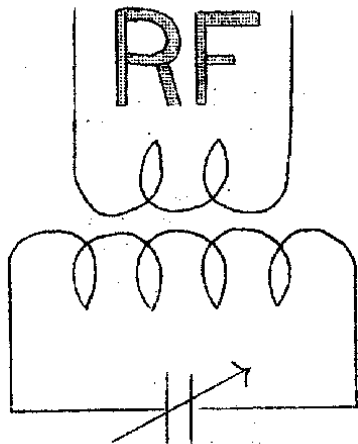


Radio Frequency (RF) Relaying Facts (RF)
and Redeeming Features (RF) to Real Friends
(RF) for a Rosy Future (RF).

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HELICAL HIPOT ANTENNA

If you are short of space for low frequency antennae or are not inclined to cut and try or get up and really tune your antenna, then the following information should be of interest. Most of us just cut a wire to formula length, drape it over anything handy, put any old length feed line on and pump the Xmtr into it. If it works fine, if it doesn't, we grouse about it and tell all that that particular kind doesn't work. Wouldn't it be nice to be able to tune it up in the shack, hang it up and have it be somewhere near resonance? This can be done with the Helical Hipot.

Without discussing the theory set forth in June 1950 CQ article by W6CKR, we would like to report some results obtained from experiments after reading that very stimulating article.

The Hi Pot (High Potential) gets its name from the Hi Voltage developed in rather short distance and the Helical part of course refers to the turns, hence Helical Hi Pot. Essentially it is a close spaced wire wound rod of good insulation material. It is not claimed that this will work as well as a resonant wire in a good location; however, due to the fact it can be resonated easily, it is probably more efficient when tuned than our untuned wire on the back of the garage.

The experimental coils were wound with No. 18 enameled wire and wound on fiber glass ash rod tapering from about three quarter inch to one half or less at the tip.

As pointed out in the original article if wound to one quarter wave resonance the Hi Pot must be used against ground or it can be used as a ground against a quarter wave vertical or horizontal wire or another quarter wave Hi Pot. Roughly it takes about twice as much wire for resonance wound on a Hi Pot form as it does for wire stretched out.

For 80 meters instead of 60 feet it takes about 130 feet wound close spaced starting from small tip end towards larger end. It is better to wind on extra turns and then test with grid dipper against a ground for exact frequency and remove turns until exact frequency desired is obtained. The length of this quarter wave 80 meter resonated Hi Pot will be about 4 feet. If desired a small space may be left and the windings continued on towards the larger end another equal amount of wire which will extend over 3 feet (larger diameter) and this independently resonated with grid dipper at desired frequency. This gives another application. The device can be center fed with 50 to 70 OHM impedance line and be used as a horizontally or vertically mounted one half wave on 80 meters or the center can be shorted and fed at the bottom against ground for a one quarter wave 160 meter antenna. Naturally the use as a one half wave mounted above the house top will be better than the one quarter wave with a long wire to ground. As mentioned in the article in CQ there are many uses of the Hi Pots as counterpoise systems -- mobile antennae, verticals, horizontals, inside antennae, etc.

CAUTION: Extremely high voltage is developed at the end of these antennae and the insulation must be very good. Bamboo poles or other wood is not recommended as it may catch on fire even with a few hundred watts of RF power.

RESULTS: 5-DB increase over unresonated formula cut one half wave dipole 25 feet above ground on 75 meters (one half wave Hi Pot mounted vertically) at K6DKF. 20 DB gain over makeshift 75 meter one quarter wave on top of building at W6HTK. 5 DB gain on 785 meter received signals at W6UPP when one quarter wave Hi-Pot added to ground connection and laid on ground at base of one quarter wave vertical antenna.

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Your roving reporters attended the ARRL Southwestern District Convention at San Diego the first of the month and counted noses, antennas, prizes, etc. Our compliments to the San Diego Area Council for picking such a dandy spot. A good job of organization, interesting speakers and topics, and of course the banquet. A big job well handled. Among visiting firemen from Orange County was our Prexy W6BVI and XYL (who we are told copped some small breakfast prizes. K6KJV was the only fair sized prize winner from these parts - a nice test meter. Among the mourners were W6DEY, W6OZO, K6KLB, W6KCC and XYL, W6SIE, W6ZE and XYL, W6PJU, K6BGX, W6QZQ, W6UPP. Highlight of the gathering was the tremendous interest in the commercial exhibits; new receivers, antennae, mobile equipment, and abundant literature. Many activities for XYLs and YLs and special events for OMs.

R.F. GAIN CONTROL FOR THE ELMAC PMR-6A

By W6HIL

An R. F. gain control is of course a very desirable feature in the home receiver, so why not have one in the mobile to help cut down some of the unnecessary QRM?

For the Elmac PMR-6A get the following parts:

- 1.) A double shaft pot with an off/on switch, the front value 20K, the rear 500K (this replaces the audio control in the receiver now.)
- 2.) 470K 1/2W resistor.
- 3.) Knobs for the pot.

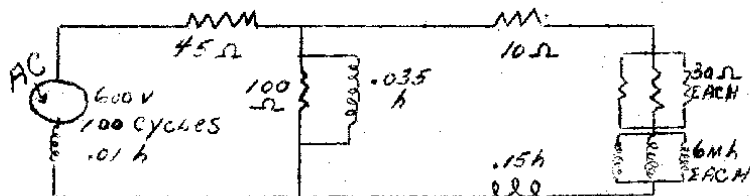
Conversion is as follows:

- 1.) Lift the suppressor grid from its present connection to the cathode and ground it directly on the following tubes - V1, V5, V6. This is already done on some of the later model receivers.
- 2.) Lift the cathode resistor from ground V1 (R-11) and hook it to the center connection of the 20K pot, also lift the cathode resistor of V5 (R-51) and hook it to the same point.
- 3.) Looking at the pot from the rear ground the right hand connection, the left hand one hooks to B-plus through the 470K resistor (a convenient place is the plate of V1.)
- 4.) Replace the audio and on/off connections as they were originally.

For mobile converters the same principle can be followed with excellent results. Lift the cathode resistors from ground on the R. F. amp and the I.F. stage in the converter, hook them to the center connection of a 20K pot ground one side and hook the other side to B-plus through a 470K resistor. This value of resistance may have to be changed depending on the B-plus available in the converter.

In the mobile converter if the R.F. gain control is not hooked to the Cathode of the I.F. stage, then when the R.F. gain is decreased the I. F. stage goes merrily on its way & the noise comes up too high to copy signals at all.

Looks like the brain twisters are getting too easy. Everyone worked them but only the following mailed in the answers. All correct, I might add. The faithfuls Critt and Pila from San Diego and John Kemper W6SCO, and K6AGX, W6QBR, W6QAT. Some even had the temerity to complain about them being too easy, so here is one from W6HIL that he guarantees will give you a headache.



FIND IMPEDANCE OF
CIRCUIT, TOTAL RESISTANCE,
AND TOTAL CURRENT.

A SATIRE ON THE AMATEUR

Verily I say unto you, marry not a radio amateur, for he is a strange being, possessed of many devils. He speaketh eternally in dit-dahs, and he spelleth his words without vowels. He wieldeth a big stick called a slide rule, and he hath but one Bible -- the Handbook. He talketh always of QSO's and DX, and without end of his loading coil. He knoweth countries only by prefixes; he learneth his geography by zones, his directions are great circle bearings. He stayeth up late at nights, for reasons known but to him, thou wouldst not believe his stories if he told you. There is but one key dear to his heart, that is a Vibroplex; the love letters for which he yearneth are DXCC. Whilst others prefer swimming and boating he prefereth to sit inside and work portable, and he braggeth forever of those he hath worked.

And when he courteth his damsel, he keepeth a log book, and when he maketh a trip he views not the scenery, but looketh for antennas. He picketh his seat in the car by the rig and not by the damsel beside him. Always he carrieth his books with him, and he entertaineth his maiden with Ohm's Law. Verily though she expecteth chocolates when he calleth, she opens the package to find filter chokes. He holdeth a damsel's hand only to measure the fist; and he embraceth but to test the strength of the muscle. He checketh the vibrations of her heart with WWV, and he reckoneth her strength for raising antennas. For though he seeketh to acquire a second op, he attendeth the wedding but to record it on tape; he goeth on a honeymoon just to visit radio clubs; he returneth home only to pound brass. He speaketh of his mate as YF and XYL and of the kids as harmonics.

Surely goodness and mercy will follow this man, for he will need it; there may be no improvement and he will need help forever.

(Reprinted from Aug. '55 AUTOCALL, as adapted and reprinted by Washington Mobile Radio Club, Inc.)

THE YL'S CORNER

by W6PJU

All you Orange County YLs who didn't get down to San Diego missed a very fine time. We saw W6SIE (you should get on the air once in a while,) met Maria Wolfe, who hasn't received her call yet, and W6FLO's XYL Jerrie. YLs and XYLs enjoyed a nice luncheon in the Copper Saw Room of the Hospitality House; many doorprizes awarded. For afternoon entertainment, a trip to Scripps Institute of Oceanography or a movie were offered, also a display of jewelry. Highlight of the evening was of course the banquet and drawings, and the YLs walked off with some of the big door prizes. Sunday a.m. many attended the various traffic breakfasts, the FCC Forum, and then stayed for the wind-up luncheon. YLs from the LAYLRC attending were K6ACF, W6CEE, K6CPX, W6DXI, W6JCA, W6JZA, W6LMQ, W6QGX, W6ZOG, and W6PJU.

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SUPER SIX

by K6IBY

! Hey, try Six! Any T.V.I.? Yes. QRM? No. Contacts? Yes. D.X.? Yes, when short skip in in on 10. Power 1 to 100 watts, no more or more T.V.I. 15 watts best. T.V.I. Prevention, 54" stub on the milk bottle. Vertical polarization local rag chew, horizontal D.X. Look for us on six: W6ZOP Paul, Anaheim, Horizontal; K6ELH Bob, Fullerton, Horizontal; K6HCI George, Fullerton, Vertical; K6COE Bob, Santa Ana, Horizontal; K6DWX Carl, Costa Mesa, Horizontal and Vertical; W6NXX/6 Harry, Costa Mesa, Mobile; K6GPG Joe, Santa Ana, All Rigged Horizontal and Vertical; K6JBY Joe, Costa Mesa, Horizontal and Vertical; K6JBW Ed, Garden Grove, Horizontal and Vertical. All general class licencees are invited QRZ.

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RELAY CHATTER

by W6DEY

The Fullerton Radio Club has elected new officers for the coming year as follows: President W6SCO, John Kemper; Vice-President W6GAT, Ed Gilbert; Secretary W6ECV Ben Switzler; Treasurer K6HCI George Beard; Board Members W6DGZ Beryl Wallace and W6JTV Paul Hodapp.

While attending the Convention at San Diego W6QZQ and myself had breakfast with a Mexican amateur XE2BH Jose, and he passed along some information on their licensing activities there. Seems like they also have a novice license, but no code is required. Also they have to pay one hundred pesos or so for this. For a general class license the code is required, plus an examination, and also a couple hundred pesos. Jose runs a radip shop in Tijuana. Stop to see him when down that way.

The story goes there was a Scotsman who after playing golf for 30 years had to quit - he lost the ball! Wonder if this has any resemblance to persons living or dead that we might know...Believe it or not, the writer after much tribulation has placed a Donald Duck Machine on the Ether Waves. Appears as though a few bugs have developed which must be ironed out...K6KJV was the winner of a very fine VOM at the Convention. When last seen he and W6OZO were busily engaged perusing a copy of an Elmac Manual, talking about blown fuses and sizzling power supplies. Must be a hot deal.

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FOR SALE: Central Electronics 20A wired and tested with QTI and VFO \$225.00.....ARC 4 Converted by W6DEY less power supply \$25.00..... with supply \$35.00. See W6BVI, 2021 W. 12th St., Santa Ana, 'phone KI 7-3788.

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The next meeting of the ORANGE COUNTY AMATEUR RADIO CLUB will be held on Wednesday, October 19, at 12502 Placentia, Orange, and will feature a talk by W6ZJE on Crystal Lattice Networks.