

The "Cobra" Antenna

It's got a more powerful bite than the "Rattlesnake."

Raymond A. Cook W4JOH
606 Georgia Avenue
Valdosta GA 31602

Gene Rhodes W4FNY, my friend for more than fifty years, has striven all the time I've known him toward the ultimate antenna. For the past several years, he had used what he called his "Rattlesnake" antenna, which transmitted an excellent signal from De Leon Springs, Florida. Recently he moved to Orange City, about seventeen miles from his previous QTH. Inexplicably, his "Rattlesnake" did not perform as well as it had at De Leon Springs.

He said he thought the ground system there was better, so I suggested that he run a heavy-gauge ground wire back to his old QTH. After some reflection, that solution was deemed impractical.

After weeks of frustration, he told me he wished that he could dream up something better. He likes to operate 160 meters, as well as the other bands, but

his support poles were only 140 feet apart. Then one night, about 2:00 a.m., I awoke from a fitful dream with an idea buzzing around in my brain: Why couldn't the extra footage needed for 160m be made up by using *in series* the three wires (one white, one bare, one black) in Romex™ cable, the non-metallic-sheathed cable used in house wiring?

I chose 14-gauge wire because of its lightness and low profile against the background of sky and trees.

This arrangement gives a flattop length of 420 feet, certainly ample for 160m. I had no idea exactly what would happen regarding impedance and frequency with the leads folded back upon themselves, but in our desperation, it seemed worth trying. The flattop dimensions and lead-in length were simply dictated by the limitations at Gene's QTH.

With the help of two fellow hams, Gene got busy acquiring the components and getting the antenna up. The following day he fired up on 75 meters for our regular schedule, after determining that his antenna gave him a 1:1 standing wave ratio on all bands. Lo and behold! His signal now was very strong (S9+) in spite of the fact that he was running only his exciter. Switching back and forth, he got greatly improved reports over the "Rattlesnake" from all who called in. I urged him to try the antenna using his linear amplifier, but he was afraid the high power might puncture the insulation of the flattop leads lying so close together. Finally, after several days, he held his breath and turned on the high power. What a beautiful signal—S9+30—and no arc-over! He immediately started calling the antenna the "Cobra," because it had a much more powerful "bite" than the "Rattlesnake."

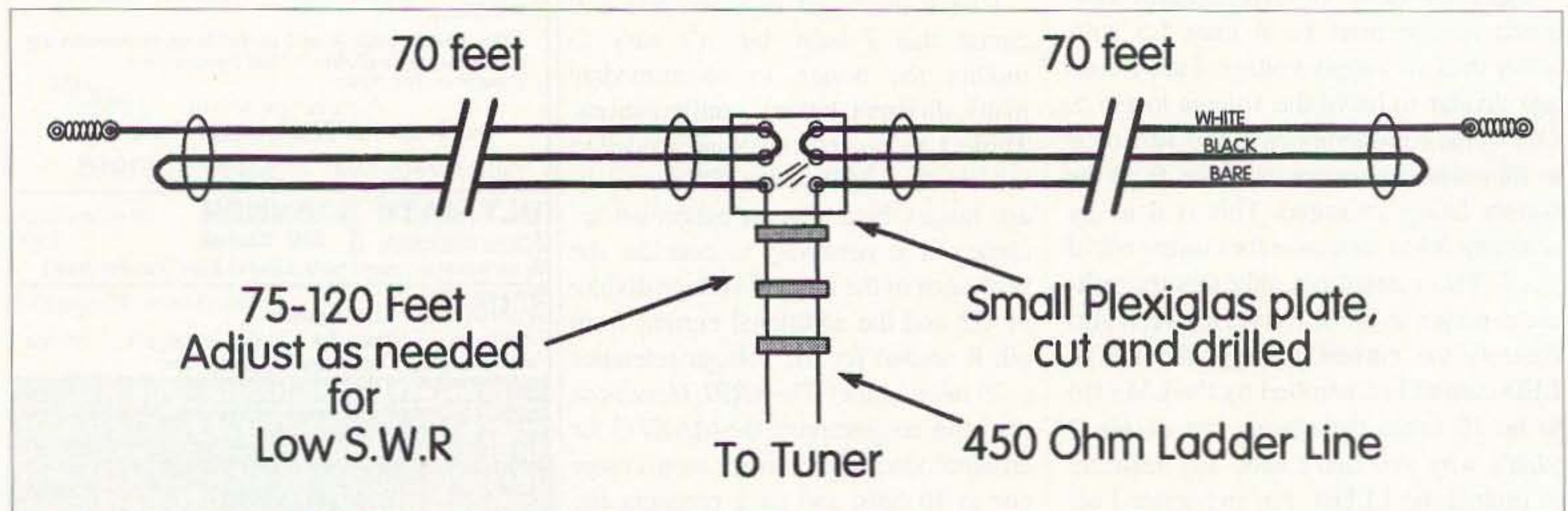


Fig. 1. The configuration for the "Cobra."

I then erected a "Cobra" at this QTH, using an Alpha linear, with the same results—because I, too, wanted to get on 160m. My previous antenna flattop was 108 feet long using traps. Emmett Bishop W4JVI of Athens GA, who regularly calls in, became excited about trying the "Cobra." He had been using two separate antennas of standard design, but his signal was often so weak (even with the linear) that Gene and Lloyd Goodwin W4FFD, in central Florida, could hear him faintly, or not at all, at that time of day on 75 meters.

After a few days, Emmett called in using his new "Cobra." His signal was S-9 with the exciter only, a far stronger signal than he previously had using both exciter and linear. Gene and I had checked the antenna out on other bands with excellent results, but Emmett had not yet had the opportunity to do so. This setup, of course, requires the use of a tuner for low SWR and efficient operation on all bands.

Some of our more skeptical, and perhaps knowledgeable, friends have expressed concern about impedance, power rating, wave-cancellation, etc. All that we can offer as an answer is the slogan used for many years by the Packard Motorcar Company: "Ask the man who owns one."

For years I have used the individual wires in three-wire conduit for antennas. At ten cents a foot, it's three hundred feet of antenna for ten dollars, or three cents per foot for the separate wires. Why not try this antenna? As Gene says, "I'm just tickled pink with the 'Cobra.'" Perhaps you will be, too.

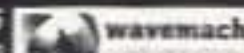
WANTED
Fun, easy-to-build projects for publication in 73.
For more info, write to: Joyce Sawtelle,
73 Amateur Radio Today, 70 Rt. 202N,
Peterborough, NH
03458-1107

BROADCAST TRANSMITTER

The FMS2 studio quality transmitter is FULLY crystal controlled and programmable to any FM broadcast frequency.

Unit features: ALC, 2:1 compressor, audio buffer / amplifier, pre-emphasis, roll off filter, stereo generator, digital PLL tuning, 75 MHz-125MHz bandwidth, 500mW power output and a special introductory price of only \$295.00 US.

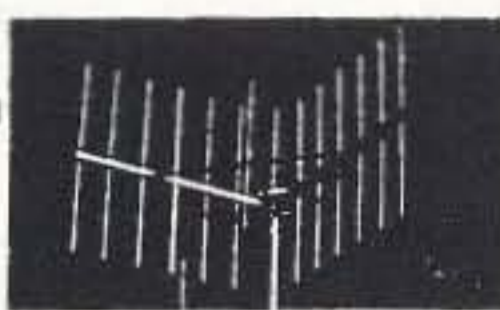
Schematics for unit \$27 CATALOG 416-243-3225
 FAX ROLL INFO 416-243-1067 TEK LINE 416-243-2260



CIRCLE 245 ON READER SERVICE CARD

CornerBeam?

SWR < 1.2:1 across the band
 Gain of a 15 ft Yagi
 No dimension over 7 ft
 40 dB Front-to Back Ratio
 60° Half-power Beamwidth
 Mounts directly to mast
 Vertical or Horizontal Polarization
 2meters \$145, 220 MHz \$145, 70 cm \$115, Dual 146/440 \$165
 Weighs only 10 lbs. Add \$11 Shipping & Handling. Info \$1.



AntennasWest Order HotLine
 Box 50062 Provo UT 84605 801 373 8425

CIRCLE 380 ON READER SERVICE CARD

See the FUN you've been missing!



Every day more and more hams are enhancing their enjoyment of ham radio by adding images to their conversations. Join the fun!

new Pasokon TV Lite \$30 + \$3 shipping.
 Pasokon TV Classic \$200 + \$5 shipping.

Absolute Value Systems
 115 Stedman St. #7
 Chelmsford, MA 01824-1823
 (508) 250 0611

<http://www.ultranet.com/~sstv>

CIRCLE 351 ON READER SERVICE CARD

WE SHIP WORLDWIDE

Barry Electronics Corp.

WORLD WIDE AMATEUR RADIO SINCE 1950

Your one source for all Radio Equipment!

For the best buys in town call:
 1-800-990-2929

Los Precios Mas Bajos en Nueva York

WE SHIP WORLDWIDE!

Export orders expedited.
 Special export prices.

KITTY SAYS: WE ARE OPEN 7 DAYS A WEEK

Sat. 10-5 Sun. 12:30-6 M-F 9-6 Come to Barry's for the best buys in town.

MOTOROLA M120, GM300, GR300 repeaters, & SM50

Radios for Business, Governments, Consulates, Embassies. Stocked and Serviced. Overseas and Domestic Orders.

"YAESU HAM & VERTEX BUSINESS RADIOS" FT51-R, FT-8500, FT-10, FT-11, FT-2500, FT-3000, FRG-100B, FT-1000D, FT-50R, FT-5200, FT-840, FT-900AT, FRG-100, VXR-5000 repeater 25 watts, VHF or UHF. Marine Mobile VXM-100.

ICOM

HAM, MARINE, BUSINESS AND AVIATION RADIOS

281-H, 2000-H, 2350-HA-22, IC-77, IC-706, IC-707, IC-T2A & IC-756.

NEW F30LV/F40LT, V100



WHEREVER I GO, I TAKE MY RADIO. SPECIALIST IN RADIOS: BUSINESS • MARINE • AVIATION • HAM RADIOS • SCANNERS

KENWOOD



Shortwave Receivers R-10, R-100, R-7000, R-6500, R-9000

NEW — 220 MHz BUSINESS RADIOS WITH REPEATERS

Business Radios: Motorola, ICOM, Maxon, Yaesu, FTH 200B/700B, etc., Uniden, Regency, Reim Marine ICOM: M15A, mt, etc. Aviation ICOM: A22, A200

Electron Tubes 3-500z, 572B, 6JS6C, 12BY7A, & 6146B

FT-50R Yaesu

Save money on batteries. Call for Special Prices.

Barry's supplies all MFJ products Call us direct.



2 Meter, 440, 220MHz Band-Pass Filters from DCI

Amplifiers- Icom, Kenwood, Yaesu, RF concepts, Mirage, TE Systems, HF/VHF/UHF, AMERITRON, etc.

Telephone Autopatch

Fm & AM Broadcast Transmitters Stocked
 Satellite Phones

Garmin & Magellan Global Positioning Systems

NEXTEL Radios-5 burrough coverage in NY.

ASTRON POWER SUPPLIES Belden Wire & Cable, Int'l Wire



BENCHER PADDLES BALUNS, LOW PASS FILTERS IN STOCK

Overseas Telephone Systems for Rural Areas

MOTOROLA AUTHORIZED DEALER
 KACHINA COMMUNICATIONS DEALER
 AUTHORIZED DEALER
SONY
 Shortwave Radios Stocked

COMMERCIAL & HAM REPEATERS STOCKED. WRITE FOR QUOTES

KANTRONICS KAM PLUS Etc.

Antenna Tuners: MFJ, ICOM, KENWOOD, YAESU, VERTEX

Computer Interfaces Stocked: MFJ-1270B, MFJ-1274, MFJ-1224, Kam Plus, KPC-3, MFJ 127BT, PK-900, DRSI PRODUCTS DSP 2232

SHORTWAVE RECEIVERS STOCKED

Surveillance Devices Available

Shortwave Receivers & Radios Drake • Grundig • JRC • Sony Sangean • Panasonic • Yaesu ICOM • Lowe • Kenwood

CB Radios Stocked

148GTL, Washington, Ranger 2950-70, Antennas: Wilson, Artron, etc. Power mikes w/beeps - ECHO - SilverEagle etc.

BIRD Wattmeters & Elements In Stock

ALINCO DJ-180, DJ-G5TY, etc.

Telephone Scramblers

Hy-Gain Towers

ANTENNAS: A-S, AES, Cushcraft, Hy-Gain, Hustler, KLM, METZ, Urban, MODUBLOX, TONNA, Butternut, Multi-Band, Alpha Deltas, ANLI, Antenna Specialist, Barker & Williamson, Comet, Diamond, GAP, Larsen, Etc. Watt-Meters Stocked.

BARRY ELECTRONICS CORP., 540 BROADWAY, NY, NY 10012 (Five blocks N. of Canal St., between Spring & Prince St.) FAX 212-925-7001 Phone 212-925-7000

New York City's LARGEST STOCKING TWO WAY RADIO DEALER COMPLETE REPAIR LAB ON PREMISES

"Aqui Se Habla Espanol"
 BARRY INTERNATIONAL
 FAX 212-925-7001 Phone 212-925-7000
 For Orders Call 1-800-990-2929

COMMERCIAL RADIOS STOCKED:
 •MOTOROLA •ICOM
 •MAXON •STANDARD,
 •YAESU •RELM etc.
 We serve municipalities, businesses, Civil Defense, etc. Portables, mobiles, bases, repeaters...

We stock: Alinco, Ameco, Ameritron, Antenna Specialist, ARRL, Astatic, Astron, Belden, Bencher, Bird, Butternut, CES, Cushcraft, Codan, Daiwa, Eimac, Henry Heil, Hustler, Hy-Gain, Icom, KLM, Nextel, Kantronics, Kenwood, Larsen, Maxon, MFJ, Mirage, Motorola, Nye, Palomar, RF Products, Shure, Standard, TUBES & Tube Cartrons, Uniden, Yaesu, Vibroplex, Duplexers, Repeater, Scanners, Radio

WE NOW STOCK COMMERCIAL COMMUNICATIONS SYSTEMS DEALER INQUIRIES INVITED PHONE IN ORDER & BE REIMBURSED COMMERCIAL RADIOS STOCKED & SERVICE ON PREMISES. EXPORT orders shipped immediately. CALL

Monday-Friday 9 AM to 6 PM
 Saturday 10-6 PM / Sunday 12-30-6

Subways: #6 Spring St. stop, N. or R. train to Prince St. stop
 F train to Houston St. stop
 Bus: Broadway bus to Prince St. stop, Path train to 9th St./6th Ave.

SALES FINAL

Technical help offered upon purchase

FAX: 212-925-7001

CIRCLE 41 ON READER SERVICE CARD