

ZERO BEAT

3-83

HAMPDEN COUNTY RADIO ASSOCIATION, INC

W1-QSL BUREAU

SPRINGFIELD, MASS

ARRL AFFILIATED, 35th YEAR

*****MARCH 4TH, 1983*****

YORKE PHILLIPS, K1BXE will talk on how to

BUILD YOUR OWN SATELLITE TV RECEIVER!!!

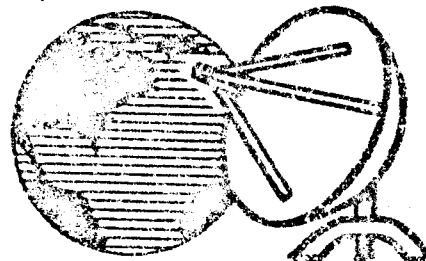
Yorke will bring in a video taped tour of what he has built to receive satellite television, and show what the actual pictures look like. YOU can build this set-up! Learn how at this meeting.

WHERE: FEEDING HILLS CONGREGATIONAL CHURCH, FEEDING HILLS

WHEN: FRIDAY MARCH 4TH, 1983 8PM

DON'T MISS THIS MEETING!

TVRO



**SATELLITE
TELEVISION**

NEW ARRL FIELD ORGANIZATION

The League has implemented a new field organization. Ho hum, say you, what else is new? Well, say I, it really is new and also pretty radical and it will most likely be beneficial to all of us in the W. Mass. Section. Prior to 1983, we had no good way to coordinate technical activities, get involved in legislation, provide information to the public, organize RFI activities and disseminate bulletins in the section. Now we do, if everything goes as planned... In years past, unless you were active in traffic handling or emergency communications, you had no really good way to make a contribution to amateur radio unless you funneled it through Newington or our New England Director. The system has changed now, and much for the better.

In 1982, the organization consisted of NTS which was headed by the Section Traffic Manager, W1UD. The ARES was headed up by the Section Emergency Coordinator, W1N1H. W1YI gleaned information from the club bulletins, and passed them on to me. Their monthly reports to me became the basis for the "Section Activities" column, which I write for QST.

On January 1, five remaining posts were opened in our section:

1. OO/RFI Coordinator
2. Public Information Officer (PIO)
3. State Government Liaison (SGL)
4. Technical Coordinator (TC)
5. Bulletin Manager 1 (BM)

con't on
pg 10

SELL: DX engineering speech compressor for TR4 & TR4C Drake
transceiver original cost \$124.75, used 6 mos, best offer
takes it.

Ted Witowski W1RLV
854 East St.
Ludlow, Mass.01056

Wanted: National NC-2-40C Manual needed

Bob Phoenix WA1DNB
534-0450

Sell: Hallicrafters HA-1 TO Keyer with Vibroplex key with manuals
\$35.00

Jack LaMonacco WA1YYK
786-2556

SELL: KW roller inductor transmatch

\$40.00
Gent Lam WA1CQF
38 Porter St. Springfield, Mass.
413-737-9426

From
ARRL
Letter

NO-CODE BATTLE LINES DRAWN ★★

FCC released the text of the no-code Notice of Proposed Rulemaking February 1. Remember, this is just a proposal at this stage, and you will have an opportunity to express your opinions to the FCC should you choose to do so. The deadline for filing comments is April 29 (May 31 for replies). March QST will carry the entire text of the NPRM along with instructions for the procedures for filing comments. Firing a nasty-gram off to the FCC about this issue may relieve your frustration, but it won't help your cause any. Please read the entire text in QST at least once, construct "cool headed" statements on the subject and file according to the instructions in March QST.

Although the full text will appear in March QST we will cover the high points here. With the exception of one paragraph, the tone of the document is conciliatory and focuses on the FCC's stated belief that some form of a no-code license will enhance the Amateur Radio Service by attracting (particularly) bright young computer enthusiasts. The NPRM is a smoothly polished sales pitch for the no-code concept. To be effective against this proposition, a counterargument must also be smooth and logical. It seems unlikely that venomous cries of outrage will have any positive effect.

Early on the first page of the NPRM, the FCC sets the stage for their arguments supporting the no-code concept. "We are doing this in the belief that there are intelligent, disciplined persons who can make a valuable contribution to the Amateur Radio Service without such a proficiency. These persons may include, but are not limited to, many of our nation's younger, school-aged individuals whose primary interest lies in

the burgeoning field of computer technology or individuals with a physical handicap which prevents them from being able to successfully complete a Morse code examination." As an alternative to the Novice license, this new entry level license will allow these individuals to prove "they have the ability and discipline to make a serious contribution to the Amateur Radio Service."

No-Code Technician

After recounting some of the history of the no-code controversy over the last decade, the FCC gets to the heart of the alternative proposals presented in this NPRM. The first possibility is simply to delete the code requirement from the current Technician Class licensing requirements. The name of the class would stay the same. Technicians licensed under the current system (requiring the code exam) or those passing an optional 5-wpm code exam would have full Novice privileges. Technicians passing only the theory portion of the exam would have no privileges below 30 MHz but would have full privileges above 30 MHz.

FCC rationalizes that computer enthusiasts newly licensed as no-code Technicians would initially use radio-teleprinter modes (A2, F1 and F2). But because other modes would be open to them, they would have the incentive to learn other modes -- including A1. Also, it appears FCC has no intention of taking away any privileges of currently licensed amateurs.

The Experimenter

2 The second possible form of a no-code license discussed by the FCC is called the

(No-code continued)

Experimenter. This concept is modeled loosely after the Canadian Digital Amateur Class Certificate, which requires examinations in radio regulations, radio theory, and digital techniques. The FCC proposes to create a new examination element -- element 5 -- which would be the sole examination required for the license. The Commission invites comment on the appropriate content for this element. The NPRM notes that the level of the exam in terms of radio theory and regulations could be at or between the levels required for any of five current exams.

Noting that the examinations for both the Technician (General) and Extra class licenses cover digital techniques in some respects, the FCC asks if it would be wise to make up element 5 from existing elements. For instance, if the new element 5 were made up from current elements 2 and 3, the requirements for the Experimenter class license would be essentially the same as those of the proposed no-code Technician class license. The FCC points out that since the Experimenter class license would not give any privileges not afforded to other license classes (except the Novice) and since digital techniques would not be removed from examination elements for other class licenses, it would be a misnomer to call the Experimenter class by the title "Digital class."

Because the Canadian Digital Amateur Certificate carries privileges above 144 MHz, FCC is proposing 144 MHz as the lower limit of operation for the Experimenter class. FCC notes that there is nothing to prevent lowering this figure to 50 MHz (Ed: or raising it to 220 MHz) and invites comments on this topic.

Differences In Options

Viewed in the light of the hypothetical example of using current elements to make up the new element 5, there is relatively little to distinguish between the Experimenter approach and the codeless Technician. From an administrative point of view, the FCC clearly would benefit from the adoption of the codeless Technician approach. In fact, the FCC notes, "Implementation of the Experimenter class license may require the Commission to develop a new syllabus and provide, by some means, for the preparation and administration of new examinations. It would also certainly require the revision and reprinting of our application forms and other Commission publications as well as a complete

revision of our data processing procedures and programs used for issuing licenses. We would be remiss if we did not consider these administrative burdens in weighing the respective desirability of the two license classes proposed. Accordingly, we request that this matter be addressed in the context of comments on this proceeding."

On the other hand, the FCC regards the no-code license as an alternative entry level license, comparable in function to the role of the Novice license on the hf bands. Assuming that the majority of those who would go the no-code route prefer vhf operation, there is no incentive to upgrade if the codeless Technician option is adopted. If, however, the Experimenter option is adopted with operating privileges limited to, say 220 MHz, then there would be incentive to upgrade to Technician at least. Further, element 5 could be constructed so as to encompass elements 2 and 3. Thus, the Experimenter exam would consist of the normal set of questions for the Technician written exam with additional coverage of digital communications techniques. Then it would only be necessary for the Experimenter to take the 5-wpm code test to upgrade to Technician.

This is also a hypothetical example, but it should give you some idea of the difference in the possibilities of the two approaches. For the convenience of the FCC staff, the no-code Technician would be preferable. Depending on the privileges granted, testing requirements and other factors to be worked out, it appears that the Experimenter might be less objectionable to the majority of presently licensed amateurs.

Background

After presenting the two alternative proposals, the FCC lists what they view as some of the strong attributes of Morse code as a mode of communication below 30 MHz. According to the FCC, Morse code as a mode of communications will "stand on its own feet" because of these attributes. The Commission notes that on the other hand, above 50 MHz, the Morse code is seldom used except for station identification and in certain weak signal communications modes. This lack of use persists in spite of the fact that all currently licensed amateurs have passed 5 wpm code tests. The FCC asks the question of why they should continue to require operators to pass a skill test "which may have less utility than other skills in these bands for which the license would be granted to

(No-code continued)

operate." FCC notes that, for example, a typing test is not required for those who may use radio teleprinting modes.

The Commission states that they recognize this to be the "most controversial matter that we can raise with the amateur radio community. They even quote figures from the results of the ARRL survey conducted by the Florida State University Institute of Social Research which document the level of amateur opposition (see March 1981 QST, p. 17). They reiterate that it is their intention to enhance and not necessarily enlarge the Amateur Radio Service by attracting "fully-qualified, technically competent individuals, who are not presently part of the amateur fraternity." FCC will carefully consider comments on the advisability of granting access to the popular 2-meter band to the no-code licensees, particularly if the Experimenter Option is adopted.

FCC's Faux Pas

Finally, the Commission takes notice of the last-ditch-effort letter from ARRL President Vic Clark to the Commissioners asking for an 18-month delay in issuing this NPRM (Vol. 1, No. 5). President Clark had pointed out that it seemed unwise to introduce a new class of license at the same time we were attempting to get the volunteer examination program off the ground. In rationalizing not granting the delay, the FCC "took a pot shot" at ARRL and misrepresented the facts. "While we are completely sympathetic to the burdens involved with examination of amateur operator license candidates, we reject the ARRL's request. The ARRL has, in RM-4229, invited upon the amateur community the burden of the operator examination program . . . the commission is not forcing this burden upon the amateur community." Balderdash!

The enabling legislation that eventually was written into PL 97-259 came about because the FCC General Counsel determined that the Novice testing program was probably illegal. The Commission was neither able nor willing to perform that service itself. For the past

few years, Field Offices have made it increasingly difficult to take an examination by reducing opportunities and requiring advanced registration. Once the enabling legislation was on track, the FCC informally informed ARRL that their budget would no longer permit them to give amateur examinations. ARRL "invited" this burden on the amateur community only because the FCC left no alternative.

The concept of a no-code amateur license is almost as old as Amateur Radio. The League has consistently and successfully opposed earlier FCC proposals. As recently as last March, the ARRL Board of Directors went on record "strongly opposing the issuance by FCC of any amateur license with no requirement for a knowledge of Morse Code." In July we learned that FCC would soon issue an NPRM on the no-code proposition. ARRL officials visited FCC Commissioners and staff, hoping to persuade them from taking this action at this time. President Clark sent his letter in a last-ditch effort to delay the NPRM. The FCC did not listen.

ARRL's course of action will be determined by the Board of Directors. Study the proposal and let your director know what you think. His/her address is on page 8 of QST.

The Commission has presented a smooth sales pitch that presents its arguments in a cool, logical manner. It takes notice of the controversy and even goes so far as to quote figures from ARRL's survey showing the depth of the opposition to this proposal. Obviously, FCC has not entered into this lightly or unprepared.

If you want to have a positive impact, carefully read the full text in March QST at least once. Construct cool, reasoned arguments for your point of view and follow the procedures outlined in QST for filing comments. If the Commissioners were voting on a no-code license today, there can be little doubt that they would approve the license and grant relatively generous privileges. The challenge to the amateur community is to overcome this predisposition through unity and the strength of our arguments.

"Quick As A Wink" Printing & Sales Co.

573 Union Street West Springfield, Ma. 01089



UPCOMING HAMFESTS

12 MAR SAT INTERSTATE REPEATER SOCIETY FLEA MARKET WILL BE HELD AT THE LION'S CLUB HALL IN HUDSON N.H. ON LIONS AVE. BETWEEN RT 111 AND CENTRAL STREET OFF HURLEY AVE. TAKE I93 TO 111 TO HURLEY ST. APPROX 1 MILE BEFORE BRIDGE AT JUNCTION OF 102 AND 111. 1-2 MILES NORTH OF TUFTS ELECTRONICS TABLES ARE \$7.00 ADMISSION IS \$1.00. DOOR OPEN AT 8:00 AM FOR SELLERS AND FLEA MARKET RUNS FROM 9:00 TO 4:00PM. FOOD AVAIL. TALKIN ON .52 DIRECT AND .25/.85. FOR INFO CALL BILL AT 603-893-9527 OR 603-883-5462. [M**M**]

20 MAR SUN THE FIRST ANNUAL INSURANCE CITY CLUB FLEA MARKET TO BE HELD AT THE FARMINGTON YOUTH CENTER 66 SCHOOL STREET, UNIONVILLE CONN. TALK-IN ON 146.28/.88 and 147.15/75. ADMISSION \$1.00. FOR RESERVATIONS CALL CHUCK K1FDS 203-747-6377. [RS&F]

09 APR SAT THE THIRD ANNUAL HAMFEST-FLEA MARKET, SPONSERED BY THE GREAT BAY RADIO ASSOCIATION WILL BE HELD AT THE SOMERSWORTH ARMORY, SOMERSWORTH, N.H. FROM 9:00AM TO 3:00PM. ANTIQUE RADIOS AND COMPUTERS WILL BE ON DISPLAY. FOOD AND REFRESHMENTS AVAILABLE. FREE PARKING. ENTRANCE FEE \$1.00. PER PERSON FOR ADVANCE RESERVATIONS AND FURTHER INFORMATION, CALL DICK SERGEWICK, N1EX AT 603-742-3703, OR WRITE GREAT BAY RADIO ASSOCIATION, RT 16 DOVER, N.H. 03820 TALKIN ON 146.52 OR 147.00 DOORS OPEN FOR SETUP AT 8:00AM. [C*JT]
!!!!!!! TENTATIVE DATE AND INFO !!!!!!!!

10 APR SUN THE FRAMINGHAM AMATEUR RADIO ASSOCIATION WILL HOLD IT'S ANNUAL SPRING FLEA MARKET AT THE FRAMINGHAM CIVIC LEAGUE HALL ON CONCORD STREET (ROUTE 126) IN DOWNTOWN FRAMINGHAM. LOCATED ON THE CORNER OF SANGER AND CONCORD STREETS, ONE BLOCK SOUTH OF DUNKIN DOUGHNUTS, DOORS OPEN AS USUAL, FOR SELLERS AT 9:00AM AND 10:00AM FOR BUYERS. ADMISSION IS \$2.00. TABLES ARE AVAILABLE IN ADVANCE FOR \$10.00. WRITE THE FRAMINGHAM AMATEUR RADIO ASSOC. P.O. BOX 3005, FRAMINGHAM, MASS 01701. TALKIN WILL BE ON 147.15/.75 AND 146.52. DIRECT FOOD AVAIL. [RS*JT]

17 APR SUN TO CELEBRATE ITS 52ND ANNIVERSARY IN AMATEUR RADIO, THE SOUTH SHORE AMATEUR RADIO CLUB OF BRAINTREE, MASS, WILL HOLD AN *INDOOR* FLEA MARKET AT THE VIKING CLUB, 410 QUINCY AVENUE, BRAINTREE, MASS. FROM 11AM TO 4PM. THERE WILL BE EIGHT FOOT (8') TABLES AVAILABLE FOR \$10.00 EACH (WHICH INCLUDES 1 FREE ADMISSION) AND PAID FOR IN ADVANCE BY SENDING THE APPROPRIATE AMOUNT TO ED DOHERTY, W1MPT/ 236 WILDWOOD AVE, BRAINTREE, MASS. 02104. CHECKS SHOULD BE MADE PAYABLE TO THE SOUTH SHORE AMATEUR RADIO CLUB. CONFIRMATION OF CHECK RECEIPT WILL BE SENT. NO CANCELLATION REFUND AFTER APRIL 14. DOORS OPEN FOR SELLERS AT 10AM. ENTRANCE FEE FOR BUYERS IS \$1.00. PLENTY OF PARKING. ***RAIN OR SHINE** FOR MORE INFO CALL 617-843-4431 (ED, W1MPT) EVENINGS. [C**M**]

1 MAY SUN THE EASTERN AMATEUR RADIO ASSOCIATION WILL HOLD A FLEA MARKET AND AUCTION AT PUTNAM CONN. (THIS WAS HELD AT THE POINT BREEZE RESTURANT IN PREVIOUS YEARS) FOR MORE INFO CONTACT RICHARD SPAHL AT 617-943-4420 AFTER 8 PM. [RS*TH]

***** MORE INFO LATER *****

7 MAY SAT THE 10 TH ANNUAL HOSS TRADERS (THE BIGGEST AND BEST) TAILGATE SWAFFEST, TO BE HELD AT DEERFIELD FAIR GROUNDS, DEERFIELD N.H. ADMISSION \$1.00 FOR BUYERS OR SELLERS. FRIDAY NIGHT CAMPING FOR SELF CONTAINED RIGS AT NOMINAL FEE. NOBODY ADMITTED BEFORE 4:00PM FIRDAY. NO COMMISSION OR PERCENTAGE EXCESS REVENUES TO THE BOSTON BURNS UNIT OF THE SHRINER'S HOSPITAL FOR CRIPPLED CHILDREN. LAST YEAR \$2622.75 WAS GIVEN TO THE HOSPITAL, AND THERE WERE ABOUT 3400 IN ATTENDANCE. FOOD AVAIL. TALKIN ON 146.40/147.00 AND .52 DIRECT. [S*W]

**HAM
RADIO
FLEA
MARKET**

Computer

SATURDAY MAY 14TH

10AM TO 4PM
AT

SPRINGFIELD LODGE OF ELKS
800 TIFFANY STREET
SPRINGFIELD, MASS

\$1.00 ADMISSION BENEFITS ELK'S CHILDREN CHARITIES.

\$3.00 PER TABLE, NO RESERVATIONS NEEDED, WE HAVE 100 TABLES UNDER COVER, AND ABOUT 200 OUTDOORS!

PLENTY OF FREE PARKING! EASY ACCESS! FOOD AND DRINK!

SPONSORED BY: HAMPDEN COUNTY RADIO ASSOC. INC.

A VARIATION ON THE SWISS QUAD

The Swiss Quad has been used by Radio Amateurs for a long time. It is a popular DX antenna in the Mid-West, in Europe, and in South Africa as well. It is an interesting antenna that differs radically from the conventional quad both in design and operation. Figure 1 shows the essential features of the Swiss Quad configuration at the QTH of WALSMH. The design shown here is a modification of the Swiss Quad at ZS6PP.¹ Note particularly that the boom is vertical and that the spacing between elements is 0.1λ or only 41.3 inches on ten meters; hence, it is well suited for locations with limited space where a small turning radius is mandatory. Furthermore, an ordinary TV rotator has sufficient power to turn it. Its most redeeming features, however, are apparent in the ease of construction and the ruggedness achieved.

One-half inch copper tubing, the kind used in household hot water systems, was chosen over the use of nested aluminium tubing for several reasons. First, it is much easier to "sweat-solder" copper tubing and 45° joints than it is to bend aluminium to the desired configuration; secondly, the author wished to avoid the deleterious effects that can accompany the use of two dissimilar metals.

Another major difference between this antenna and the traditional quad is that both elements are driven, the phase difference being 180° . The author used a gamma match but added a 75pf variable capacitor in the RG-8/U feed to aid in tuning the antenna at the desired center frequency (28.600mhz). The gamma match is made of insulated #14 copper wire and is spaced $1/200$ of a wavelength from the antenna elements (about 2 inches for 10 meters). Tuning is accomplished by successively trimming small equal segments from each end of the match and final peaking, by adjusting the 75pf capacitor. A noise bridge such as that described by KALJDY in ZERO BEAT of January 1983² would be an ideal instrument in this application. After tuning, but before the antenna is raised to its final position, the 75pf capacitor should be sealed in a small plastic box such as those in which fishing lures are packaged. Dimensions for the Swiss Quad for 15, 20, and 40 meters as well as a suggested mounting bracket can be found in the QST article by E.P. Towers, ZS6PP.¹

The author also wishes to acknowledge the helpful suggestions received from WALPCJ, Chuck and KLMAL, Mac who have constructed similar versions.

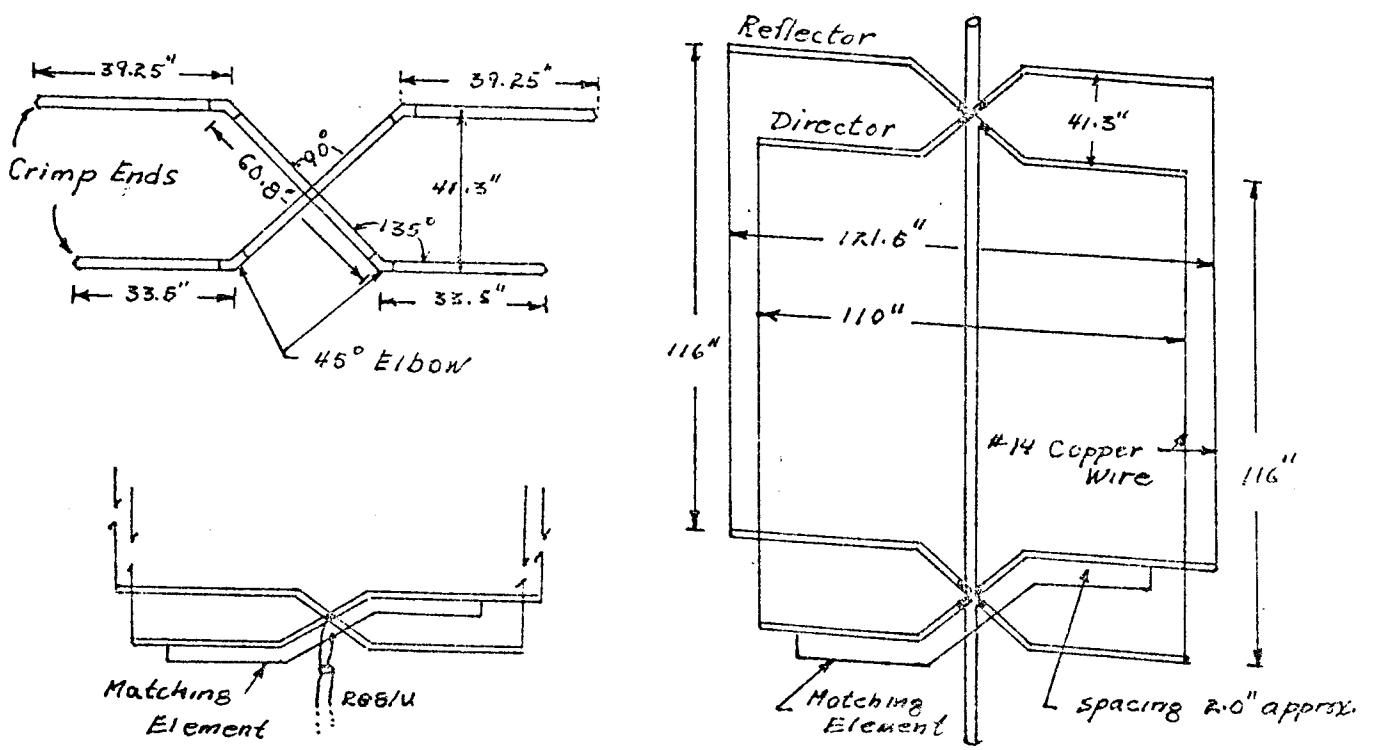


Figure 1
A Swiss Quad for 10 Meters

If you like to experiment with antennas or if you need a good DX monobander that occupies a minimum of space, is easy to construct, and withstands ice storms, why not try the Swiss Quad?

Please feel free to contact the author for any additional details.

Al Jackowski
WA1SMH

¹Towers, E.P., "The Swiss Quad at ZS6PP," QST, September, 1967.
²Archambault, R., "RX Noise Bridge, 160 - 10 meters," ZERO BEAT, January, 1983.

NEAT INFO

Heathkit semiconductors are directly listed by RCA and Sylvania in their SK and ECG cross reference manuals. May save you a phone call to Benton Harbor, Mich. and a couple day wait for the mail man if you can procure a replacement device locally.

Fiberglass tape called for by many balun transformer articles can be procured at electrical supply houses.

5/8 2 meter antenna from salvaged CB antenna

Based on the text of 1982 Amateur Handbook page 12,13 of sec. 10.

A very nice package for 2 meter mobile can be made from a used cb base load mobile antenna. This article is based on an Antenna Specialists mobile 1/4 wave trunk mount.

- 1) Dismantle coil assy. by inserting a 3/4" socket in connector end. Holding sleeve tap hard with hammer until epoxy breaks loose and bobbin assy. slides out.
- 2) Carefully reind coil assy., unsolder the upper joint and center, leaving lower solder joint intact for rewinding process.
- 3) Wind coil in the same direction as original coil allowing 6 evenly spaced turns to the center solder terminal. Varnish coating must be removed at the solder joint area. Continue winding four more turns, cut and solder to top terminal.
- 4) Wrapping with one layer of tape might help to hold while soldering.
- 5) Replace sleeve on bobbin. Cement in place when antenna is completed.
- 6) Add 50" whip and cut for less than 1.5:1 SWR.
- 7) This antenna may be added to a magnet mount for mobile use.
- 8) Adding trunk mount hardware to a 4" square piece of aluminum and three 19" rods set in a triangle will make an excellent base antenna for the house.

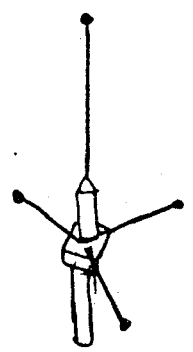
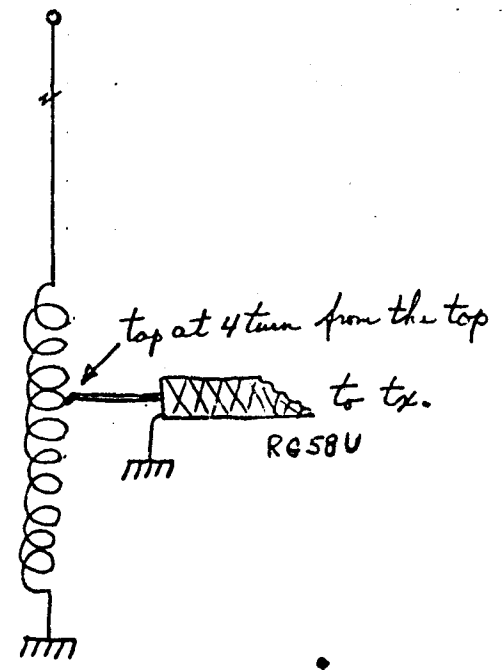
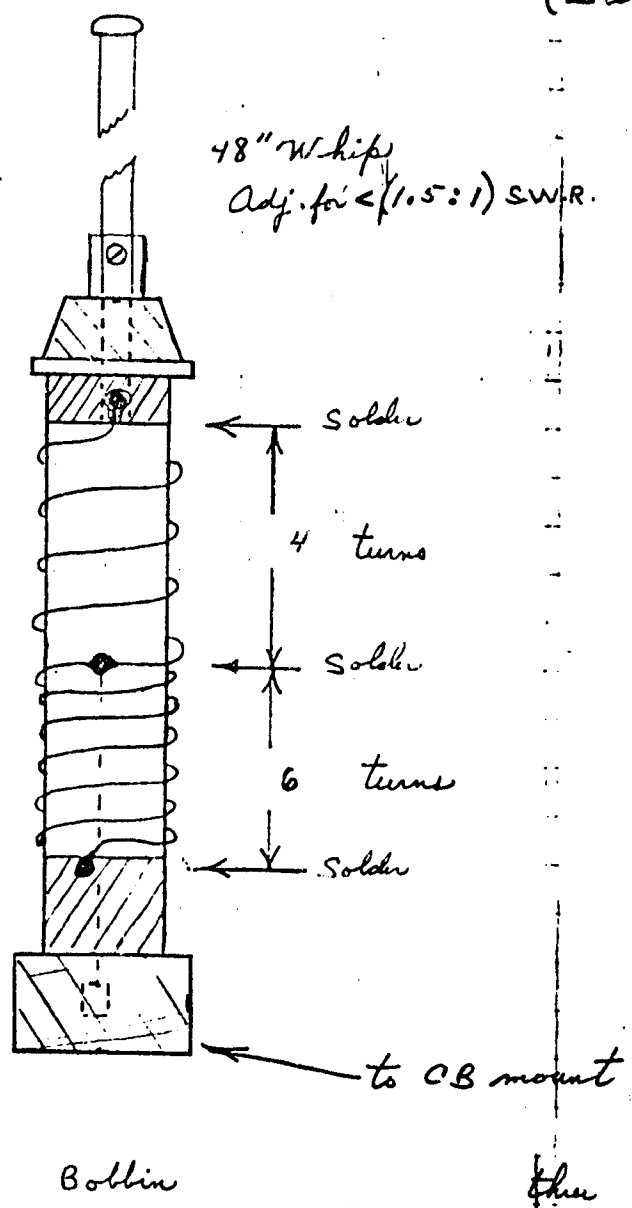
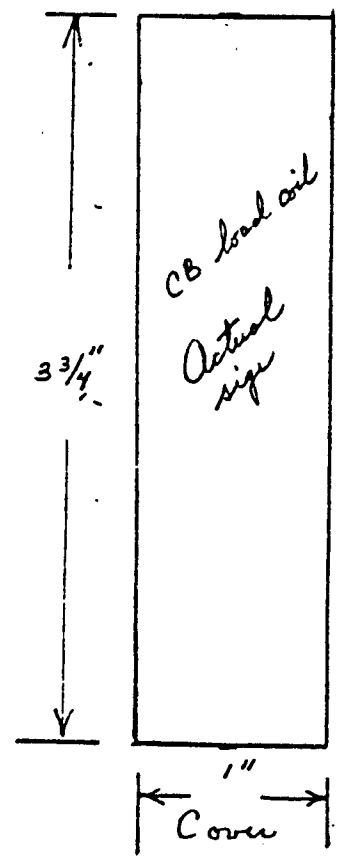
I hope this can be of some use to the do-it yourself ham.

KA1JDY,
R. Archambault

(1)

Using text of 1982 Amateur Handbook
page 12 + 13 of Sec. 10
5/8" 2 meter base load ant.

2 Meter Ant.
(Salvaged CB)



then 19" radials to be added
at base if used as a base ant.

New ARRL Field Organization (con't from pg 1)

Since then, WAIMJE agreed enthusiastically to take on the PIO position and we also have a candidate for TC. The other slots are still available, and your suggestions would be very welcome.

You all vividly remember the Mt. Greylock tower issue of a few months ago. When the DEM decided to take the tower out of service, a lot of mad scrambling by a few individuals finally achieved a reversal through legislation. A lot of painful learning on how to deal with state government had to be experienced before positive results could be achieved. That's because the SGL position was not active in 1982. By the end of this year, I would expect a well-oiled machine to be in place which could effectively either avert a similar problem or at least resolve it efficiently. Got a TVI problem? Take it to the OO/RFI coordinator, Chances are, that one of his people is in your neighborhood and can help you clear it up!

That's it in a nutshell. We are the only section in New England which is putting the new Field Organization into place. We in W. Mass. are pioneers! Let's make it work!

73
Bill WLJP
SM/W.Mass.

Hampden County Radio Assn
WA1CQF, Gent Lam Editor
38 Porter St.
Springfield, Mass. 01104

Zero Beat March 1983



ADIT E Y 10/83