CQ

AUGUST
1951



The Radio Amateurs' Journal

35¢

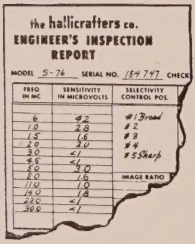
New Horizons of Ham Performance!



The New S-76 — $169.50

SENSITIVITY...SELECTIVITY never before combined!

MAXIMUM Sensitivity!



the hallicrafters co.
ENGINEER'S INSPECTION REPORT

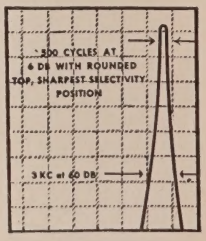
MODEL S-76 SERIAL NO. 154797 CHECK

FREQ IN MC	SENSITIVITY IN MICROVOLTS	SELECTIVITY CONTROL POS.
6	2	#1 Broad
10	2.8	#2
15	1.6	#3
20	1.6	#4
30	<1	#5 Sharp
55	<1	
50	4.0	
70	1.6	IMAGE RATIO
100	1.0	
140	1.8	
220	<1	
300	<1	

2 microvolts average sensitivity with ½ watt output. One r-f, two i-f, and two conversion stages. 9 tubes plus regulator and rectifier.

PENCIL-THIN Selectivity!

500 cycle "nose" selectivity (6 db down) and 3 kc "skirt" selectivity (60 db down) with control in sharpest of five positions.



Also see the SX-71, double conversion receiver with NBFM; 11 tubes plus regulator and rectifier . . . $199.50

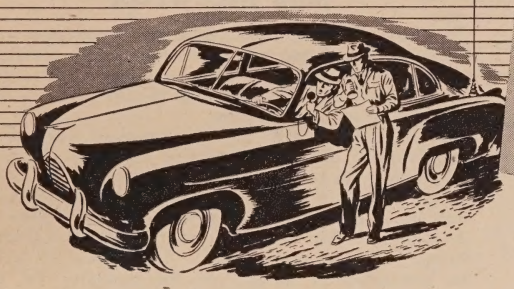
Watch for coming announcement of Hallicrafters Merit Award to the outstanding Novice-class Amateur of 1951.

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YOUR STAUNCH COMRADE

on 24-hour civil-defense tricks



When you're part of a communications chain during an emergency, you need tube stamina that will match your own—the ability to "take it" for hours on end. Types like General Electric's 6BQ6-GT are your answer!

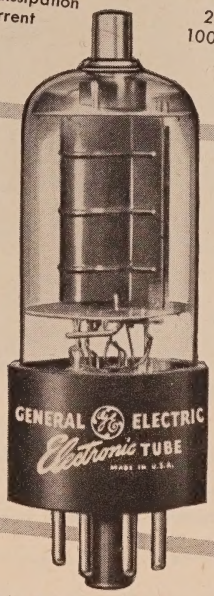
Better-built . . . better-tested . . . and *more efficient!* Because of its high perveance, the 6BQ6-GT develops a substantial plate current (100 ma) with low plate and screen voltages, giving you the ideal all-around tube for small transmitters.

In fact, the 6BQ6-GT will operate at close to full input with plate voltages as low as 100 v. This means that for portable or emergency rigs, a couple of 45-v batteries or an auto-radio power supply will work the tube satisfactorily.

Get complete facts from your G-E tube distributor! Learn the economy price of the efficient, reliable 6BQ6-GT . . . also the low prices of other finely-made G-E tubes, teaming up to offer you premium dependability plus premium value! *General Electric Co., Electronics Department, Schenectady 5, N. Y.*

6BQ6-GT
BEAM POWER AMPLIFIER
MAX RATINGS (Design Center)

D-c plate supply voltage	550 v
D-c screen voltage	200 v
Plate dissipation	11 w
Screen dissipation	2.5 w
Plate current	100 ma



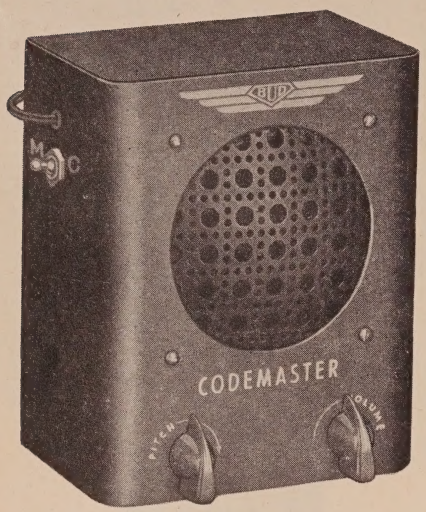
● **The "why"** of 6BQ6-GT dependability, as with other G-E types, is the "how" of the tube's many tests during and after production. Resources like General Electric's can provide the costly, intricate apparatus these searching tests require. Examples of G-E factory test equipment: (1) a capacitance-measuring bridge that will read down to 1/100,000 of a micro-micro-farad. . . . (2) a resistance bridge (for measuring leakage resistance) that will record up to a *half-trillion ohms!*

ELECTRONIC TUBES OF ALL TYPES FOR THE RADIO AMATEUR

GENERAL ELECTRIC

184-KA7

For Superior Performance Choose BUD Products



CODE PRATICE OSCILLATOR and MONITOR

The BUD CODEMASTER is a real money-saver. No longer do you have to consider your code practice oscillator useless after you have learned the code. A flip of the switch and you have a good CW monitor. This is a really versatile instrument.

The CPO-128 has a 4" built-in permanent magnetic dynamic speaker and will operate up to twenty ear-phones. CPO-130 is the ear-phone model. It is similar to CPO-128 except that the 4" speaker is not included; it will, however, operate a permanent magnetic dynamic speaker.

A volume control and pitch control permit adjustments to suit individual requirements. Any number of keys can be connected in parallel to the oscillator for group practice.

This unit will operate on 110 volts A.C. or D.C. An external speaker may be plugged in without the use of an output transformer. All controls are placed on the front of the unit and all jacks are in the rear. It is finished in grey hammertone with red lettering.

CPO-128 ..... **$14.48 dealer net**

CPO-130 ..... **13.20 dealer net**

WAVE TRAP

The new BUD Wave Traps are designed to eliminate interference caused by amateur radio transmission received through the AC line. Bud Wave Traps can be used in connection with any TELEVISION, AM or FM receiver. The three point installation method is simplicity in itself.

1. Plug the cord from the receiver into the receptacle in the wave-trap.
2. Plug the cord from th wave-trap into the AC receptacle.
3. Adjust the condensers, by means of hand tuning extensions, until the interference has disappeared.

NOTE THAT IT IS NOT NECESSARY TO TAMPER WITH THE RECEIVER IN ANY WAY.

The entire unit is small, compact and completely encased. Model WT-500 to be used to eliminate interference caused by a transmitter operating on the 10, 15 or 20 meter bands. Model WT-501 will eliminate interference caused by a transmitter operating on the 40 or 80 meter bands.



WT-500 ..... **$3.96 dealer net**

WT-501 ..... **3.96 dealer net**

Write for free copy of new catalog

BUD RADIO, Inc.

2120 East 55th Street • Cleveland 3, Ohio

CQ

VOL. 7, NO. 8 AUGUST, 1951

CONTENTS

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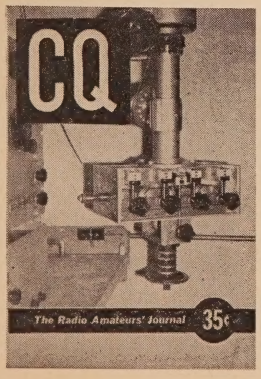
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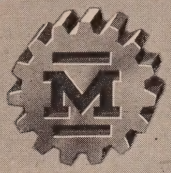
OUR COVER

There's a paradoxical story behind this beautiful hand-made mechanism. This is the control head of a rotary beam which can be tilted, continuously rotated and whose elements can be extended or retracted to peak on any frequency between 14 mc and 30 mc —all from within the shack. Unfortunately, the same urge to excel which inspired this superb example of workmanship also drove its creator to forge a number of QSL cards, in a pitiful attempt to garner the first 'phone WAZ.

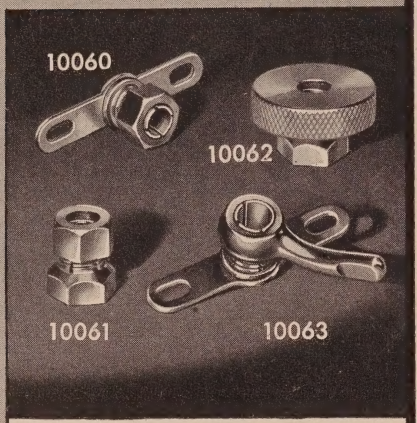
Scratchi 4
Letters 6
Zero Bias 9
Thoughts on Rotary Beam Construction
Emmett P. Bonner, W4MXP 11
How to Organize a Novice Club
Harold E. Pedersen, W6MRP 14
Contestmanship
G. Franklin Montgomery, W3FQB 18
Mobile Corner 20
One More Loading Coil
Earl E. Kaiser, W6KOG 21
Power Line Filters
Ed Brauner, W2URF 22
DX Predictions 25
The YL's Frequency 28
CQ's 1950 DX CONTEST—
PHONE SECTION RESULTS 30
1951 Contest Announcement 36
DX & Overseas News 38
The Monitoring Post 41
V.H.F.-U.H.F. 42
Parts & Products 46
Hamfest Calendar 48
Classified Ads 62
Advertising Index 64

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SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. All types are available in bright nickel finish to meet Signal Corps requirements or black oxide to meet Navy specifications.

JAMES MILLEN MFG. CO., INC.

MAIN OFFICE AND FACTORY

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MASSACHUSETTS



Feenix, Ariz.

Deer Hon. Ed:

Well sirree, normally when Scratchi are honoring you with a letter it on acct. that Scratchi are having big trubble, or are needing money, or maybe even needing advice. Not this time, Hon. Ed., as I are bubbling over with good will toward men, oh it's a wonderful world, tralaa, and all that sort of such stuff. You wouldn't be believing it, in factly, I hardly yet believing it, but I going away for nice long weekend, having wonderful time, and it hardly costing me a red cent.

The how-come, wheresomefor and howzit-happen are as following: A cupple of months ago the Five-Meter Bootlegger Club of California, Inc. are deciding to hold a convention in celebration of their 15th anniversary. As you recalling, Scratchi are chapter member of this organization, as in old days I never bothering to get amateur license, yet having big station on five meters. Later on, when some of the members are getting their license and getting kicked out of the club (By-law 2, Article III) Scratchi are still in good standing, because, even though I have license, it not valid, being obtained under false circumstances. After all, it is the spirit of the thing that counts, and at heart I'm a ham bootlegger.

But, to continuing my tale of joy, all of us members of the FBCCI, as we fondly calling ourselves, are writing back and forth to each other and making plans for big celebration. We deciding to hold our doings in Sandy Ayego, California. One smarty fellows in the club are wanting to invite the FCC to help us celebrate, but the rest of us are pointing out that most of the club members are still operating illegally, and besides, who are ever heering of the Opium Smokers of America inviting the Treasury Department to their smokers?

The grand finale to the convention is to be an election of one of us to be the Grand Honorary President of the Five-Meter Bootlegger Club of California, Inc. As you can see without half opening your eyes, Hon. Ed. this are big honor, and I am sure that I will be elected. After all, who is the best-liked, most-popular, hardest-working, handsomest and brainiest fellow in the FBCCI? Well? Naturally! (I have a reputation for being modest, but some facts just plain self-evident.)

The next few weeks were spent in electioneer-

(Continued on page 60)

TO "HAMS" WHO ARE VETERANS!

Find out how your Amateur Standing Counts Toward a Professional Rating in the U. S. Air Force!

Here's why so many veterans with training in radio and electronics have been moving into the Air Force:

FIRST, if qualified, you can enter the Air Force at your old grade or better, according to your *present ability.*

SECOND, the Air Force will tell you exactly what your initial rating and pay grade will be, *before you join up.*

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FOURTH, today's fast-growing Air Force offers better pay, and more chances for rapid advancement than ever before.

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MAIL THIS COUPON TODAY!

HEADQUARTERS, U. S. AIR FORCE
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Att: AFPTR—Department 2

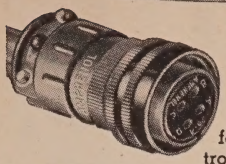
Please tell me how I, as a veteran, can get an Air Force rating in keeping with my skill and experience in radio and/or electronics.

*Name*_____

*Address*_____

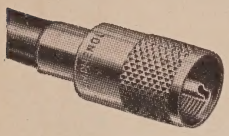
*City*_____ *State*_____

AMPHENOL



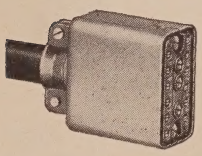
AN CONNECTORS

for power, signal and control circuits in aircraft and electronic equipment. AMPHENOL, by far the largest supplier of quality connectors, leads with the broadest availability listing of AN Connectors for all MIL-C-5015 shell styles and applications. AMPHENOL'S leading position is assured by a continuing development and tooling program.



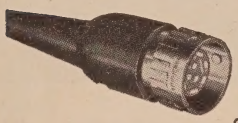
RF CONNECTORS

for instruments, test equipment and all types of industrial applications. Extensive research and manufacturing facilities have made AMPHENOL RF Connectors outstanding in design. They have longer leakage paths, lower loss resulting in outstanding performance.



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AMPHENOL Rack and Panel Connectors have eyelets inserted in the mounting holes for added strength, holes for wiring instead of the usual hooks on the male contacts, and interlocking barriers to prevent accidental shorting. Another AMPHENOL product of precision design!



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now standard for audio circuits on Signal Corps communication equipment. AMPHENOL'S superior design provides watertight lock and spring-loaded contacts which have low voltage drop and are self-cleaning.

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★ ★ Letters ★ ★

DX Predictions

Cranford, N. J.

Editor, CQ:

Your articles on "DX Predictions" are very well done and I do hope you will continue them. They are presented much better than Ferrell's past articles; although they were good, these are much simpler to understand. W2PAJ predicts many more paths, whereas Ferrell usually only gave four different paths. I have checked the predictions and they are fairly accurate as to times and bands. Some have not worked out, but that may be due to poor conditions or lack of activity at the other end. W2PAJ also was very cooperative in working out predictions for KG6GD's trip to Ponape Island and Pete, KG6GD, relays his appreciation for same.

73,
Charles Hoffman, W2APU

(We are surprised and pleased by the interest shown in W2PAJ's "Predictions;" for further comments on this subject, see Zero Bias)

Re Flush-Mounted Antennas

Wright Air Development Center
Dayton, Ohio

Editor, CQ:

Reference is made to an article by Lewis Huber, "Streamlined Aircraft Antennas," that appeared in the May 1951 issue of CQ Magazine.

Electronic personnel here at the Wright Air Development Center have called to our attention a number of inaccuracies and misleading statements in an otherwise good article. In the interests of accuracy and possible future correction in your magazine, we are sure you would like to know about them.

To begin with, we believe that Mr. Huber was misinformed when he states in his story that electronic researchers did not foresee the need for flush mounted antennas, whereas, aerodynamicists did. Quite the contrary, according to our electronics engineers here, who as far back as early in World War II, foresaw such a need. Their greatest difficulty was in convincing the aircraft companies' engineers of such a need.

In fact, it has been the experience of electronics researchers here that most aerodynamicists thought it impractical to install flush mounted or dragless antennas in high speed aircraft.

We were also wondering about the pictures that appeared on the top of page 31. These were taken at Wright-Patterson Air Force Base and released nationally in June 1949. These pictures are not properly credited to the Air Material Command, nor are the drawings on page 32—drawn by electronics personnel here—properly credited. Of course, we realize that this is not an omission of the greatest importance, but we are bringing it to your attention for the sake of the record. Actually the photographs reflect results of the work accomplished by our electronics people here . . . .

Harry G. Fisher, Jr.
Capt., USAF
Public Information Officer

(Continued on page 50)

Peace of Mind



If halos were in style . . . PR owners would be wearing them . . . because the happiness and serenity of T9X has no substitute. With PR Precision CRYSTALS controlling your rig frequency worries take a fast and permanent QSB. You can put your worrier to work on more important problems than "where am I?" For instance . . . the old grey matter can get busy on that super-duper dream beam you have been planning all these years. Yes — PRs give you peace of mind. For better accuracy, stability, activity and output . . . PICK PRs! They're UNCONDITIONALLY GUARANTEED . . . at your jobber!

20 METERS, Type Z-3, $3.75 • 40, 80 AND 160 METERS, Type Z-2, $2.75

PR Crystals

Since PR 1934

USE PR AND KNOW WHERE YOU ARE

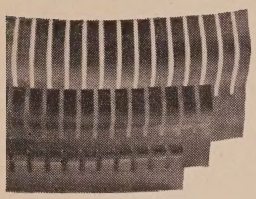
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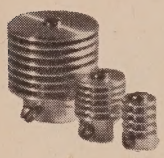
make "ham-life" less complicated



CONTACT-FINGER STOCK

A silver-plated, spring alloy, pre-formed finger stock especially suited for making connections to coaxially constructed tubes. It is also an ideal means of providing good adjustable component circuit continuity such as shorting bars etc., and in functioning as an electrical "weather strip" when TVI proofing access doors of equipment cabinets. The stock is available in widths of 17/32", 31/32" and 1-7/16".

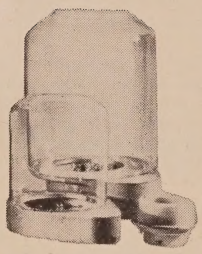
Price $1.65 to $2.00 per foot.



HEAT DISSIPATING CONNECTORS

Eimac type HR heat dissipating connectors are designed to provide an efficient method of heat transfer from the tube elements and seals to the air. They also facilitate electrical connection to the plate or grid leads of the most popular types of transmitting tubes. All types of HR connectors are machined from solid dural rod and are supplied with the necessary machine screws for use.

Popular Sizes, Price $.60 to $.80 each.



AIR-SYSTEM SOCKETS

These are designed primarily to simplify and increase the efficiency of cooling Eimac 4-400A, 4-1000A and 4X150A tetrodes. However, the 4-400A socket can be used, if desired, without modification with 4-125A and 4-250A tetrodes. The sockets are supplied with the necessary mounting screws, clips, and a pyrex glass chimney. The 4X150A socket, in addition, incorporates a built-in screen to cathode by-pass capacitor.

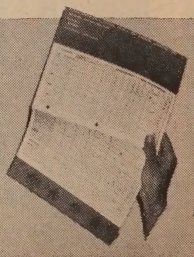
Price $16.00 to $22.50 each.

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ZERO BIAS

EDITORIAL

CALLING ALL NOVICES!

Who will be the first licensed Novice in the United States? Who will be the first in your state? Who will be the first Novice to establish two-way contact with Europe? Or South America? Or Africa? Which Novice will first succeed in working all states in the U. S.?

Nobody can answer these questions, at present. But one year from today, the answers will be on record, in the 1951-1952 files of CQ. For starting next month, CQ will conduct a Novice Department devoted to activities, personalities, and problems in the newly established Novice field of amateur radio.

The Novice Department will be similar to the VHF-UHF, YL, Mobile, and DX Departments and the Monitoring Post, but will be devoted exclusively to the Novice. It will contain information that will assist him in passing the license examination, setting up his station, and getting on the air. It will discuss his technical and operating problems, give recognition to his accomplishments, and keep him informed of developments affecting his hobby. A question-and-answer column will be included, so that Novices with individual problems of general interest can obtain the information and help they need.

The new department will be in charge of Carl Drumm, W2GJV, who joins the CQ staff this month. Carl has been a licensed amateur since 1932, when he went on the air with a battery-powered transmitter and a home-made receiver. Since then, he has held the calls W8IET, W9RJQ, W3MXF, and now W2GJV. The new Novice Editor worked for several years as an airline and aircraft radio operator, serving throughout the United States, in Central America, and in Europe. Since 1945 he has been a teacher of electronics in the Washington (D.C.) and Philadelphia areas. Carl's wide experience in radio, the fact that he got started in the amateur game entirely on his own (in a community where the nearest active ham was 25 miles away), and his first-hand knowledge of and sincere interest in the problems of young operators, make him a "natural" for the post of CQ Novice Editor.

Don't miss the first issue of the Novice Department. It will appear in the September issue of CQ.

NEW YORK can get pretty hot in the summer, and right now it's too hot for sermonizing. So, we just remind you of the restrictions placed on the use of 3700—3900 kilocycles during August 6 to September 7. For all of us east of the Mississippi, no night-time operation in this range, and for you fellows in most of W3 and W4, no operation in this part of the band at any hour.

Long Range Predictions

We have an article coming up which concerns a totally new method for predicting radio conditions far in advance, with high accuracy. Mr. John H. Nelson of RCA has observed remarkable correlation between significant positions of some of the planets and disturbed radio conditions; by combining his statistical data with astronomical forecasts which can be made with great precision, Mr. Nelson has worked out a method for predicting disturbances months and even years ahead. Although certain details are restricted at present, Mr. Nelson has prepared a basic description of his novel approach for CQ. Since the DX Contest dates have already been set, it's too late to put him on the spot for the 1951 affair, but perhaps by 1952 he'll be able to give a few pointers to W6QD and the DX Committee. And speculating a bit further, perhaps some day we'll be able to control "conditions" to some extent, as we learn more about their causes. If that day comes, will the W7's gang up to build a "Radio Cloud Maker" and swipe all the DX away from the W6's? And when its their turn, will the W6's push the skip zone out so far that 6QD won't even be able to work W9's any more? Hang around a few years and see!

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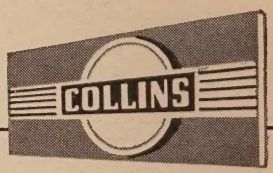
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Thoughts on ROTARY BEAM CONSTRUCTION

EMMETT P. BONNER, W4MXP*

By dint of having built 15 rotary beams at four different locations in recent years, your scribe has come to some conclusions that may be worthy of consideration by others planning to build a rotary beam.

Extending a Power Pole

The current pride and joy is mounted on a power pole, and conforms generally to the sage advice given in "Structural Stresses in Antenna Supports" in the March 1950 issue of "CQ". The only difficulty was that the only pole we could get for free was shorter than the desired height. The scheme for extending it that finally evolved is shown in Fig. 1. By experiment in a lumber yard, it was determined that a 12 foot length of 2 x 4 is about the maximum that can readily be handled at the top of a pole. Four sound lengths of fir were purchased, creosoted, and drilled (for convenience and to avoid splitting). The trick of getting the 2 x 4 timbers in place is to hoist them one at a time, bottom end first, and spike them loosely in place (Point A of Fig. 1). It is then surprisingly easy to pivot the timber about this point and secure it in the erect position with two smaller spikes. When all four timbers are in place, they should be bound together by wrapping heavy gauge wire around the entire assembly several times and securing it at frequent intervals with staples. This type of construction is similar to the cage masts of the U.S.S. West Virginia class of battleships, and is structurally sound.

Cross bracing of 2 x 4 stock was placed at the center, and double bracing at the top. Both areas were bound with heavy wire in a manner similar to the base.

The steps for climbing are of heavy aluminum angle stock, spiked to two of the 2 x 4's and held also by a binding of wire, just in case.

Boom Construction for a Yagi Array

A good bet for boom construction is aluminum angle stock. It offers the following advantages:

1. The material is easy to work.
2. The only tools required are hacksaw, drill, pliers, and screwdriver.
3. The horizontal and vertical surfaces of the angle stock make it very easy to assemble the boom by bolting it together. Precision cutting and drilling are not required.
4. Boom is light in weight. This feature assumes great importance when one is 40 or 50 feet up in the air.

Guy wires are run from the top of a short vertical stub at the center of the boom to the ends of crosspieces of aluminum stock under each element. The guys should be broken at regular intervals with strain insulators. Turnbuckles in

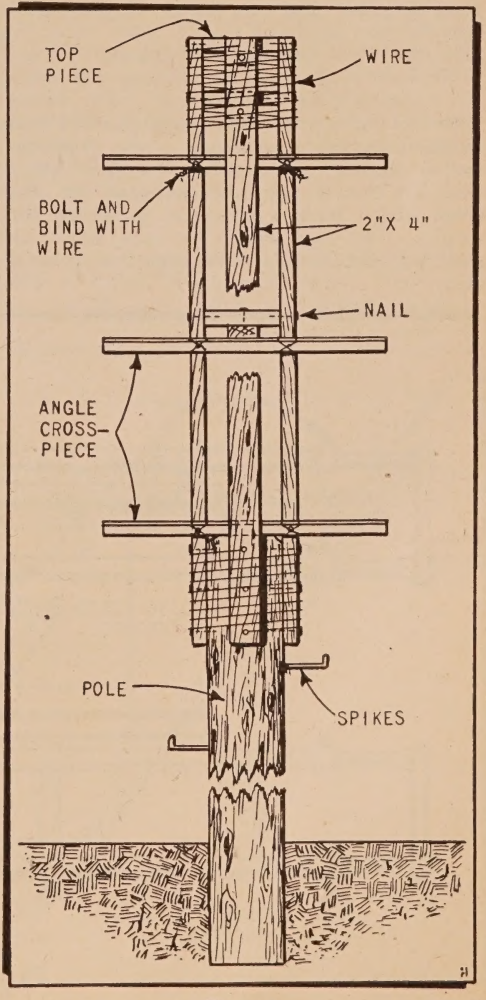


Figure 1

*Commander, U. S. Navy, 700 East Broad Street, Falls Church, Va.

each guy will permit each individual element to be adjusted for a perfectly aligned beam. We believe this is the easiest, cheapest, and lightest method available for obtaining a rigid boom for lengths up to 20 feet or more.

Special insulators for mounting antenna elements are expensive and hard to find. An acceptable substitute using inexpensive 2" cone insulators is indicated in Fig. 2.

Impedance Matching

There will probably never be unanimity of opinion on this subject, and doubtless different methods would be optimum under different circumstances. The system we have come to favor is the use of a folded dipole as the driven element with 52-ohm coaxial line feed. The folded dipole gives an impedance multiplication of four, which means that a 13-ohm beam would afford a theoretically perfect match to a 52-ohm line. The problem then resolves itself into selecting from a handbook an array having a radiation resistance of about 13 ohms. The ones we are currently using are:

10 meters - 4 elements, 0.2 λ spacing
20 meters - 2 elements (director and driven element), 0.1 λ spacing

Both of these arrays have about 13 or 14 ohms radiation resistance according to the handbooks, and in practice operate with a very low S.W.R. when fed directly with a 52 ohm coax line. This is the easiest possible method of permitting 360° rotation (180° each way). The coax feeders are also desirable from a TVI reduction point of view.

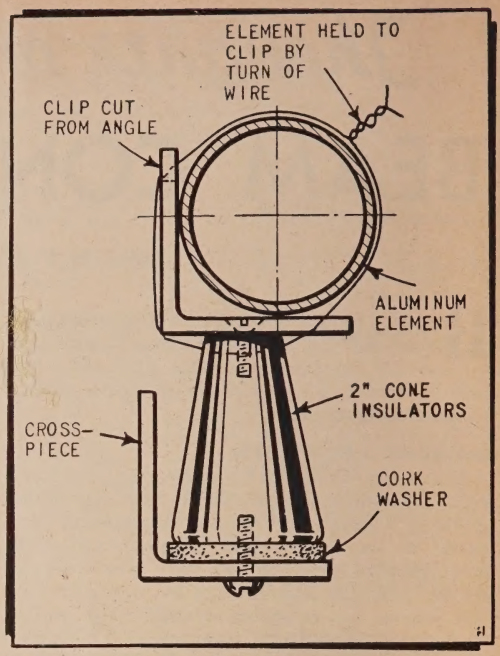
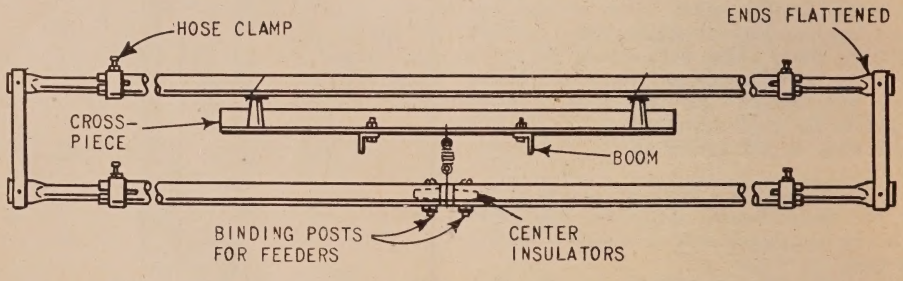


Figure 2

Element lengths on a beam with 0.2λ spacing are not critical and can safely be set by formula. Likewise the 2 element beam, with only one parasitic element, may also be set by formula. The tedious job of tuning can thus be eliminated.

Fig. 3



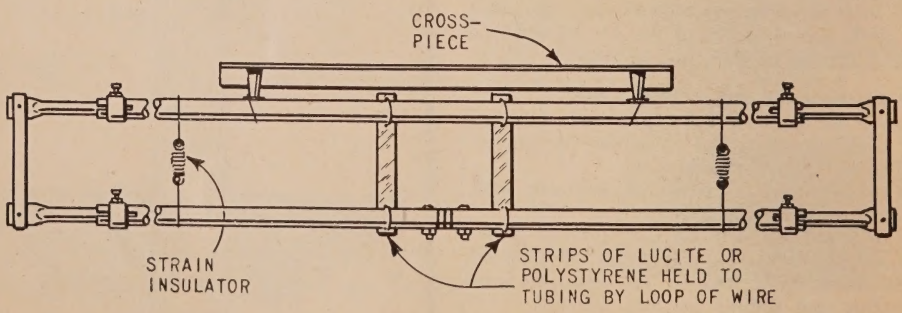
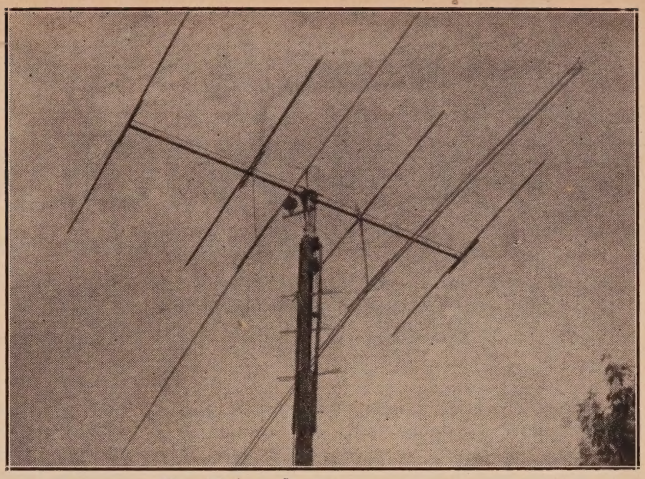


Fig. 4



W4MXP's "Four-over-Two" mounted on the extended mast. Separate coax feedlines are used for each beam, with sufficient slack to permit 360 degree rotation.

Folded Dipole Construction

For ten meters, a folded dipole can be constructed using two cone insulators and one strain insulator (Fig. 3). The separation between the two parts can be made great enough for the lower part to pass underneath the boom. The two parts of the dipole must of course be of equal diameters for the spacing to be immaterial and to get the desired impedance step-up ratio of 4.

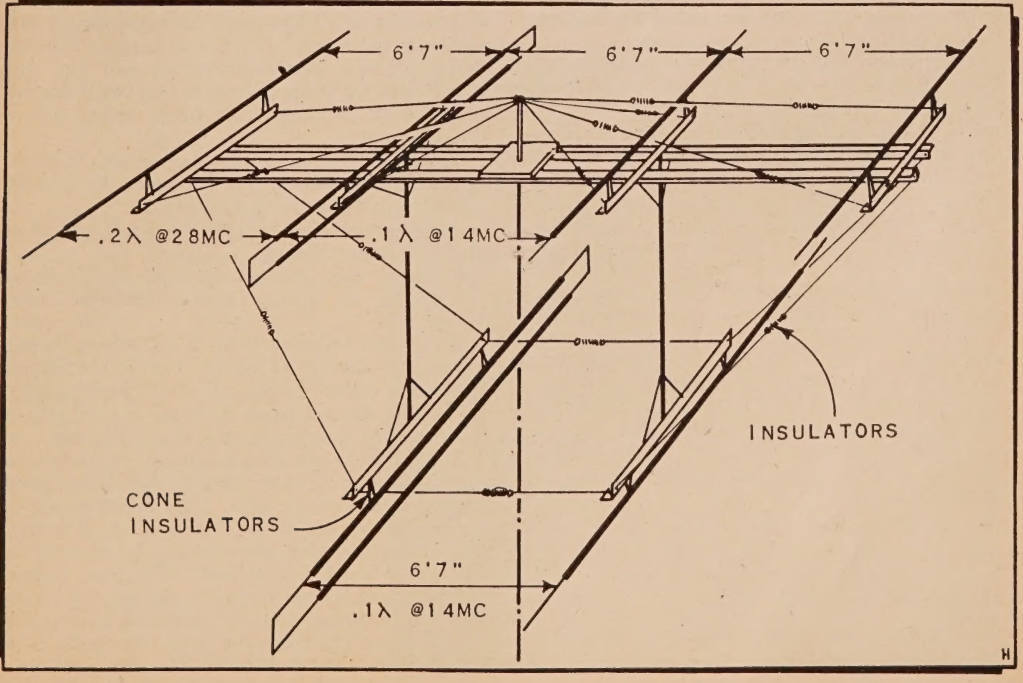
For twenty meters, the method must be slightly changed. It is easier to suspend the elements below the boom than it is to put them above it. With 1" diameter tubing, the scheme shown in Fig. 4 maintains the spacing with sufficient accuracy. An easy way of handling the ends of a folded dipole is shown in Fig. 5.

Combining Arrays

Sooner or later, most operators want a 10 and a 20 meter beam. This is frequently realized successfully by interlacing the elements of both beams on approximately the same level. This is desirable from the construction point of view, but entails careful tuning to get good performance from both beams. A frequent alternative, therefore, is to stack the 10 meter antenna 5 or 6 feet above the 20 meter beam. We had one like that once, but it fell victim to a West Texas windstorm.

Our present answer to the elements is what might be called "Negative Stacking". This means that the 20 meter array is suspended about 6

(Continued on page 52)



How to Organize

A NOVICE CLUB

HAROLD E. PEDERSEN, W6MRP*

A few months ago one of our subscribers sent us a newspaper clipping describing the grade school radio club at W6GTS. We asked Mr. Pedersen to give us the background on this unique club; it should be an excellent guide for any group interested in helping the Novice cause.

AT OCEAN VIEW SCHOOL, Huntington, Calif., we have a Novice radio club composed of boys between the ages of 12 and 16 years. The club has its own licensed station, W6GTS; each member has built a transmitter, a receiver, and power supplies of his own; 70% of the group have taken, or are ready to take, the Novice examination and go on the air as active amateurs. Only three of the younger members are unable to take code at 5 words per minute; the older boys consistently copy 13 w.p.m. or more. With the boundless energy possessed by teen-age boys, these fellows have carried their hobby into the social-studies classrooms of the school and have helped to develop a technique for making the study of geography vitally interesting to their classmates. The boys have interested their parents in the subject of radio, to the point where several fathers have helped their sons build ham shacks and erect antennas. And, through the newspaper publicity that has been given to this group, amateur radio has been called to the favorable attention of the entire community.

These results did not occur overnight. The club was organized two years ago, before the Novice Class license was anything more than wishful thinking. The boys in the club set out with the intention of becoming Class B amateurs. Nor were the results mentioned above achieved without considerable pain, both to the members and to me, as club advisor. We have had our problems; they are not all solved yet. We made several mistakes, most of which have been rectified. We anticipate some future difficulties, only part of which can be forseen at present. Accordingly, we are glad to comply with a request from the Editor of CQ that the story of The Ocean View Elementary School Radio Club be shared with other groups planning to organize similar Novice clubs. We feel, as does the Editor, that an exchange of experiences and ideas is a good way to make things easier for the Novice and enable him to become a proficient member of the ham fraternity.

The Spade Work

By way of arousing interest in amateur radio, I took a portable 75-meter transmitter to school and operated it on the school grounds, allowing all interested boys and girls to use the mike. Immediately, there was an insistant demand that a radio club be formed. By careful selection based on interest, stability, and aptitude, I chose ten boys as charter members of this club. From each I extracted a solemn promise that, if accepted for membership, he would do his best to become a licensed amateur.

The selection of these ten boys constituted the first difficult decision that had to be made. Dozens of boys and girls wanted to join; many of them probably felt disgruntled at being placed on the waiting list. Yet I felt that it was absolutely necessary to keep the club membership small. I have only a limited amount of time to give to sponsorship of the group, and the only club room that could be assigned at the school was rather small. A number of sad experiences in connection with Boy Scout work had convinced me that it is much better to work with a small group like this, where the advisor can spend sufficient time with each boy, than to take on a large membership and spread time so thinly that it is of little use to anyone. This has proved to be a wise decision; the only boy who has dropped out of the club in the past two years was forced to do so because his family moved out of the community.

Our first action as an organization was to establish a definite purpose for the club. We decided that the group was being formed to:

1. Encourage each member to obtain his Class B Amateur license.
2. Enable each member to build and learn to operate an amateur station—preferably CW, at first.

We applied immediately for a club station license, naming the advisor as trustee. During the several weeks that elapsed before call letters were assigned to the club, we undertook the study of code, and of questions and answers for the Class B license.

At this point, our second problem arose—and it is one that must be anticipated by club advisors and handled with extreme skill. After a few meetings, interest in code and theory began to lag. It seemed to the boys that they were doing a lot of studying when they could just as well have been playing baseball. And, as far as they could see, the things they were learning were not making it possible for them to have any more fun than they could have had without all the chalk-talks. The club could very

Dist. Supt., Ocean View School, 17021 Huntington Beach Blvd., Huntington Beach, Calif.

easily have fallen apart, right then. Providentially, the club station license arrived in the nick of time, and we set up a complete ham station in a small room that had been set aside by the school for club use. Interest revived immediately. The boys crowded around the equipment and took turns working other phone stations—not just during the regular weekly meetings, but each time they found me with a few minutes free so that I could supervise their operation.

But after a while, interest in station operation began to lag, also. Individual talks with the members revealed that they were becoming interested in building their own equipment, for use at home. They wanted to hear music on a crystal set that they had constructed with their own tools. They looked forward to hearing the first "CQ de——" on a short-wave receiver that they had built themselves. They were interested in testing power supplies, in setting up code oscillators, and in a dozen other projects. I let them follow their new interests. There was no vote-taking, no decision that everyone would build a receiver, or a code oscillator, or a power supply, or whatever happened to interest the majority. Each boy selected the piece of equipment that appealed to him most, and we set about obtaining the necessary parts for its construction.

Procurement

First, the boys canvassed the neighborhood and explained their needs. A number of families were glad to donate obsolete broadcast receivers. These sets were taken to the club room and carefully dismantled. I explained the function of each part as it was removed, and allowed the boys to learn how to salvage parts without damaging them. Trips to local junk yards and the city dump brought to light numerous discarded radios that could be had for 25 cents or less, and which contained usable sockets, resistors, transformers, and other parts. These were added to our salvage; the "stockroom" began to assume encouraging proportions.

In addition, we were fortunate enough to obtain a limited amount of surplus gear through the State Board of Education. The items that proved most useful in this project were the ARC-5 command receivers, especially those having a coverage of 3 to 6 mc. These are easy to convert, and make an ideal first receiver for the Novice.

Still another problem arose as soon as distribution of the salvaged parts was undertaken. Each of the boys was naturally anxious to obtain the choicest parts for his own use. This was threshed out in a man-to-man talk with the entire group. I pointed out that all salvaged parts were the property of *all* the members. (Funds for the original purchases had been raised by the club through small projects of one kind or another.) In all fairness, then, they should be distributed evenly among the boys, in a manner that everyone felt to be fair. After discussing the question, it was decided that if one of the members wished to undertake an unusually ambitious program that would require the use of more than his share of components, he would pay a small sum for the additional parts used. This plan has worked out very satisfactorily. The money collected by sales to the members is placed in a fund for the purchase of more junked equipment or surplus.

Now the active building program got under way, and code practice and study for the examination dropped to a new "deep low"—but not for long. I took pains to avoid the use of picture diagrams in discussing the circuits under construction, and took advantage of every opportunity to use standard schematics. At first, the boys were perplexed. They



"W6GTS CALLING CQ."
This is the club station of the Ocean View Elementary School Radio Club, Huntington Beach, Calif. The club, which is now two years old, is making every effort to become the first 100%-licensed Novice organization in the U. S. Three of its members are shown here: Miguel Torres, at the mike; Richard Kandler, keeping log; and Brad Woodington. District Superintendent Harold E. Pedersen, W6MRP (right) is the club advisor.

couldn't understand those circles and lines and squiggles that, they were told, represented the circuit with which they were working. Then perplexity gave way to curiousity. They began to ask questions: What did this mean—this circle with all those funny lines inside it? How could you tell which socket terminal went to the cathode? Finally, (the question for which I had been waiting), would I give them a table of common symbols, so that they could learn to read schematics for themselves? I could, and did, making it appear that what they were receiving was in the same class as a screwdriver or a soldering iron—a tool with which the radioman could easily become familiar, and which was indispensible in doing the job at hand. Before long, all the boys were reading schematics like print.

Theory

The same process of infiltration was used in keeping up an interest in theory. Obviously, as soon as a piece of equipment was completed and failed to work the first time voltage was applied, the builder became vitally interested in finding out what ailed it. The trick here is to help *him* figure it out, rather than to give him a ready-made answer. Explain that there are three or four things that could be wrong, and outline a simple test procedure that will eliminate these possible causes, one at a time. Then let the Novice perform these tests himself, giving him help and advice only when absolutely necessary. He learns fast by this method. He is not robbed of the personal pleasure that comes from coaxing a reluctant piece of gear into perfect operation. Most important of all, he is sure to ask "why." That gives the advisor a chance to teach theory without seeming to do so. It also gives the builder a chance to exhibit his new-found knowledge to other club members, and incidentally to spread the facts he has learned. Quite frequently, now, earnest arguments began to arise about questions of theory, and groups of boys started coming to me to have the question settled. By asking each, in turn, to state his agrument, then by proposing a series of questions that finally led everyone to see the light, it was possible to keep an informal study of theory near the boiling point. Every fact that was brought out was something needed *right now* in order to make a piece of gear work. Consequently, everyone was listening, arguing, and immediately using the facts he had learned.

Construction

Individuals and small groups were allowed full freedom of action in choosing their projects. In general, the order of projects ran something like this: First a power supply; then a one-tube receiver (some of the boys carried this to a two-tube or a three-tube TRF receiver with plug-in broadcast and short-wave coils. Others added audio stages to permit loud-speaker operation); a code oscillator; conversion of 80-meter command receivers to ham-band use; a transmitter-type power supply; and finally a 6L6 transmitter.

The boys were also given a free hand in planning their own layout and in trying their own ideas on construction and wiring. Some of our finished products look pretty junky; others, because of competition that developed between individuals, are fairly nice looking. In fact, some of the work is rather exceptional, considering the age group of the builders. Frank Doting, 15, has assembled, wired, and tested an all-purpose test kit that cost him about 25 dollars. He received no outside help, and made no mistakes. David Hoisington, at the age of 11, built the club's first 6L6 transmitter and got it to work with a minimum of outside help. Richard Kandler, when 10 years of age, built a three-tube short-wave TRF receiver. Hiroshi Honda, 15, has completed a successful 6-tube receiver. All his work was done independently. Hiroshi has become our club trouble-shooter, an honor for which he is now receiving competition from Frank Doting.

Other projects were also carried out, since a few boys had interests that lay outside the field of amateur radio. But in general, all club members have constructed the basic units necessary for a ham station. Several of the boys wanted to repair some of the used radio that had been given to the club. They were allowed to try it, but received little encouragement or help. After a few failures, they "got it out of their systems" and went on to easier projects that were more closely related to the main objective of the club. Whenever I found boys who were determined to try a project very far removed from amateur radio, I permitted them to go ahead, but emphasized that they were pretty much on their own—that most of my attention must necessarily be devoted to members who were building ham stations and working for their licenses. Some of the members constructed crystal receivers, converted small dynamotors to a.c. operation, played with field telephones, built simple test kits, or constructed antennas. Part of these outside projects were highly successful, while others were failures. In all cases, the experimenters finally returned to the original line of work and resumed construction of amateur equipment.

Most of the boys have their own tools. although the school purchased a few soldering irons, pliers, drills, and a multimeter for general use. Four soldering irons were donated to the club by the mother of one of the members, in appreciation of the benefits that the program had given her son.

Code Practice

During all this period of building, there had still been some interest in code practice. This was probably due to the fact that members were reminded frequently that they had been chosen for membership with the understanding that they would do their best to become licensed amateurs. But early this year the simmer of interest in code rose abruptly to a boil when the FCC announced its forthcoming Novice Class license. At once, the boys realized that getting on the air was now definitely within their reach. A clamor arose for more and better code-practice facilities.

The school purchased a set of recordings for learning the code. These were used at every club meeting, and were loaned out for use at home. Several record players were set up in various rooms in the school, where boys could study code before and after school and during recess. Here,

for several weeks, the Eighth Wonder of the World was on display—a group of red-blooded boys who had abandoned baseball temporarily in order to study Code!

As soon as a boy could copy six words per minute, he was paired off with another member of similar accomplishments, and they were encouraged to transmit sentences to each other. They were also invited to join in a contest that had just been started by the club. This competition involved seeing who could produce the greatest number of QSL cards from amateurs, certifying that the c.w. transmissions of the licensed station had been correctly identified by a club member. For each QSL produced, a club member was awarded four of the club's special SWL cards. The resulting effort to copy faster and faster stations on the air produced a rapid rise in the code-speed level. Several of the older boys quickly reached the 13 w.p.m. class, although the younger members seem content with 8 to 10 w.p.m.

With code speeds up to at least the required 5 w.p.m., and with ham equipment sitting around ready to be fired up, it required no particular feats of salesmanship to make the question-and-answer book the "book of the month." This was especially true since summer vacation arrived just at this point, freeing the would-be Novices from regular school duties. Emphasis has now been removed from building, and the objective for the summer is to get all members to pounding brass at their own stations, under their own calls. The boys are confident that if this can be done, all members will be able, within a year, to qualify for the Amateur General Class license (formerly Class B).

Competition

In addition to regular club meetings, building projects, code practice, and operation of the club station, a number of special tours have been arranged for the club. Three large radio wholesale houses have been visited. A local ham opened his shack to the club one evening. Possibly the high spot of last year's program was a tour of the radio installations at a nearby naval base.

As many of our activities as possible, however, have been built around some kind of competitive activity. This has a special appeal to boys, and they will cheerfully spend hours doing what they would ordinarily regard as slave labor, if by so doing they can outshine their fellow club members. A number of worthwhile activities have been suggested for the coming year. Two of these seem to have a universal appeal, and are mentioned here for consideration by other organizations considering the formation of a Novice club.

The first idea is to establish a group of c-w DX trophies, one for each Novice band. The trophy for each band would pass from one champion to the next as each new club record for two-way communication on that band was established. Confirmation of contact would take the form of the usual exchange of QSL cards. A number of variations on this theme could be developed, but it seems important that the use of the c-w frequencies be stressed. After all, the Novice has only 12 months in which to raise his code speed to the 13 wpm required for the General Amateur Class license.

Another idea is a club fair, held for the parents, at which the awards that have been made to various members would be on display. The fair, as it is now suggested, would also be the occasion for presenting to various members the awards they have won for outstanding construction work. A demonstration of code speed by some of the more advanced "speed artists" is included in the plan. The high point of the evening would be two-way contact between the club station and a mobile station mounted in a car, with one of the club members assisting at the microphone of the mobile station.

How To Influence People

As the club progressed, and W6GTS became a well-known institution around Ocean View School, both the club and the station began to exert an influence upon the classroom work of other students. A class of third-grade children conducted a make-believe radio program in their classroom, using a portable public-address unit. This was followed by an actual on-the-air period over the club station, with each child having a chance to say hello to the operator of another ham station (contacted on schedule) and to ask a few questions. The whole program was worked out as a lesson in modern communications.

Another room was studying the State of California at the time. Several amateur stations in various parts of the state were contacted on schedule, and gave these students some interesting sidelights on their respective localities. For the benefit of the fifth grades, who were studying the United States, similar contacts were made on 10 meters, with groups of four students at a time asking questions of various hams in distant parts of the country.

The favorable newspaper publicity that resulted from these activities has proved a decided asset to amateurs throughout the community. Several teachers, with instruction projects of their own in mind, have already requested the use of the club station from time to time during the coming school year.

A great many of the parents have shown interest in the club. One father told me that his son had never been able to "settle down" to one subject until he became a radio-club member. This boy has now been presented by his parents with a communications receiver, and has been promised a shack as soon as he gets his license. Parents of two other boys have already built shacks for their sons. One father asked me to OK his plan for a transmitting antenna. His original idea had been to put up a two-meter antenna, but upon my advice he erected an 80-meter sky wire which will, we now agree, do more for the prospective Novice by putting him on the 80-meter c-w band. Another club member reports that his father often joins him in listening to the home-built short-wave receiver, and several

(Continued on page 54)

CONTESTMANSHIP

G. FRANKLIN MONTGOMERY, W3FQB*

How to be a scholar, if not a gentleman.

TWO RECENT TREATISES by S. Potter [1,2] have dealt with the theory and practice of the new and growing science of *gamesmanship*, fundamentally the study of conduct in the winning of athletic or intellectual games. Considine[3] has described gamesmanship as "a shadowy endeavor somewhere between sportsmanship and downright crookedness," and it has become evident that many of the gamesman's techniques are directly applicable to amateur radio activities. In his second volume,[4] Potter has, indeed, already begun the tremendously valuable task of adapting gamesman methods for use in other spheres. One finds that a few of these methods are presently used, albeit sporadically, in the amateur bands. The time seems ripe, therefore, for a codification of these promising beginnings into a formal discipline. It is hoped that this paper will serve as an introduction to amateurs of fundamentals in gamesmanship that may well revolutionize amateur practice—particularly in the DX and contest fields, areas admittedly comprising the most refined competitive effort.

It will be impossible, in limited space, to cover more than a few of the many ramifications of the new art; I shall outline only the more important features. For a firm grasp of gamesmanship's fundamental theorems, and an appreciation of the beauty of its not undelicate arguments, the reader is urged to study Potter's original monographs.



The essential principle followed by the gamesman (or the amateur contestman) is "to make the opponent feel *that something has gone wrong.*" Any device that is used to this end is called a "ploy" (I adhere as closely as possible to Potter's terminology). In the exercises that follow, specific ploys will be used simply as illustratory examples of more general lines of attack.

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Rulesmanship

It has been emphasized that few other ploys are as effective as those based on making Opponent feel that he has in some way infringed on, or failed to comply with, the established rules of a competition. One such ploy[5] is restricted to those contests, e.g. Field Day, in which a power multiplier is awarded for low inputs. The exchanges are as follows.

Contestman: W3YYY DE W3XXX/3 BK
W3YYY: W3XXX 569, etc. BK
Contestman: R UR 599 FB, etc. HOW MUCH PWR U USING? K
W3YYY: RUNNING 25 WATTS K
Contestman: 25?
W3YYY: C
Contestman: WOW! DIDNT U GET ARRL BULLETIN? BETTER SEE PAGE 26 QST OM 73 SK CQ FD CQ FD, etc.

Now is is just possible that Opponent will, in fact, look up the rules (there is no point in looking for the bulletin, since there was none) on page 26 (the ploy is even more effective if the rules are actually printed on page 47) and waste time enough for at least one QSO before he concludes that Contestman is somehow mistaken. By then, of course, the damage is done.

The Excess Number Ploy

I am indebted to V. Larcke, a brilliant contestman in his own right, for the following ploy, effective in any contest in which contacts are numbered sequentially, and particularly useful, therefore, in the annual Sweepstakes. Suppose that Contestman, perhaps during the first half-hour of the SS, happens upon W2IOP. It is essential to the successful operation of this ploy that Contestman *call* Opponent, in order that Opponent shall be forced into giving the first exchange.

Contestman: W2IOP DE W3XXX AR
W2IOP: W3XXX NR *68* W2IOP 579, etc. BK
Contestman (whose message number at this point should be NR *16*): W2IOP DE W3XXX R NR *75* W3XXX 579, etc. BK
W2IOP: BK (long pause) R (long pause) 73 SK

1 Stephen Potter, "The Theory and Practice of Gamesmanship," Henry Holt and Co., New York
2 Stephen Potter, "Some Notes on Lifemanship," Henry Holt and Co., New York
3 ibid. (reverse dust jacket)
4 op. cit., p. 21
5 based on reglement ploy of F. Armand, "L'Emetteur Formidable," Goncourt et Cie., Paris, p. 82
6 uberschwemmt, according to H. Freundlos, "Einfuhrung in die Spieltheorie," Kaufmann unds Sohn, Berlin, p. 40

Under ordinary circumstances, Contestman may properly expect to complete two more QSO's before Opponent has recovered from his confusion. In this particular example, however, it should be remembered that W2IOP is himself an excellent strategist, and Contestman runs the risk of being counterployed;[6] W2IOP might respond:

BK R TU QSL NR *78?* BK

Unfortunately, Contestman has only two choices in the face of this reply. He can pretend that he has blown a fuse, or he can ask for so many repeats that Opponent will be forced to change bands. In any case, requests for needless repeats are not regarded as good contestmanship but are more properly a part of traffic handling (see *Netmanship*).

Voicemanship

The examples thus far have presumed the use of c.w., and the reader may infer from this that contestmanship is not usable on phone. Far from it. As a matter of fact, the adroit use of proper voice inflection can usually more that compensate for the terse incisiveness available on c.w. For instance, suppose that Contestman is working Opponent in a phone contest. After the usual exchange of amenities ("Ha, ha. Well, we sure are glad to see you on in the contest, Bill. Ha, ha, ha. Yes, sir," and so on), Contestman should get across the impression that, for some unknown reason, Opponent's signal is not up to snuff "compared with the rest of the gang." If the contest is one in which other locals are taking part, Contestman should add that Opponent's signal "doesn't have the punch that Charley's has," Charley being the lad with the fleapower mobile. Opponent may well be running a kilowatt and modulating with such vigor that he is splattering all over the band; nevertheless, Contestman should mention, almost reluctantly, that while Opponent's carrier is "strong and steady" his "modulation seems down quite a bit." This can work wonders.

The Posioned Contestant Gambit

The object of most DX contests is to work as many other stations as possible. While this gambit is not served to Opponent directly, it does prevent a possible increase in Opponent's score and at the same time adds a contact to Contestman's log. Contestman locates a DX station, fairly strong but experiencing rough going, who may have called several CQ's without result. Contestman calls and receives his report and number. He then replies with painstaking deliberation:

G9ZZ G9ZZ DE W3XXX R HR NR 229500 229500 CONDX VY POOR 73 SK

If this transmission is made with just the proper amount of rueful commiseration, G9ZZ may conclude either (a) his antenna has fallen down, or (b) a vicious ionospheric storm is in progress, and as a consequence pull switches and go off to the cinema.

[7] see P. Stokes-Newman, "How's 20?" (Auckland R. C.), January 1950, p. 3

Pre-contest Preparation

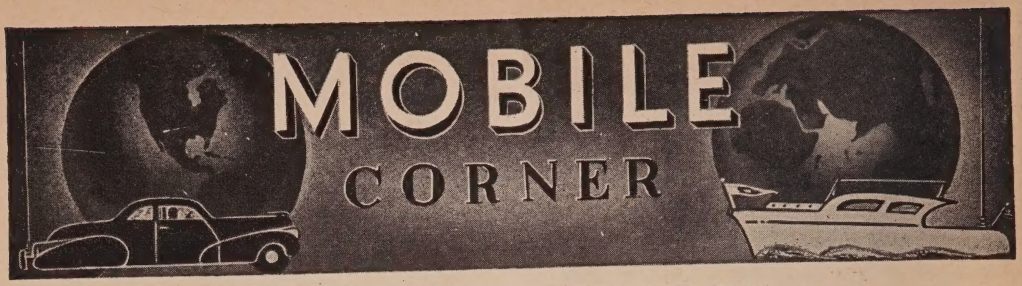
Under no circumstances should the Contestman neglect pre-contest preparation. The best preparatory opportunities are afforded by personal contact with Opponent. For example, suppose DXman undertakes to display a stack of rare QSL's received during the past two weeks. Contestman should seem reasonably attentive at first but should adopt, toward the conclusion of the domonstration, a vague, detached attitude, implying by his manner and conversation that the YA card is rather interesting but that the rest seem hardly out of the ordinary. He should then launch the *goodfellowship,* or *ragchewer's* ploy with the statement that chasing DX no longer seems "really important" to him, that he has been spending most of his time on 40 meters, and that there is "nothing like getting on for a couple of hours in the evening and chewing the rag with the boys." I have seen this method used with great success by several contestman, particularly at club meetings.[7] A powerful denouement to this ploy is to mention that DXman's signal, using his new beam, "doesn't have the sock at my place that it did with the old dipole." Any attempt by DXman to explain this deficiency on technical grounds should be received skeptically.



Strategic Interference

A device that achieves the same result as the poisoned contestant gambit, viz., the reduction of Opponent's QSO's, is the strategic interference method. The method has the disadvantage of adding nothing to Contestman's log, but it is useful when Contestman takes time out to make a sandwich or tell off a neighbor. Briefly, it consists in setting the transmitter on the frequency of a choice DX station and locking the key. This practice is so common that it needs no further description, but it is felt that a large part of interference generating has been inadvertent, and its truly annoying qualities have not been fully exploited. Strategic interference actually belongs to the separate technique of *Testmanship;* closely allied fields are those of *Badnotemanship,* which is capable of causing useful interference even while really transmit-

(Continued on page 50)



Conducted by RALPH V. ANDERSON, W3NL*

MOBILE CORNER WILL NOW appear each month, and will be expanded considerably. This means that a great deal of news which formerly was not printed because of space limitations can now be included. To those of you who have sent in items in the past and have been disappointed that they were not printed, send them in—we'll see that they are handled properly.

A column can only be as good as the news available to the editor. While he may edit the column, it doesn't belong to him—it belongs to the readers. They in turn must contribute, in one way or another, if the column is going to be anything like they enjoy. Let me suggest therefore that you drop me a line, letting me know just what you want or don't want and incidentally include the news of the local gang. If possible, send in a club bulletin.

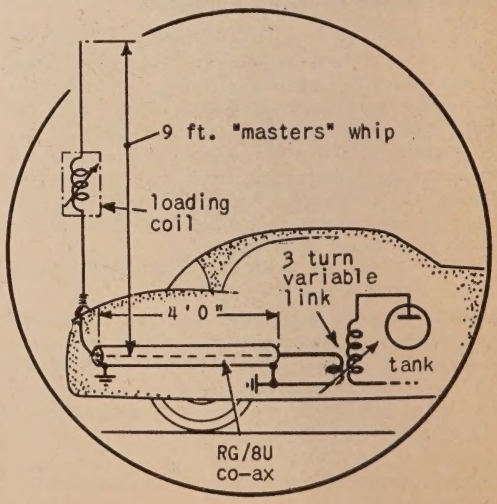
Field Day

Another Field Day has been concluded and it really was a field day for the mobiles. In view of the fact that most of the mobiles operate on the ten meter band and considering the poor conditions in the past, it appeared that there would be very few points added to the score on this band. In fact several of the local field-day station boys pondered considerably whether to go to the trouble to put a rig on ten—it possibly wouldn't add much. However, as we all know, Mother Nature cooperated wonderfully and for the first time in ages, ten was chock-full to the brim. Even during the sun-spot "highs" it is seldom that everyone in the U. S. can hear all districts. The west coast was heard working all districts and in the east, the entire U. S. was coming through. It was a pleasure to hear some mobile W9's and WØ's "knockin' 'em off," one after the other, from all over the country. Some of the multi-transmitter field-day boys wish they had provided a transmitter for the six meter band.

Not only was "ten" in good shape, but the 20 and 75 mobiles were enjoying very favorable conditions. From our listening post, some of the 20 gang were interested more in DX than in field day, but there were a great many in there, working station after station. The good conditions on 75 permitted many mobiles to work a lot of sections that were previously unestimated as possiblities.

Many mobiles did yeoman duty in furnishing a communication link from the field day station site back "home." We know of two cases where genuine emergencies existed and it was virtually impossible to contact the field-station by radio—in one case the local police were asked to drive out to the station site and inform the father that his child was taken seriously ill. We'll bet the patrolman had a grin on his face—all this radio and no communications where they are really needed. On the other hand, we heard a mobile in the mid-west working a home-station link handling a lot of traffic incidental to field day and the circuit was really working efficiently.

An unfortunate scheduling of events served partially to mar the efficiency of amateur communications. Throughout the entire country there was a Civilian Defense airplane spotting drill. The military establishment flew planes all over the country and "spotters" reported their presence. While amateur radio is not by any means a primary means of communication, there were many channels set up to handle traffic. This meant that the heavy QRM from so many F.D. stations made traffic handling a difficult job, and often it was a test of endurance to send the same message many times until it was received correctly. It appears, however, that a good job was done in spite of the troubles.



*Send contributions to R. V. Anderson, 2509 32nd St., S. E., Washington 20, D. C.

One More LOADING COIL

EARL E. KAISER, W6KOG*

Using the BC-610 tank coil as a variable center-loading coil for high power.

MUCH HAS been said and written about the relative merits of this antenna or that antenna for mobile operation on 75 meters. However, appreciable reactive component which must be the majority will probably agree that some form of base or center loading is desirable.

The author used a commercial version of a center-loaded whip for some time, with fair success. The main disadvantages were the inability to tune the antenna (without tuning or matching networks) and the inability of the coil to withstand the power in use. The rig employs an 813 in the final, plate-modulated by 811's. The power input is 150 to 180 watts, depending on the battery voltage. Not only were the I^2R losses excessive but the insulation would break down across the base of the coil due to the extremely high voltage present. The latter is, of course, no discredit to the manufacturer as the antenna was not designed for use with this much power.

After some thought and perusal of available material, the coil assembly shown in the accompanying photograph was made up. Basically, it consists of a 2.0 to 3.5 megacycle final tank coil from a BC-610. This is the coil that has a frame around it constructed of fiber rings and strips. The coil was modified in the following manner: The jack-strip assembly was removed and discarded. The center-tap connection was broken and the variable coupling link connected in series with the two halves of the main inductance. Nine more turns are added to the coil—three on one end and six on the other—to make a total of 41 turns. Then, by using the original loading coil form with the wire removed and a pair of chrome-plated Model A Ford hubcaps, the new unit was assembled.

General Delivery, McClellen AFB, McClellan, Calif.

←The coupling system used by W6KOG with the revised "Master-Mount" antenna.



Using a grid-dip oscillator, and with the variable link swung to approximately the 45 degree position, the coil was pruned to resonate the antenna at 3975 kilocycles. By swinging the link back so the coil axes coincide, the resonant point is lowered 100 kilocycles. This is a very fine situation as it allows one to tune the antenna over a major portion of the 75 meter phone band. In fact the whole band can be covered, but above 3973 kilocycles and below 3875 kilocycles there is an appreciable reactive component which must be tuned out by the final tank.

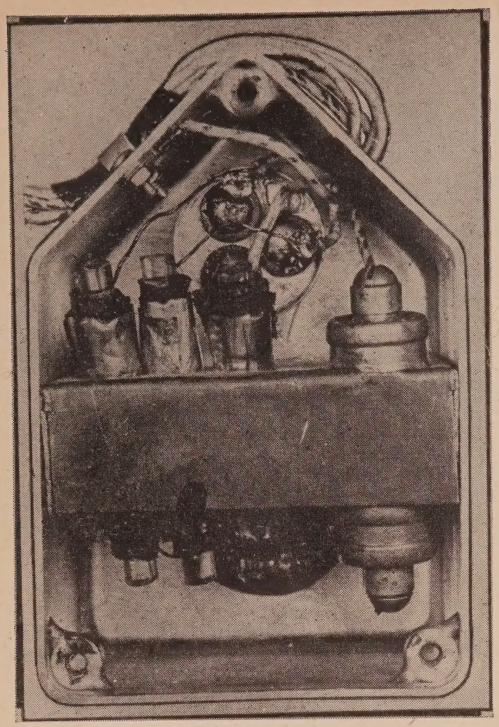
The antenna is coupled to the transmitter by means of a four foot piece of RG8U and a three turn variable link at the tank coil, as shown in Figure 1. This coupling arrangement could be improved, but further complexity doesn't seem worthwhile. Over the most used part of the band, the antenna loads the transmitter to operating values with the tank coupling link only half way in.

Results

It is interesting to note that there is hardly any detectable RF below the coil. The antenna can be grasped below the coil without any feeling of RF or noticeable detuning of the antenna. Grasping it above the coil, however, is not recommended unless one has a desire to make like a neon lamp. This is in accord with antenna theory, as we have a grounded quarter wave with minimum voltage and maximum current occurring at the base. Properly tuned and adjusted, this transmitter and antenna will light a 15 watt fluorescent tube at a distance of 6 feet.

Installation was completed at 11:00 pm, and within one hour, Seattle, Washington, Los Angeles, California, and a station in New Mexico were worked from Sacramento with gratifying reports. No definite measurements have been made

(Continued on page 50)



(Photo by Bernard MacFarland)

POWER LINE FILTERS

EDWARD J. BRAUNER, W2URF*

A review of the basic principles involved in filtering supply lines.

Fig. 2. The choke-condenser filter. This model filters three circuits. The Hypass condenser was used in comparative tests.

A GREAT MANY amateurs plagued with TVI have hailed the introduction of the low pass filter as a cure-all. While a properly installed low pass filter can be a great help, it is not of much use when you are pumping your fundamental and harmonics into the power lines. (By the way, if you haven't read Phil Rand's article on low pass filters in the June 1950 *CQ*, it's about time you did.)

The fellows who run into TVI and BCI are forced to recognize the value of power line filtering, but even if you are remote enough to avoid interference problems, line filtering is desirable. For one thing, RF in the power lines can be a cause of RF feedback in modulation equipment. Secondly, it's not too pleasant for the rest of the household to get an RF shock every time they touch an electric appliance while the rig is on the air.

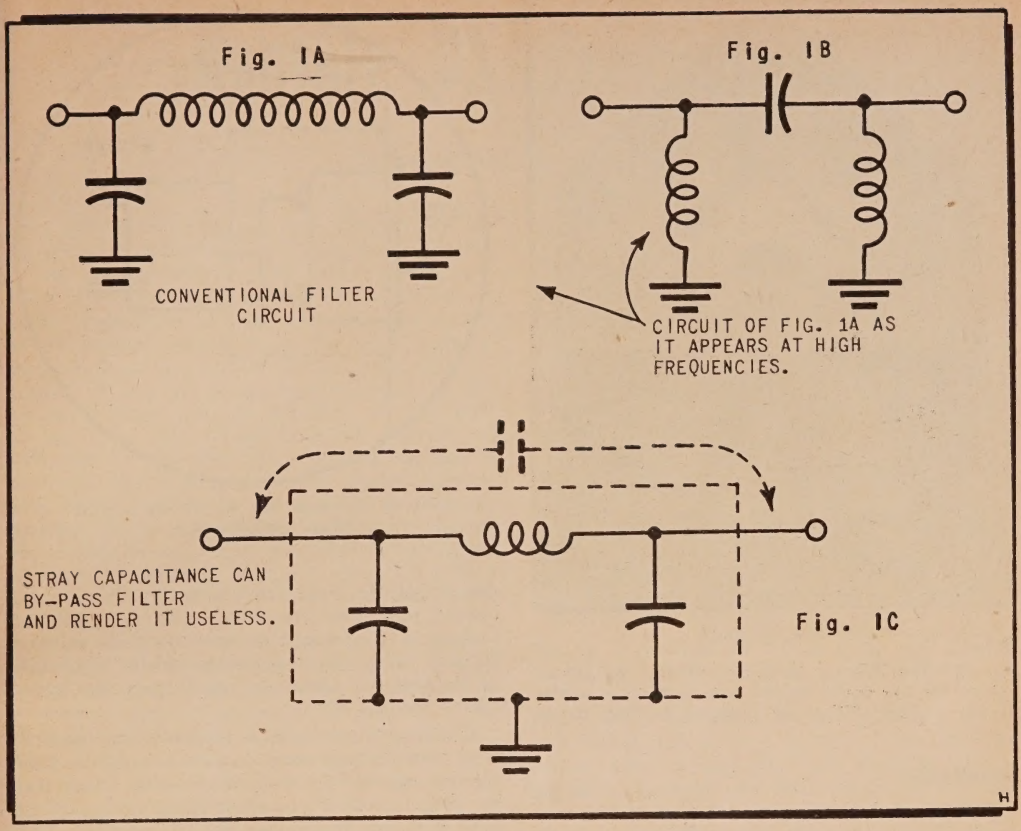
Theory

There are three factors in obtaining the utmost TVI reduction: shielding, filtering the feeders, and filtering the power leads. The "perfectly" shielded transmitter would be enclosed in an RF-tight metal container with no openings at all. In practice, at least two openings are necessary, one to send RF out and the other to bring power in. Both of these outlets should be filtered. While a feedline must pass the fundamentals while attenuating other RF frequencies, the power line filter may attenuate all frequencies in the RF range and so is somewhat simpler in theory and construction. In transmitters where the power supply is included within the transmitter shield, only the leads to the AC mains need to be filtered. Where the power supply is located outside the transmiter shield, all power leads, filament, B+, and bias must be filtered individually, but the following discussion will apply equally well to either case.

It should be emphasized that the three operations of shielding, feedline filtering, and power line filtering are complementary and no one attack can be highly efficient until the remaining operations are completed. As Rand demonstrated, low pass filters are only effective with "absolutely complete filtering of all wires that leave the shielded enclosure. This includes key, AC, send-receive, antenna relay leads, in fact, any wire of any sort that leaves the 'r.f.-tight' box."[1] Likewise, power line filtering is only effective when the transmitter is completely shielded and the feed lines are properly filtered. Power line filtering is not a cure in itself but is definitely an essential step in TVI elimination.

*54 Lookout Circle, Larchmont, N. Y.

1 P. S. Rand, "The Latest Techniques for the Elimination of Ham TVI," CQ, June 1950.



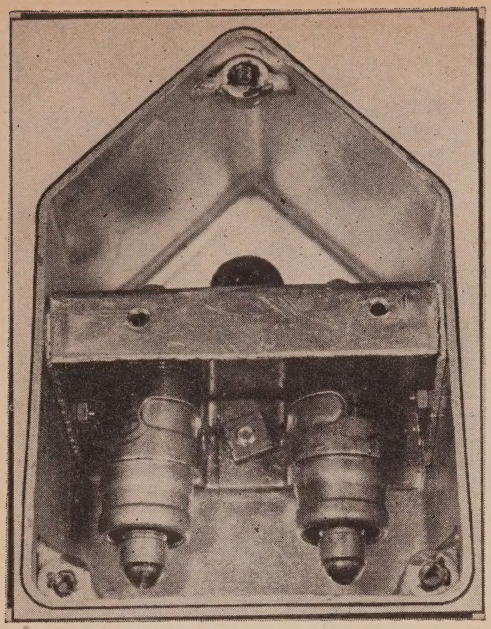
The old standby of a 0.1 μfd paper condenser and an r-f choke installed in the power line and located where they would be out of the way is worthless at TVI frequencies. Instead, both new components and new techniques must be utilized. At high frequencies, standard condensers tend to act as chokes and chokes as condensers. Furthermore, unless adequate precautions are taken, r-f will tend to by-pass the filter and render it far less effective, as demonstrated in Figure 1.

Construction

Two types of filters will be discussed; one a choke-condenser type utilizing improved techniques and the other designed around the new Sprague Hypass condensers.

The choke-condenser filter is shown in Figure 2. This particular unit is intended for use with an ARC-5 surplus transmitter. The plug in the lower compartment plugs directly into the female plug on the rear of the transmitter. The chokes consist of a two inch winding of number 22 enameled wire wound on one-quarter inch diameter polystyrene rods. The windings are first wrapped with insulating tape and then covered with thin copper sheeting less than 0.01 inch thick. If the copper sheeting is not available, aluminum foil, such as is sold in grocery stores for wrapping food, may be used in place of the copper. The shield is made of one-thirty-second-inch-thick copper. It may also be made of cardboard or fiberboard covered with aluminum foil. This alternative construction is somewhat easier as the cardboard and aluminum foil can be cut with scissors while the copper must be sawed and drilled to shape. However, the copper sheet is preferable from a mechanical standpoint. The condenser is a 3x0.5 μf unit purchased as army surplus but any high quality condenser of suitable voltage rating may be used. This whole assembly is mounted in an aluminum box with the shield fastened to the box by small machine screws. Care must be taken to insure that the shield makes continuous electrical contact along the sides of the box and with the foil covering the chokes. Because of this, it would be preferable to use copper throughout and solder all joints.

The second filter, (Fig. 3), is designed around the Sprague Hypass condenser and is intended for use in a 110 volt a.c. line. The condensers are 0.25 μf at 250 volts. The holes in the shield are drilled just large enough to allow the condensers to be firmly fitted in place.



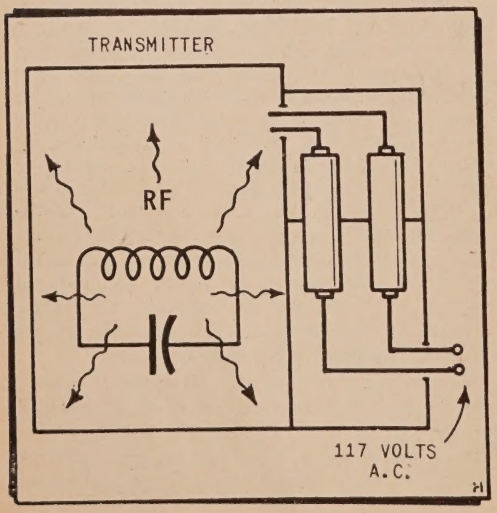
(Photo by Bernard MacFarland)

Fig. 3. The Hypass condenser filter. No special reason for the oddly shaped box—just some surplus. It has a tight fitting lid fastened by five screws.

Installation

The filters lose their effectiveness if connected in the line as shown in Figure 1C. They should preferably be bolted directly to the transmitter shield as shown in Figure 4. The power line should be run so as to receive the least possible

Fig. 4. The right way to install the filter. Compare this with Figure 1C.



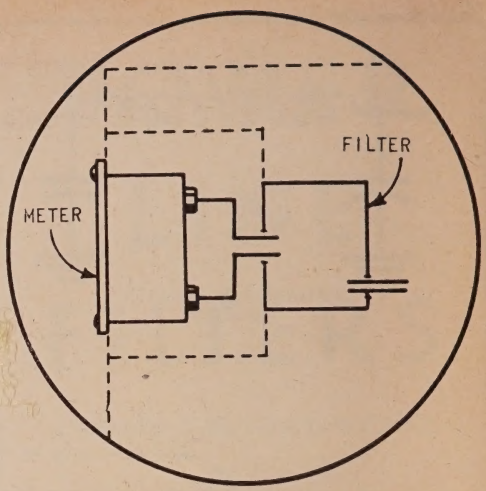


Fig. 5. The sure way to prevent meters from radiating R.F.

direct radiation from the feeders. For this reason, coaxial feed lines are valuable as they will not radiate. If it is desired to locate the filter at some distance from the transmitter shield, a coaxial or shielded line should be run between the transmitter and the filter.

If a plug-in arrangement is used as in Figure 2, some sort of clamp must be used to hold the filter securely against the transmitter shield. Note that the plug is recessed to allow the filter box to lie flush with the transmitter wall.

The same preceedings may be applied to meters to prevent them from radiating RF. Figure 5 shows the method of installing the filter, while the filter itself may be either of the types described.

Conclusion

It has been definitely established that power line filtering is an essential step in TVI elimination. However, conventional filters are ineffective at TVI frequencies. Therefore:

A. Improved techniques must be used.
   a. Choke coils must be completely shielded.
   b. A shield must be inserted between the input and output sections of the filter.

B. Improved components may be used.
   a. Sprague Hypass condensers.
   b. "Button" condensers made especially for high frequency use.

C. The filter must be properly installed.
   a. The filter must be enclosed in a shield.
   b. Direct radiation to the power line after the filter must be eliminated.

While no equipment was available for accurately measuring the effectiveness of the filters, on-the-air tests proved that proper shielding and installation will increase the effectiveness of any conventional filter regardless of electrical design.

Oh yes, results—well, I don't have TVI now.

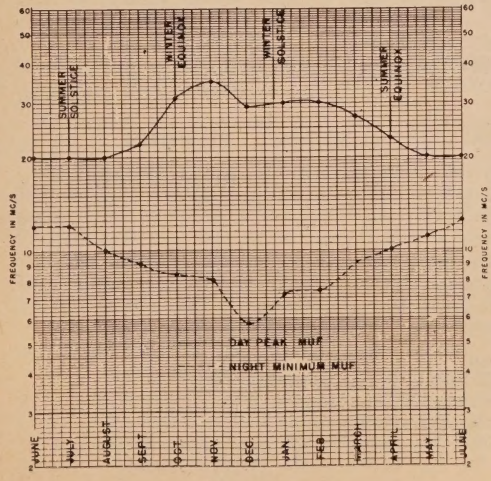
Monthly DX Predictions

GEORGE JACOBS, W2PAJ*

In northern latitudes June 22nd marked the period of summer solstice, when the sun reaches its most northerly point above the equator. This solar phenomena has its related effects on radio propagation. At the time that the sun is at its summer solstice it is also at its greatest distance from the surface of the earth. The intensity of the ultraviolet rays received by the ionsphere from the sun therefore is less than at any other time. Since it is this intensity of ionization by the ultraviolet rays that appears to determine the daytime maximum useable frequencies, we see that during the period of the summer solstice daytime maximum useable frequencies are at their lowest values. For most daytime paths in northern latitudes, especially in an East-West direction, the MUF rarely exceeds 20 mc during late June and July.

From this period, as the sun travels southward and nearer to the earth again, daytime MUFs start rising until they reach their highest values in late November. Figure 1 indicates this monthly variation of peak daytime MUFs for a typical East Coast USA to Central Europe transmission path. The dashed curve of Figure 1 indicates the monthly variation of the nighttime minimum value of MUF. During the summer months when the sun is high in northern skies, the hours of daylight in the Northern Hemisphere far exceed the hours of darkness. This permits the layers of the ionosphere to absorb ultra-violet radiation from the sun for long periods of time, leaving very few hours of darkness for the layers to lose this ionization. During the summer months therefore, nighttime MUFs are at their highest values, and the spread between nighttime and daytime MUFs are at a minimum. As fall approaches, and the hours of darkness increase in northern latitudes, the nighttime MUFs dip lower in value. Figure 2 indicates typical conditions for a winter circuit compared to that for a summer circuit. During the winter, daytime MUFs are high, but useful only for a short spread of hours, while night MUFs are very low. During the summer, daytime MUFs are lower, but medium frequencies (such as the 20 meter band) are useful almost around the clock.

Fig. 1. Typical seasonal variation in day and night MUF's, N. Y.-Central Europe, June 1950-June 1951.



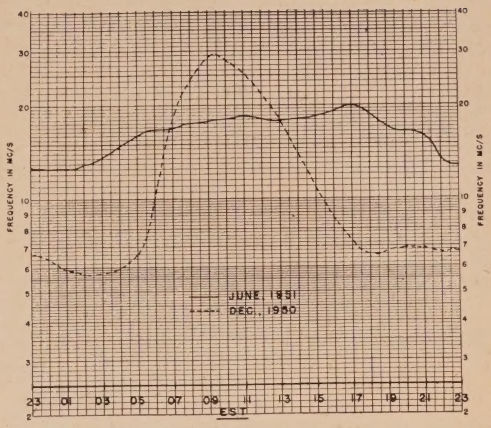


Fig. 2. Comparison of typical winter and summer MUF's, East Coast U.S.A. - Central Europe.

With this explanation in mind, we can expect in August slightly higher daytime frequencies, and slightly lower nighttime frequencies than were experienced during July. This will have little effect on the amateur bands, since daytime MUFs are still not high enough (and probably won't be until October)) to permit 10 meter DX activity on anything but some North-South paths to South and Central America. Some increased DX activity on 40 meters may be noted during August on all-dark paths.

Speaking of control points, it is not conditions at the transmitting or receiving QTH that determine whether or not a circuit will be open, but rather conditions at the location directly beneath the point in the ionosphere from which the signal is bounced, or refracted, back to earth. This point (or points for multihop paths) is referred to as the control point of the circuit. For distances of less than 2500 miles, where only one

*3620 Bedford Ave., Brooklyn 10, N. Y.

20 METERS—ALL TIMES IN GMT = EST + 5 HRS.

TO:	FROM: EAST COAST	CENTRAL U.S.A.	PACIFIC COAST
Northern & Central Europe	1000-1130 (2) 1130-2100 (1) 2100-0000 (3-4)	1030-1300 (2) 1300-2200 (0-1) 2200-0000 (3-4)	1300-1500 (1-2) 1500-2200 (0-1) 2200-0100 (2-3)
Southern Europe & North Africa	0930-1130 (2) 1130-2030 (1) 2030-0100 (3-4)	1000-1300 (2) 1300-2100 (0-1) 2100-0100 (3-4)	1300-1500 (1-2) 1500-2200 (0-1) 2200-0200 (2-3)
Near East	2200-0000 (2)	2230-0000 (2)	2300-0100 (2)
Central America & Northern South America	1100-1430 (2-3) 1430-2230 (2) 2230-0430 (4-5)	1100-1400 (2-3) 1400-2300 (2) 2300-0600 (4-5)	1300-1700 (4) 1700-0100 (3) 0100-0700 (4-5)
South America	0930-1230 (2) 1230-2200 (0-1) 2200-0800 (3-4)	1100-1300 (2) 1300-2230 (0-1) 2230-0900 (3-4)	1300-1430 (2) 1430-0000 (0-1) 0000-0900 (3-4)
Hawaii	14300-0000 (1) 0000-0500 (3-4)	1500-0000 (2) 0000-0700 (3-4)	1500-1900 (3-4) 1900-0100 (2-4) 0100-1130 (4-5)
Oceania	1300-1500 (2-3) 1830-0200 (0-1) 0200-0600 (2-3)	1300-1500 (2) 1900-2100 (1-2) 0330-0730 (2-3)	1830-2030 (2) 2030-0430 (0-1) 0430-0830 (3-4)
South Africa	1600-2200 (0-1) 2200-0000 (2)	1700-2200 (0-1) 2200-0100 (2)	1230-1730 (1) 1730-2100 (1-2)
Japan & Far East	1200-1600 (2) 1600-0200 (0-1) 0200-0430 (2-3)	1330-1900 (2) 1900-0400 (0-1) 0400-0630 (2-3)	1600-2000 (2) 2000-0630 (0-1) 0630-1000 (3)
Guam & Pacific	1400-1600 (2-3) 1600-0200 (0-1) 0200-0530 (2-3)	1430-1700 (2-3) 1700-0330 (0-1) 0330-0700 (3-4)	1500-1800 (2) 1800-0500 (1) 0500-1000 (3-4)
India & Asia	1700-2200 (0-1) 2200-0200 (1-2) 0200-0600 (1)	1600-2200 (0-1) 2200-0200 (1-2) 0200-0600 (1-2)	1600-2100 (1-2) 2100-0200 (0-1) 0200-0600 (1-2)

East Coast To	10 METERS	20 METERS	40 METERS	80 METERS
West Coast	1200-0100 (2) Sporadic E	1300-1400 (2) 1400-0230 (1) 0230-0600 (4)	0300-1100 (2-3)	0300-1100 (1-2) (1-2)

East Coast centered on Washington, D.C.
Central U.S.A. centered on St. Louis, Mo.
Pacific Coast centered on Sacramento, Calif.

(0) No path opening expected
(1) Openings on quiet normal days only, not exceeding 10%
(2) Openings about 25% of the days of the month
(3) Openings about 50% of the days of the month
(4) Openings about 70% of the days of the month, good circuit
(5) Openings about 85% of the days of the month, excellent circuit.

hop is considered to occur, the control point is considered to be at the midpoint of the transmission path. For DX paths greater than 2500 miles, multihop transmission takes place and the signal may bounce between the ionosphere and the earth many times, introducing the possibility of many control points. Actual practice, however, has shown that it is necessary only to establish two control points, located 1250 miles from each terminal towards the center of the path. It is the ionospheric conditions at these points that determine the frequency requirements of any given circuit.

In response to a number of requests, an additional analysis has been added to the prediction charts. This is the path to Asia, centered on Northern India and Parkistan. As DX'ers know, this is a difficult path to work, and it is also a difficult path to analyze. The peculiarity of this transmission path is that India is at the approximate antipode from the USA, almost exactly half way round the world. The long and short Great Circle paths going east or west are of approximately the same distances. From a propagation viewpoint this complicates matters as it means that signals can come along either path with equal ease or difficulty. To account for this, the Great Circle path from the East over Africa and Europe has been calculated, as well as the path from the West over the Pacific.

The Zurich smoothed monthly sunspot number predicted for August is 58. This is a slight decrease from the previous month's expected count, in agreement with the usual trend of the 11 year cycle.

Ionosphere disturbances are not usually very severe during August. At the time of writing, based on the 27 day recurrence cycle, disturbed periods are most likely to occur about July 30-August 3, August 9-12, 17-21, and 26-29. These disturbances will probably have most effect on North Atlantic transmissions, between 0500-1100 GMT.

Sporadic E is usually less prevalent during August than during July, but communications up to 1,400 miles (short skip) can be expected for a good percentage of the time on both the 10 and 20 meter bands.

General Propagation Conditions August, 1951.

EUROPE:

The MUF on European paths will not exceed 22 mc, so no 10 meter activity is expected.

Twenty meters will still be the most active DX band for European paths. The band will open early in the morning, about 0930 GMT for East Coast hams, with fair signal strengths. The band will take its usual fade during the afternoon hours, with strong signals returning after 2100 GMT. Twenty meters should stay open until 0100 GMT to the East Coast and Central USA areas, and until 0200 GMT to the Pacific Coast.

Noise and absorption levels are still high, but on the decrease. On quiet days an increase in 40 meter DX activity should be noted, especially for New England and Canadian Maritime QTHs, between 0100-0400 GMT.

Eighty meters is still too far below the nighttime MUF to produce any good openings, but some scattered, erratic openings may be expected to the New England and East Coast areas between 0100-0400 GMT.

SOUTH AMERICA:

On these North-South paths the MUF is expected to rise above 28 mc occasionally during the month. Ten meter openings should occur between 1900-2300 GMT for East and Central USA QTHs and between 2100-0100 GMT to the Pacific Coast. Many of these openings may be characterized by severe fading as the frequency will be very close to the MUF for the path.

Twenty meters is expected to be very good to Latin America during August, with the band open almost around the clock.

DX activity on 40 meters should pick up during August to Latin America. Signal levels are expected to be strong on many evenings between the hours of 0000-1000 GMT, however noise levels are also high on these paths and QRN can be expected to be heavy on many nights. Less frequent openings are expected to occur on 80 meters.

FAR EAST:

No 10 meter openings expected at all this month. The decreasing sunspot count is responsible for MUFs below 28 mc on these paths.

Conditions on 20 meters should be fairly good, with the band opening to the East Coast and Mid-West first between 1200-1800 GMT and then again between 0200-0600 GMT. These circuits favor Pacific Coast locations, where conditions should be best between 1600-2000 GMT and 0630-1000 GHT.

Some spotty 40 meter openings from the Pacific Coast to the Far East may take place between 0900-1100 GMT.

OCEANIA (Australia and New Zealand):

The MUF is expected to be high enough to permit some 10 meter openings to occur from the Pacific Coast to Oceania. Signal levels should be at their best between 2200 - 0400 GMT, with the ZLs heard first. The MUF is not expected to be high enough to permit these paths to open to the Mid-West or East Coast.

Some good band openings can be expected on 20 meters. Between 1300-1500 GMT signal levels should be strong on a good number of days to the East Coast and Mid-West. A second opening between 0200-0700 GMT should also produce good signal levels. From the Pacific Coast to Oceania the two good openings occur between 1900-2100 GMT and 0400-0900 GMT.

Its still winter time down under, so some 40 meter activity is expected. This path favors the Pacific Coast between the dark hours of 0700-1300 GMT, with some openings possible to the Mid West and East Coast between 0730-1100 GMT.

ASIA (India):

Best reception takes place over the great circle path which passes through the area of lowest

(Continued on page 61)



Conducted by LOUISA B. SANDO, W5RZJ*

TOP NEWS this month is of W3CUL, Mae Burke, who was honored as "Good Neighbor of the Week" on Laraine Day's show on May 19th.

Many of you saw in April QST the FB photo of Mae and read of the impressive record she made last year in handling traffic. Making the Brasspounders League every month, her total for the year was 28,187 message points, with a December total of 6723, highest ever accomplished by any ham, let alone a YL.

At about the time of this writeup ARRL prexy W2KH wrote an article for a NYC paper extolling the virtues of ham radio and in it stated how W3CUL had gained fame by relaying innumerable messages from GIs to their families in the States. Soon the landline between NYC and Folsom, Pa., was kept busy while arrangements were made for Mae to appear on Laraine's show. Mae says she wasn't keen on getting all that publicity but figured it would be a boost for ham radio in general. As it turned out it was an FB weekend in New York with all expenses paid for herself and her OM, W3VR, including a room at the Park Sheraton Hotel, tickets to "Gentlemen Prefer Blondes," dinner at Theodore's, plus the Gay Ninties Revue, and a lovely Benrus watch.

Of course quite a lot of time had to be spent in rehearsals and the morning of the "big day" Mae says she lost her appetite. Their waiter assured them he'd been on television and "there was nuthin to it." Then he gave Mae some jelly for her toast, saying it would slide down easier! But come evening and the theme song and W3CUL was as calm as when handling her bug while TV viewers in fourteen cities looked in on the interview.

Address all correspondence to 959-24th St., Los Alamos, New Mexico.



Some of the YLs who smiled for The Boston Herald photographer for this picture taken at the New England YL Get-Together at Brookline, Mass., on April 7th (writeup in July CQ). L. to R.: W1RTB, Nell Waterman, who is filling out the year as editor of YL Harmonics; W1FTJ, Dot Evans, YLRL president this past year; W1SCS, Ruthe Ferguson, until recently editor of YL Harmonics and now W1 district chairman; and W1QON, Eleanor Wilson, YLRL publicity chairman.

YLRL Officers

Election results are in and here are the new officers of the Young Ladies' Radio League for 1951-52, taking office on July 1st. Taking over as president is W9JTX, Louise Beringer, of South Bend, Ind. Vice president is W3LSX, Catherine Barclay, of Washington, D.C. Secretary-treasurer is W1BCU, Margaret Wells, and W1QON, Eleanor Wilson, will continue in the post of publicity chairman. These two gals live across the street from each other in Walpole, Mass.—mighty convenient!

New district chairmen take over at the same time and will be looking for news from you YLs. Just to make it easier for you we'll list them complete with addresses.

W1SCS, Ruthe Ferguson, 112 Rockview St., Jamaica Plain 30, Mass.
W2PVS, Elizabeth Strattan, 20-05 Prospect St., Fairlawn, N. J.
W3CDQ, Elizabeth Zandonini, 4627-47th St., N.W., Washington, D.C.
W4UTO, Mary Knapp, 1015 Highway Ave., Covington, Ky.
W5MJU, Pauline Beuselinck, R. 8, Box 114, Oklahoma City 9, Okla.
W6FEA, Gertrude Cassady, 2615 Harvey Ave., Fresno 1, Calif.
W7FTX, Clarice Goodman, 320 Adirondao, Hamilton, Mont.
W8ATB, Esther Stuewe, 4098 East Atherton Rd., Flint, Mich.
W9MLE, Peggy Libbe, 3221 South Main, Elkhart, Ind.
WØQCB, Josephine Mortimer, 3121 N. Ninth St. Joseph, Mo.
VE6MP, Maude Phillips, Chancellor, Alberta, Canada
G3YL, Nell Corry, Petersmead, Walton-On-The-Hill, Tadworth, Surrey, England

Any of the YLRL officers would be glad to hear from YLs wishing to join the club, or application

cards may be obtained from the secretary-treasurer, W1BCU. The new editor for *Harmonics* and D/C for ZS will be announced later.

YL/OM Contest Results

Congratulations to W6YYM, Ellen White, and W1BFT, Carl Evans, winners of the YL/OM Contest held February 24-25. As the highest YL and OM scorers, both will be awarded loving cups. (These are awarded on a yearly basis, with a three-time winner retaining permanent possession.)

Here are the high scores:

YL Phone & C.W.	YL Phone	YL C.W.
W6YYM - 7654	W4HWR - 6895	W9JTX - 2000
W4HWR - 7210	W6YYM - 5490	W9JUJ - 1898
W1QON - 4654	W1QON - 4654	W3CUL - 1032
W1SCS - 4070	W1SCS - 4070	W2EBW - 697
KP4KQ - 3540	KP4KQ - 3540	WØZWL - 660
OM Phone & C.W.	**OM Phone**	**OM C.W.**
W1BFT - 544	W4CKB - 78	W1BFT - 260
W4CKB - 325		
W4NTT - 126		
W8YGR - 104		
W8GSJ/2 - 99		

Second and third place scorers will receive certificates.

Young YLs

Seems our recent mention of the younger YLs in this ham fraternity has been creating quite a bit of interest. W5DRA, Teev, writes, "Surely enjoyed the story about little Clio Marie, W7PEF."

And from WØHJK we learn of another jr. YL. Writes Elmer: "I have been reading your YL column with interest for some time. Was pleased to find mention in the June issue of a number of young YL operators. Perhaps there are more around than you think. I have a daughter, Sandra, who received her Class B and call WØBIC in May 1950 when she was in the 8th grade. Strangely enough she has never contacted another YL. This might be due to the fact she is an FB ragchewer [we thought *all* YLs were that!—5RZJ]. In fact, she picked up an RCC certificate in very short order. It also may be due to the fact that she operates only 40 c.w."

Sandra became interested during her summer vacation in '48 and learned the code then. Later she joined the Jamestown (N.D.) Amateur Radio Club and availed herself of their training program, later taking her exam at Bismarck. Major interest at the moment is Field Day and using a new HRO she and her dad are sharing.

YL Get-Togethers

The annual Oregon Amateur Radio Convention, held on April 28-29 at Coos Bay, drew a large group of YL's, as usual, and, also as usual, we're grateful to W7HHH for news of those attending. Bea's list includes: W7FKS, Mildred, who is the XYL of 7UJ, lives in Eugene and is active on the c.w. nets. W7GLK, Dot, lives in Ashland and is the XYL of 7FRO. W7GPO, Mary Edith, the XYL of 7MQ (SCM), lives in Pendleton and is recovering from a long illness. W7HHH, Bea, is the XYL of 7GNJ and lives in Bend. She has taken on the job of EC for the area. Operation is confined mostly to nets, but skeds on any and all bands. W7ITZ, Ruth, lives in Grants Pass and her OM is 7FTA; activity mostly on 2 meters. W7JFM, Doris, whose QTH is Baker, spends most of her time on 2 meters talking to her OM, 7HAZ, at the CAA office. W7NTT, Lydia, lives in Ashland, is the XYL of 7BQK, and most of her operating is on 10 meters. W7NJS, Beth, teaches school at Ritter. The XYL of 7HJI, she operates 80 c.w. W7ONM, Marian, also operates 80 c.w. Her QTH is Newport where her OM, 7GHJ, runs a fishing boat.

Bea says they had a grand time at the convention and there was lots of entertainment for the YLs. First they had a YL breakfast with prizes for all. Then a crab feed on the beach and later a dance. There was a Hobby show, the Civic Opera ladies gave a skit, a blind (ham) pianist gave a concert, a talented whistler performed and there was group singing. Sounds almost like a preview of the National Convention!

A ham picnic at White Sands National Monument near Alamogordo, New Mexico, on May 19-20 brought three YLs together: W5DRA, Teev, from Las Cruces; W5RFK, Delores Dyvad, who with her OM, W5RFJ, owns and operates an airport and filling station near Alamogordo; and W5RMH, Pat Freyman, who with her OM, W5NXE, and their three jr. ops traveled all the way from Los Alamos for the weekend.

We take our hat off to Pat. With youngsters aged 6 months, 2 years and 4 years, we don't see how she could attempt such a trip. But Pat is a very capable gal. We didn't get to the picnic to meet her, but did have a chance to visit her at Los Alamos a couple of weeks later. Not only does Pat care for her three youngsters and keep her six-room house, but she helps her OM edit *CQ New Mexico* and cuts all the stencils for this monthly news bulletin. Operating is mostly when Bob is around and they both get on 75 phone. But Pat is studying for her Class A and hopes to take it this summer while she's visiting her folks in Indiana so she can get on 75 whenever she wishes. To you would-be YLs a word of encouragement from W5RMH's experience—she says it took her five years from the time she became interested until she actually got her ticket a year ago. But after getting it her interest has grown by leaps and bounds. Guess it would have to for her to spend as much time at it as she does along with everything else. Recently she spent many hours assembling and arranging QSL cards of New Mexico hams and also of Yls across the country for a ham exhibit at the Los Alamos Library. All this and she finds time to make her own clothes and some for her two little girls—as well as such things as whipping up a yummy lunch for yours truly and OM on very short notice!

We didn't get to meet her while we were at Los Alamos, but there is another YL in this hill city—W5OII, Veda Edmonson. But we hope to soon for our OM is now working at Los Alamos —what, *another* QTH?!

(Continued on page 63)

Phone Section Results—
CQ's 1950 DX CONTEST

HERB BECKER, W6QD

THIS MONTH we are running the final results of the Phone Section of the 1950 World Wide DX Contest. Last month's issue contained the c.w. Scores.

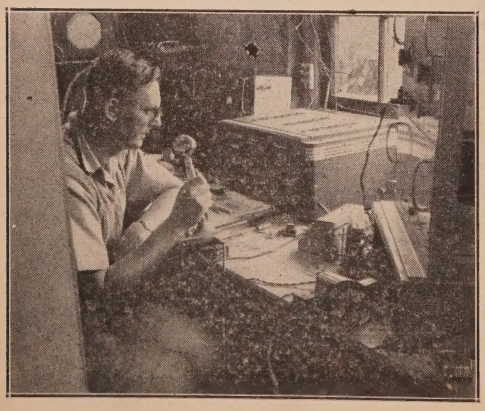
Conditions, unfortunately, were very poor during the weekend of the phone section, so much so, in fact, that some of the boys were surprised to have worked anything. Nevertheless, the phone DX men around the world seemed to enjoy the Contest and I am glad they don't hold "CQ" responsible for the conditions that prevailed!

We have had a number of boys wonder why we couldn't pick diffierent weekends. This is as good a place as any to tell you that if you were to sit down and compile a calendar of activities—looking at it from a world-wide basis—for a period of a year, you would see very few weekends absolutely open. We are certainly open for suggestions, but before you propose different dates, be sure that you have no other world-wide activities overlapping, or for that matter, too close to the proposed dates. Our Committee has spent a great deal of time trying to pin down dates that would not step on any one else's toes.



W1ATE made an all band score of 88,320. We couldn't get a picture of his station, but we think his 110-foot tower is quite imposing. On 20 he uses a biconical 6-element rotary with wide spacing, while on 10 he uses a 5-element wide-spaced rotary 35 feet high. The beam actually sits 14 feet over the top of the tower and is driven by a prop pitch motor. Chad uses a 75A1 receiver.

VQ4RF, assisted by VQ4AA scored 133,812 points. Two transmitters were used. On 28 mc. Frank used a pair of grid modulated 813's with 150 watts input, while on 14 mc. a single 813 was used as a power amplifier with another one for super-modulation. Input here was also 150 watts. The receiver is an SX-28 with a pre-selector. They used two 8-wave (28 mc.) V beams—one covering DL and ZL, and the other direction covering VP on the West and VU on the East. VQ4AA helped erect this antenna. An 8-wave (28 mc.) Rhombic is directed on W. All three antennas were also used on 14 mc.



Now then, here are a few of the highest scores from the phone section. It appears that CN8ET, assisted by CN8EG, CN8EH, CN8EJ, CN8EO, and CN8EM, scored 186,000 points, making him world high. Next was another multiple operator station, VQ4RF, assisted by VQ4AA, with 133,000 points! Of course, all of these figures are in round numbers. The highest single operator station was HC2JR with 120,000, closely followed by CE2CC with 114,000. We can't overlook KH6IJ, who did so well in the c.w. contest, and now he comes up with 100,000. CT1BW, who many of you will remember as CR5UP, scored 90,000. By the way, these are *All-Band* scores.

The highest station in USA was W1ATE, with 88,000 points, although on 28 mc W1ONK outpointed him, 9300 to 6800. W3LOE had a good All-Band score of 50,000, but on 14 mc W3NJE scored 32,000 to LOE's 15,000. This gives an idea how a man can win a first place All-Band award, but this doesn't necessarily mean that he will win

first place on each of the single bands. By observing the complete scores you will find this very thing taking place many times.

A few other high ones include LU8CW with 89,000; EA2CQ, who, as you know, is a YL, 48,000; DL3DO, 66,000; and there is 4X4RE again with 74,000. TI2HP did a good job scoring 77,000.

Countries in which there has been only one participant will show the score under the All-Band Section only. Certificates will be awarded in accordance with the rules, and those stations receiving certificates are shown in bold face type.

PHONE SCORES

Multiple Operator Stations

UNITED STATES

	STATION	COUNTRIES	ZONES	SCORE
All bands	W3KWH (W3LOR)	39	27	7,458
	W6AM (W6KPC)	56	31	40,629

CANADA

All bands	VE3JU (VE3BHS)	49	28	12,166

ECUADOR

All bands	HC2GRC (3 operators)	35	20	20,130

ENGLAND

All bands	G2AHC (G3AFM)	37	16	9,911

FRENCH MOROCCO

All bands	CN8ET (CN8EG, CN8EH, CN8EJ, CN8EO, and CN8EM)	95	40	186,840

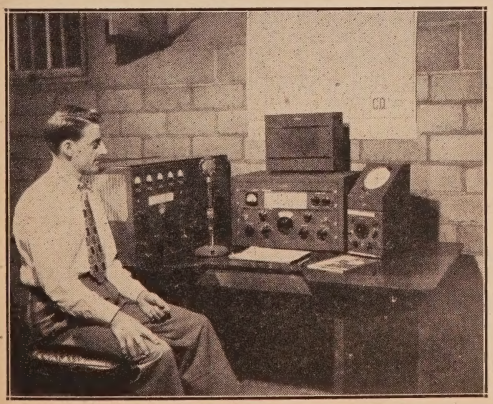
GUATEMALA

All bands	TG9AD (XYL Ass't. Operator)	48	40	34,232

IRELAND

All bands	EI8P (2 operators)	42	16	8,062

W3NJE came up with 1st place on 14 mc. with 29,200 points. A1 runs about a KW into a pair of 4-250A's. Tuning the transmitter is fully automatic with single dial control, using discriminaters with motors on the tank condensers. This rig will cover from 10 to 80 meters, phone or c.w. 810's are used as modulators. The antenna is a dual-band for 10 and 20, which uses 4-elements closely spaced on 20, and 8-elements wide spaced on 10. The height is 73 feet. The receiver is a 75A1, with the crystal-controlled Q-5'er. Incidentally, W3NJE has now moved to Waseca, Minnesota and will become a WØ.



ITALY

	STATION	COUNTRIES	ZONES	SCORE
All bands	I1BDV (I1ARP)	88	41	62,307

KENYA

All bands	VQ4RF (VQ4AA)	87	39	133,812

North America-Single Operator Stations

UNITED STATES

All bands	W1ATE	89	39	88,320
	W1PDF	72	36	41,796
	W1CJK	78	39	40,131
14 mc.	W1ATE	56	20	42,484
	W1AFZ	48	20	26,180
	W1PDF	44	20	18,112
	W1CJK	46	19	14,885



W6AM, assisted by W6KPC, scored 40,629 points. Don used two finals—each running around 800 watts input. The usual 10 Rhombics were available as well as a V beam and two curtains. Receiving equipment involves RME receivers and pre-selectors.

	STATION	COUNTRIES	ZONES	SCORE
28 mc.	W1ONK	44	20	9,394
	W1ATE	33	19	6,812
	W1CJK	32	20	5,928
	W1PDF	28	16	4,576
	W1NLN	5	5	210
All bands	W2RGV	58	33	19,747
	W2FE	12	10	770
14 mc.	W2RGV	40	17	9,177
	W2FE	5	5	110
	W2TXB	3	2	45
28 mc.	W2ZVS	40	21	11,895
	W2RGV	18	16	1,904
	W2FE	7	5	288
All bands	W3LOE	77	37	50,502
	W3NJE	63	31	41,078
	W3DHM	44	27	7,313
	W3PDX	22	14	2,160
14 mc.	W3NJE	53	20	29,200
	W3LOE	43	19	15,438
	W3EVW	33	15	6,480
	W3DHM	39	22	6,283
	W3PDX	19	11	1,590
28 mc.	W3LOE	34	18	10,088
	W3NJE	10	11	777
	W3DHM	5	5	110
	W3PDX	3	3	42
All bands	W4OM	45	21	14,916
	W4CYC	46	26	11,044
	W4CKB	28	17	4,410
	W4KMS	14	6	900

	STATION	COUNTRIES	ZONES	SCORE
14 mc.	W4OM	42	19	9,699
	W4CYC	27	13	4 080
	W4CKB	26	17	3,956
	W4KMS	11	4	459
	W4CVO	8	7	255
28 mc.	W4VB	26	15	4,100
	W4OM	20	14	2,258
	W4CYC	19	13	1,600
	W4KMS	4	4	96
	W4EEO	3	3	54
	W4CKB	4	4	48
28 mc.	W5LQW	15	11	1,586
All bands	W6EZP	54	33	28,884
	W6KQY	46	29	19,650
	W6EPZ	46	31	14,245
	W6BJU	35	25	12,660
	W6QEU	27	19	5,704
	W6CHV	20	19	3,744
	W6VVZ	14	13	2,403
14 mc.	W6EZP	35	18	12,720
	W6KQY	34	19	11,395
	W6BUJ	23	16	4,914
	W6EPZ	23	15	3,876
	W6QEU	21	12	3,597
	W6IBD	13	8	1,218
28 mc.	W6EPZ	23	16	3,237
	W6EZP	19	15	3,128
	W6GQH	19	13	2,784
	W6BJU	12	9	1,785
	W6KQY	12	10	1,034
	W6QEU	6	7	195



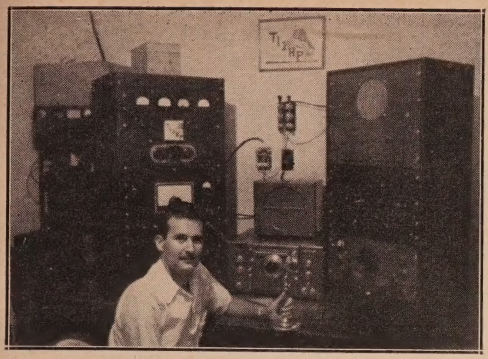
W6EZP made an all band score of 28,884. Don uses separate finals on 10 and 20 with push-pull 304TL's. Modulators are VT227A's. The receiver is a 75A1, while the antennas consist of two elements for 14 mc. and three elements for 28 mc. Note the antennas super-imposed in the background. Both are Delta fed.

All Bands	W7HRH	15	13	2,268
14 mc.	W7MLJ	16	15	2,790
	W7CX	17	10	1,620
	W7KSA	12	12	1,080
	W7HRH	7	6	611
	W7NDQ	6	5	187
	W7JUO	6	4	140
28 mc.	W7HRH	8	7	510
	W7AHX	9	9	288
All bands	W8NXF	61	37	17,346
	W8ICC	10	14	864
14 mc.	W8LIO	42	20	20,336
	W8NXF	33	18	4,182
	W8ICC	1	1	2
28 mc.	W8NXF	28	19	4,465
	W8ICC	9	13	770
	W8PM	5	5	90
All bands	W9EWC	66	35	29,391
	W9RBI	52	31	16,102
14 mc.	W9EWC	39	20	10,738
	W9RBI	17	32	5,831



W9EWC made 29,391 points. Butch runs 900 watts input to a pair of 4-125A's modulated by a couple of 304TL's. The exciter is a 310B1, and he also has a 32V2 available. The receiver is a 75A1. For antennas Butch has a 5-element rotary for 10, and a 4-element wide spaced for 20, plus four reversible rhombics.

	STATION	COUNTRIES	ZONES	SCORE
28 mc.	W9EWC	27	15	4,578
	W9RBI	14	20	2,550
	W9EXY	21	12	2,112
All bands	WØGUV	43	28	10,082
	WØTKX	8	8	288
14 mc.	WØANF	30	18	5,760
	WØGUV	27	15	4,536
	WØMCX	25	16	3,403
28 mc.	WØGUV	16	13	986
	WØTKX	7	7	210
	WØNBS	6	6	96
	WØBRA	4	4	80
CANADA				
All bands	VE2NI	29	14	2,236
	VE2IZ	20	12	1,536
14 mc.	VE2GQ	42	18	11,940
	VE2NI	17	6	690
	VE2IZ	15	7	638
28 mc.	VE2NI	12	8	440
	VE2IZ	9	8	323
All bands	VE3KF	34	21	5,885
All bands	VE7VO	45	31	19,000
	VE7OJ	25	19	4,092
14 mc.	VE7VO	31	20	8,670
	VE7OJ	21	15	2,952
28 mc.	VE7VO	14	11	2,000
	VE7MS	14	12	1,456
	VE7OJ	4	4	88
ALASKA				
14 mc.	KL7UM	14	11	2,300
BARBADOS				
All bands	VP6SD	72	37	78,480
14 mc.	VP6SD	48	23	40,470
	VP6FO	21	12	5,082
28 mc.	VP6SD	24	14	5,700
BERMUDA				
14 mc.	VP9G	42	20	19,158
COSTA RICA				
All bands	TI2HP	85	42	76,962
	TI2TG	40	25	8,060
14 mc.	TI2HP	53	21	27,306
	TI2OE	34	18	10,868
	TI2TG	18	9	1,080



TI2HP came up with an all band score of 76,962. He runs 500 watts into a pair of HK-54's, modulated by TZ-40's. Receivers consist of an HRO-50 and an old HRO, plus a Q-5'er. A 10 and 20 meter 3-element wide spaced rotary is used, and a 1/4 wave Marconi does the job on 40.

	STATION	COUNTRIES	ZONES	SCORE
28 mc.	**TI2HP**	32	21	12,561
	TI2TG	32	16	3,192
	TI2TY	16	13	1,479
GUANTANAMO BAY				
All bands	KG4AD	13	9	1,562
28 mc.	KG4AK	5	4	189
HONDURAS				
14 mc.	HR2JM	18	7	575
MEXICO				
28 mc.	XE1PO	37	19	21,952
	XE1PY	26	16	9,198
NICARAGUA				
All bands	YN4CB	36	27	18,135
PANAMA				
All bands	HP1LB	19	19	1,482
SWAN ISLAND				
All bands	KS4AI	27	19	15,318
VIRGIN ISLAND				
28 mc.	KV4AQ	24	15	6,279

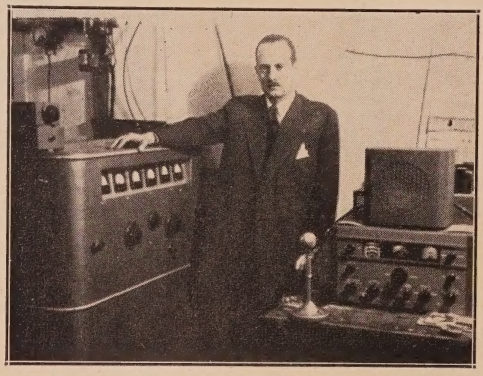
VP6SD scored 78,480 points. The rig Syd uses winds up with an 813, input 500 watts. Antennas: 28 mc. and 14 mc. are 3 element beams. On 7 mc. and 3.5 mc. folded dipoles are used. Beams are 75 feet high. Receivers are HQ-120X and Eddystone 680.



	STATION	COUNTRIES	ZONES	SCORE
WINDWARD ISLANDS				
28 mc.	VP2GG	46	17	29,252

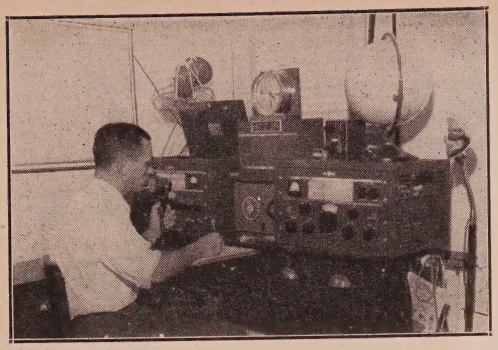
South America—Single Operator Stations

ARGENTINA				
All bands	LU8CW	80	41	90,145
14 mc.	LU8CW	44	23	20,904
28 mc.	LU8CW	36	18	23,382
	LU8BF	26	16	6,804
BRAZIL				
All bands	PY2CK	57	38	28,310
7 mc.	PY2CK	3	3	30
14 mc.	PY4RJ	36	19	17,655
	PY2CK	30	19	5,831
28 mc.	PY2AHS	25	18	8,127
	PY2CK	24	16	6,960
	PY2AUC	26	15	6,232
	PY3IC	23	14	3,589
	PY1AQT	15	13	1,764
CHILE				
All bands	CE2CC	86	44	114,530
28 mc.	CE1AH	41	24	26,585
	CE2CC	35	19	25,288



CE2CC scored 114,530 points. His rig winds up with a pair of 304TL's modulated by 810's. He has two 3-element rotary beams used on 10 and 20 meters.

COLOMBIA				
14 mc.	HK5AY	4	5	171
ECUADOR				
All bands	HC2JR	69	37	120,204
	HC2LF	22	20	11,802
7 mc.	HC2JR	2	2	4
14 mc.	HC2JR	35	19	26,460
	HC2LF	14	12	5,382
28 mc.	HC2JR	32	16	30,864
	HC2LF	8	8	1,184
FALKLAND ISLANDS				
All bands	VP8AI	9	8	765
PERU				
All bands	OA4DW	54	36	35,010
	OA4AO	40	26	12,474
14 mc.	OA4DW	32	21	13,568
	OA4AO	20	12	2.538
28 mc.	OA4DW	21	14	4,655
	OA4AO	19	13	3,520
URUGUAY				
All bands	CX3BH	65	42	53,607
	CX1CG	33	28	38,430
	CX1BT	30	25	8,415



HC2JR's all band score is 120,204. Due to John being laid up in bed during the contest, his friend HC1JP, Jorge Philippe, shown in the photograph, did all of the operating. The receiver is a 75A1 and the transmitter is a 32V2. Antennas consist of 10 and 20 meter 3-element rotary beams.

	STATION	COUNTRIES	ZONES	SCORE
7 mc.	CX3BH	5	3	32
	CX1BT	5	3	32
14 mc.	CX3BH	30	20	12,400
	CX1CG	15	14	8,004
	CX1BT	10	9	1,425
28 mc.	CX3BH	30	19	12,201
	CX1CG	18	14	11,328
	CX2CN	20	16	4,752
	CX3BT	22	16	3,496
	CX3AA	22	14	2,988
	CX3AK	18	13	2,325
	CX1BT	15	13	2,072
	CX6BD	13	9	770

VENEZUELA

All bands	YV5BZ	37	20	26,505
	YV5AE	22	21	4,945
14 mc.	YV5BZ	35	19	24,948
	YV5AE	7	6	741
28 mc.	YV5AE	15	15	1,740
	YV5BZ	2	1	9

Europe—Single Operator Stations

AUSTRIA

All bands	OE5CA	56	30	19,463
	OE5YL	48	24	15,194
	OE7FR	20	9	2,146
14 mc.	OE5YL	39	14	10,117
	OE5CA	33	12	6,120
	OE6FD	17	5	1,540
	OE3GA	16	4	1,060
	OE7FR	14	5	874
28 mc.	OE5CA	23	18	3,690
	OE7FR	11	10	588
	OE5YL	9	9	450

BALEARIC ISLANDS

All bands	EA6AF	45	19	13,632

CZECHOSLOVAKIA

All bands	OK2SO	57	23	15,040
14 mc.	OK1HI	44	16	17,760
	OK1RW	18	5	1,426
	OK1AW	8	5	286

DENMARK

All bands	OZ7BG	39	17	5,264
7 mc.	OZ7BG	2	2	8
14 mc.	OZ7BG	28	9	2,812
	OZ7TL	18	4	1,694
	OZ7HA	10	2	204
	OZ4Z	7	3	140

ENGLAND

All bands	G2DYV	28	14	2,730
7 mc.	G2DYV	2	2	8
14 mc.	G3DO	34	13	4,444
	G2DYV	19	6	1,125
28 mc.	G8KP	18	11	1,595
	G8SA	7	6	429
	G2DYV	7	6	234

FINLAND

14 mc.	OH3OX	10	3	247
28 mc.	OH2UV	2	2	8

FRANCE

All bands	F8XT	37	28	10,010
	F9HF	26	24	4,350
	F9GO	30	12	3,822
14 mc.	F9GO	26	9	3,010
	F9HF	6	4	100
	F8TM	3	2	30
28 mc.	F9HF	20	20	3,080
	F8XP	21	11	1,824
	F9GO	4	3	35

GERMANY

All bands	DL3DO	95	43	66,792
	DL1FK	86	44	36,190
	DL1FI	67	32	26,136
	DL3JH	55	24	14,062
	DL1EZ	24	10	1,768
7 mc.	DL3DO	20	7	1,080
	DL3JH	16	4	480
	DL1FK	11	4	225
	DL1FI	10	5	180
14 mc.	DL3DO	43	19	20,770
	DL1FI	42	17	11,741
	DL1FK	40	19	8,673
	DL3JH	24	10	3,060
28 mc.	DL1FK	35	21	6,496
	DL3DO	32	17	5,341
	DL7BA	20	14	1,938
	DL3JH	15	10	1,600
	DL1FI	10	15	1,325

GREECE

All bands	SVØWX	21	9	2,940

ITALY

All bands	I1RB	109	41	62,850
	I1YW	71	36	33,919
	I1AMU	49	17	18,216
7 mc.	I1YW	7	4	143
14 mc.	I1RB	55	19	19,610
	I1YW	42	19	14,213
	I1AMU	39	12	11,475

DL3DO scored 66,792 points. He runs around 100 watts input to a German pentode, LS-50. The receiver is a German Army job. Albert uses a Lazy H for USA and a 2-section 8JK for South America.

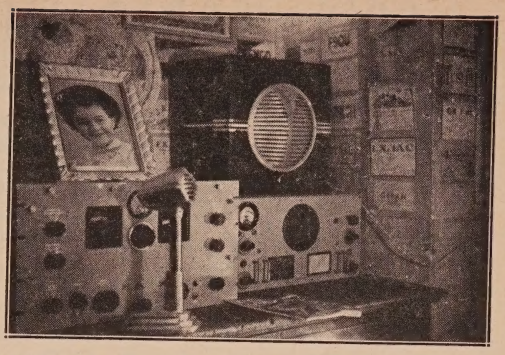


	STATION	COUNTRIES	ZONES	SCORE
28 mc.	I1RB	54	22	11,804
	I1PSM	32	19	5,814
	I1YW	22	13	2,485
	I1AMU	10	5	765
LUXEMBOURG				
All bands	LX1JW	14	10	936
NETHERLANDS				
14 mc.	PAØHM	20	9	2,349
	PAØVB	7	3	1,060
	PAØQF	12	5	578
PORTUGAL				
All bands	CT1BW	118	44	89,262
	CT1QG	82	38	60,600
	CT1NT	58	17	18,900
	CT1SQ	46	25	11,928
	CT1MB	34	15	3,479
7 mc.	CT1BW	27	8	2,555
	CT1NT	10	4	210
	CT1SQ	6	4	90
	CT1MB	4	3	35
14 mc.	CT1BW	56	22	23,322
	CT1QG	39	19	12,586
	CT1NT	21	6	1,944
	CT1SQ	16	10	1,455
	CT1MB	16	5	546
28 mc.	CT1QG	43	19	17.856
	CT1BW	35	14	8,771
	CT1NT	27	7	5,610
	CT1SQ	24	11	3,605
	CT1MB	14	7	840



CT1BW scored 89,262 points for an All-Band total. You should remember Leonel as CR5UP. His rig was running about 50 watts input at that time but is now capable of 150 watts or so. Two receivers were used, an 11 tube Eddystone 5750, and a 13 tube home built job with dual conversion. Antenna is for multi-band work on 7, 14 and 28 mc, and is fed with a 600 ohm line.

ROUMANIA				
All bands	YO3RF	51	18	10,419
	YO3GL	27	10	4,477
	YO3GH	26	11	3,848
	YO3AG	25	10	1,960
7 mc.	YO3RF	12	4	320
	YO3GH	4	3	35
	YO3AG	3	2	20
	YO3GL	3	2	20
14 mc.	YO3RF	23	9	3,104
	YO3GH	22	8	2,970
	YO3GL	18	6	2,520
	YO3AG	11	3	322
28 mc.	YO3RF	16	5	714
	YO3AG	11	5	464
	YO3GL	6	2	96
SPAIN				
All bands	EA2CQ	82	38	47,880
	EA3FK	8	7	330
SWEDEN				
All bands	SM5LL	46	19	10,205
	SM5APA	10	6	288



I1RB wound up with an all band score of 62,850. His rig winds up with 813 and 100 watts input. Receivers consist of an HRO and Super-Pro with a pre-selector. In the antenna department, 10 and 20 meter dipoles are used.

14 mc.	SM4RD	12	3	480
	SM4PG	7	5	156
	SM5APA	5	2	36
28 mc.	SM5APA	5	4	136
SWITZERLAND				
All bands	HB9BJ	76	36	40,434
TRIESTE				
All bands	I1YAK	49	21	16,310
14 mc.	I1YAK	39	14	11,024
	I1RC	18	11	1,537
28 mc.	I1YAK	10	7	425
WALES				
All bands	GW8BW	61	23	14,700
YUGOSLAVIA				
14 mc.	YU1CAG	23	7	4,110

Africa-Single Operator Stations

ALGERIA				
All bands	FA3JY	32	15	8,883
BELGIAN CONGO				
All bands	OQ5DZ	51	28	31,916
14 mc.	OQ5DZ	29	13	11,424
28 mc.	OQ5BR	27	17	9,372
	OQ5DZ	22	15	4,884

(Continued on page 56)

EA2CQ has an all band score of 47,880. Paula's OM is EA2CA. The rig used has 807's in the final. The antenna setup consists of 3-element rotary beams—one for 10 and one for 20. Up to the present time Paula has worked 135 countries and is hoping to soon pass her husband.



CQ'S WORLD-WIDE DX CONTEST

The rules for the 1951 Contest have been changed slightly from those of last year. The first and major change is the addition of the 3.5 mc. band.

The other change involves only the contest log sheets. This year the log sheets are printed so that you use separate sheets for each band. This will make it much easier for the operator, as well as the Contest Committee.

Please notice the sample log as printed. You will see under the column "WAZ ZONE NR" that you simply put in the zone number of the station worked, when it is a multiplier. In the "NAME OF COUNTRY" column, it is only necessary to list the name of the country when the QSO is a multiplier. This system will save a lot of repeated entries, as on last year's log sheets. A separate Summary sheet is also supplied with each batch of contest log sheets.

Last, but not least, please read the rules thoroughly!

1. **Contest Period:**
   PHONE SECTIONS: 0200 GMT October 27 to 0200 GMT October 29.
   C.W. SECTIONS: 0200 GMT November 3 to 0200 GMT November 5.
   (See time chart for local times and dates.)
2. **Bands:** The contest activity will be in the 3.5, 7, 14, and 27/28 mc. amateur bands.
3. **Competition** will be divided into four sections as follows:
   (1) One-operator phone section
   (2) Multiple-operator phone section
   (3) One-operator c.w. section
   (4) Multiple-operator c.w. section
   Stations in both phone sections may contact each other, and stations in both c.w. sections may contact each other, but no contacts between phone and c.w. stations will be allowed.
4. **Equipment:** There will be no limit to the number of transmitters and receivers allowed, and competitors may use the maximum transmitter power permitted under the terms of their licenses.
5. **Serial Numbers:** C.W. stations will exchange serial numbers consisting of five numerals, the first three being the RST report, and the last two being their own zone number. Stations in Zones 1 through 9 will prefix their zone number with zero (01, 02, 03, etc.) Phone stations will exchange serial numbers consisting of four numerals. The first two being the readability and strength report, and the last two being their own zone number. Phone stations in Zones 1 through 9 will prefix their zone number with a zero (01, 02, 03, etc.).
6. **Contacts:** Contacts between amateur stations on different continents shall count 3 points; contacts between amateur stations on the same continent, but not in the same country, shall count 1 point; contacts between stations in the same country, for the purpose of obtaining zone and/or country multipliers, shall be permitted, but no points will be allowed for these contacts. More than one contact between stations on each band will not be permitted.
7. **Multipliers:** Two types of multipliers will be used: (1) a multiplier of 1 for each zone contacted on each band, (2) a multiplier of 1 for each country worked on each band.
8. **Awards:** 1st, 2nd, and 3rd place certificates will be awarded for each of the four Sections as follows:
   A. To the highest scoring stations on each SINGLE BAND in the following areas:
   (a) Each call area of the U.S.A.
   (b) Each licensing area of Canada and Australia
   (c) All other countries
   B. To the stations having the highest combined total on ALL BANDS (or more than one band) in the following areas:
   (a) Each call area of the U.S.A.
   (b) Each licensing area of Canada and Australia
   (c) All other countries
   Certificates will also be awarded to each operator of each winning station in the multiple-operator sections.
9. **Scoring:** The contest score for each single band is the sum of the zone and country multipliers of each band, multiplied by the contact points of that band. The total all band score

CQ WORLD-WIDE DX CONTEST SCHEDULE

TIME ZONE	STARTING TIME	ENDING TIME
Greenwich Mean Time (GMT) (London)	Saturday, Oct. 27, 0200	Monday, Oct. 29, 0200
	Saturday, Nov. 3, 0200	Monday, Nov. 5, 0200
U. S. A. Eastern Standard Time	Friday, Oct. 26, 9:00 P.M.	Sunday, Oct. 28, 9:00 P.M.
	Friday, Nov. 2, 9:00 P.M.	Sunday, Nov. 4, 9:00 P.M.
U. S. A. Pacific Standard Time	Friday, Oct. 26, 6:00 P.M.	Sunday, Oct. 28, 6:00 P.M.
	Friday, Nov. 2, 6:00 P.M.	Sunday, Nov. 4, 6:00 P.M.

SAMPLE LOG

CALL 4X4RE COUNTRY ISRAEL PHONE ☐

LOG FOR 14 MC. BAND. (Use separate log for each band) CALL LETTERS OF OTHER OPERATORS NONE C.W. ☒ NR. OPERATORS 1

DATE (GMT)	TIME (GMT)	STATION	SERIAL NUMBERS		FILL IN ONLY WHEN QSO IS A MULTIPLIER		POINTS (1 OR 3)
			SENT	RECEIVED	WAZ ZONE NR	NAME OF COUNTRY	
Nov. 3	0700	CE3AG	57920	57912	12	CHILE	3
"	0703	HZ1KE	58920	58921	21	SAUDI ARABIA	1
"	0706	W4KFC	59920	58905	5	U.S.A.	3
"	0708	4X4BX	59920	59920	20	ISRAEL	0
~	~	~	~	~	~	~	~
"	0821	CR5AC	56920	56935	35	PORT. GUINEA	3
					5	5	10

This sample is only a part of one page. Please note that there is a change from past log forms. The contacts for each band are kept on separate log sheets; this will help you in figuring your individual band scores, and will help our committee in checking contest results.

is the sum of the zone and country multipliers of all bands, multiplied by the total of contact points on all bands.

A. Everyone who sends in a log for a single band is eligible for a single band award only.

B. Those who submit logs for two or more bands will be eligible for the all band award, as well as the single band award.

To check your own zone number and continent for scoring purposes, refer to our country list form.

10. **Zones and Continents:** as defined in CQ and the CQ DX Handbook, as well as on the W.A.Z. maps, will be recognized, and for continental boundaries, the same as used for W.A.C. will be recognized. Should any question arise as to the positive location of any station, the official definitions will be final. Copies of the country list and contest logs are available from the CQ editorial offices in New York, upon receipt of a stamped, self-addressed envelope, or in the case of overseas stations, unattached postage stamps.

All logs must be postmarked no later than December 15, 1951. Send logs direct to CQ, 67 West 44th Street, New York 18, New York.

Operating Suggestions:

Attention: Foreign Amateurs! It is recommended that you give the call letters of the station you are working at the end of a transmission, instead of just "BK," as this would prevent much QRM of stations piling on and calling you.

We suggest that overseas phone operators indicate which end of the band they are tuning, or which portions of the phone band (American or foreign) they intend to tune. On 28 mc, where the band is 1700-kc wide, it is extremely important that overseas phone stations specify the approximate frequency they intend to tune. C.W. stations, likewise, could greatly assist by indicating where they intend to tune. We think if the above principle is used by all, it will result in far less QRM, as well as fewer useless calls.

Foreign amateurs, remember scores are based on the greatest number of different countries and zones as well as stations worked. Do not concentrate on working only U. S. stations, this is a world-wide competition!

SAMPLE SUMMARY

BAND	QSO'S	ZONE MULTIPLIERS		COUNTRY MULTIPLIERS		POINTS		SCORE	BAND
3.5 MC			+		×		=		3.5
7 MC			+		×		=		7
14 MC	5	5	+	5	×	10	=	100	14
27/28 MC			+		×		=		27/28
TOTAL:			+		×		=		ALL BANDS

This sample summary is also on a new form. The summary sheet is now separate from the contest log sheets.



Conducted by HERB BECKER, W6QD*

NOW THEN, since we skipped our DX Chatter last month, let's see if the Editor-in-Chief will find a little room to run some of it this time. After all, I guess we can't have DX fill up the whole magazine.

It is a great pleasure to offer congratulations to the following four DXer's on achieving WAZ.

261	**KP6AA**	Stephen S. Barnes	40 - 152
262	**PK4DA**	Arie Bles	40 - 175
263	**PY1BG**	Aydano de Araujo Salles	40 - 179
264	**ZS2EC**	Lassie M. White	40 - 116

Although KP6AA is no longer active as such, it is good to see that he ran down the cards from his last two elusive zones. . . . PK4DA had similar trouble with Zone 19. . . . PY1BG, of course, needs no introduction, and we can't overlook ZS2EC, Lassie White, who is the XYL of ZS2CR.

Elsewhere in this issue you will find the final and official summary of the Phone Section scores of the 1950 CQ World Wide DX Contest. Take a peek in the index for the page number.

We are also announcing the dates, as well as the rules, for the 1951 World Wide DX Contest. Just thumb through the magazine and you shouldn't have any trouble finding them. Although the rules seem to cover the situation pretty well. I would like to point out and emphasize the few little things we have changed. Probably first of importance will be the addition of the 3.5 mc band. With the feeble activity on the 27/28 mc band, it appears that the 3.5 mc band will fill in a few gaps.

Next in importance, we think, are our new contest log forms. Although you will see the changes after you send for and receive yours, a word now won't do any harm. The change consists of using separate logs for each band. Instead of having columns for all of the bands on one form, you will find a single column on the new ones. This will help you fellows a great deal in tabulating your own scores, as well as assisting the contest Committee in checking.

We found many foreign stations unacquainted with the method used in figuring the scores for each single band. These new forms should go a long way toward helping this condition. These new log forms will be printed on one side and every contestant who sends for the forms will also be sent one or two summary sheets to be used in figuring up the totals. Previously, these had been printed on the back of the regular log forms.

You can get a supply of log forms by writing to "CQ," 67 West 44th Street, New York 18, New York. Send a self-addressed stamped envelope, and in the case of overseas stations, send either unattached postage stamps, or coupons. So much for that, but please read the rules thoroughly and you could assist by sending a reprint of the rules to overseas stations.

Now, let's dig into the mail bag and see what we come up with.

It looks as though the ZL's have been authorized for 40 meter phone. In fact, from 7051 to 7200 kc. This is available only to high frequency permit holders. Also available to all ZL amateurs is 1900 to 1925 kc.

LB5ZC has been attracting a lot of attention of late and W1FH grabbed him to up his total. W6MEK also was lucky as were quite a number of others.....although of course, there were others not so lucky! Guess who? Fresh stuff for W5KUJ, ZB1BS and CR5AD. OE1FF now has AC mains which should help him to some extent.....however when he says 20 meters has been as erratic as a Hollywood picture star, I don't know what to think. But OE1FF is happy after working the only two Corsican stations, F9QV and F9JD,



Fifteen members of the Radio Club Peruano get together for a dinner and general ragchewing session. Front row, L. to R.: OA4AT, OA4EG, OA4BJ, OA4M, OA4AO, OA4DK. Standing rear, L. to R.; OA4B (President), OA4BR, OA4BG, OA4DW, OA4DT, OA4AV, OA4DE, OA4BY, Sr. A. Montero, Director of Communications of Peru.

**Send all contributions to Herb Becker, 1406 South Grand Ave., Los Angeles 15, Calif.*

W. A. Z. HONOR ROLL

CW & PHONE

WAZ

W1FH	240
W6VFR	239
WØYXO	237
W3BES	236
W6ENV	236
W6ADP	234
W2BXA	231
W6GRL	231
G6ZO	230
W6SN	230
W6MEK	230
G6RH	229
W3GHD	229
W8NBK	228
W6EBG	227
W6PFD	226
W3EVW	226
W8JIN	226
W6AM	225
W3KT	225
W6SYG	224
W3JTC	224
W3LOE	222
W6FSJ	222
W6AMA	222
W8BHW	221
W6ITA	219
W6TT	218
WØNUC	218
WØPNQ	217
W6MVQ	217
W9DUY	217
LU6DJX	217
VE4RO	217
G2PL	216
W6DZZ	215
W2PEO	215
W7AMX	215
W3JNN	215
CE3AG	215
W6MX	215
ZL2GX	215
W3IYE	214
PY1DH	214
W6OEG	213
W2AGW	213
W4AIT	213
VK3BZ	213
KH6CT	213
W8BRA	212
W6HX	212
W6NNV	211
VK2ACX	211
W6SAI	210
W6BPD	210
W6MJB	210
ZS2X	210
W6PB	210
W6PØT	209
KH6BA	209
W9VW	209
W2AQW	208
W8HGW	208
W9NDA	208
ZL1HY	208
W6TS	208
W6GDJ	208
KH6IJ	208
W6SC	207
VE7VM	206
W4BPD	206
W6KRI	205
DL1FF	205
W6DLY	205
W6ZCY	204
W6DI	204
W6PKO	204
VK2DI	204
W4CYU	203
W7GUI	203
W6EFM	203
W6RM	202
W6OMC	202
W6AOA	202
W9KOK	200
VK5JS	200
W6RBQ	200
G8IG	200
PY1GJ	199
WØDU	199
W6TI	198
W2IOP	197
KH6QH	197
PY1AJ	196
W6WB	196
G2FSR	196
G4CP	195
W6UCX	195
W5KC	195
G6QB	195
OK1FF	194
W6GAL	193
ZL1BY	193
W6VE	193
W6RLN	193
W6AVM	192
WØSQO	192
VK2NS	191
W6RW	190
W6SRU	190
W6EPZ	190
CE3DZ	190
VK3JE	189
ON4JW	189
W5GEL	189
VK4HR	189
WØNTA	188
W7OY	187
W8SDR	186
VK6RU	186
W6DFY	186
W6EHV	186
DL7AA	186
W2CZO	185
W1AB	185
W6BUD	185
W6SA	184
KH6VP	184
W3GAU	183
W2JVU	183
I1KN	183
LA7Y	182
WØELA	182
G3DO	182
W6IFW	180
W6UHA	179
OE1CD	179
PY1BG	179
W9VND	178
W6LN	178
W7DL	177
WØUOX	177
VK6KW	177
W6UZX	177
CX1FY	176
W6IBD	176
KH6CD	176
VK4EL	176
PK4DA	175
W6WKU	174
W6CIS	174
W7FZA	174
W6PCS	174
W6KUT	174
W8HUD	174
W6TZD	173
G5YV	172
OK1LM	172
W6WWQ	172
W6SRF	171
PY1AHL	171
OK1HI	171
VK2HZ	171
W6BAM	170
W6PZ	169
W5AFX	169
G2VD	169
W6JZP	168
W6ANN	167
VK3CN	167
W6LDD	167
W6BVM	167
W6DUC	166
KH6MI	166
W6CEM	166
W6JK	165
VE7GI	165
W6LRU	165
W6BZE	165
W6PH	164
W6EAK	163
W6YZU	163
VE7VO	162
ZS6DW	162
W7ENW	162
I1IR	162
W6PDB	161
W4CYY	161
OK1SV	160
VK3EK	160
W6PUY	160
JA2KG	160
W6MHB	160
W6CYI	157
W7BD	157
WØOUH	157
G3TK	157
W6QD	157
W6BUY	157
ZS6FN	157
W7BE	156
KH6LG	156
W6BAX	155
VK5KO	155
G3AAM	154
G2IO	154
W6KEV	153
OK1RW	153
W6NTR	153
G3YF	152
KP6AA	152
VK2QL	151
W6ATO	151
W6LEE	150
W6FHE	150
W6EYR	150
W6RLQ	150
W6LER	150
OK1CX	147
W6LS	147
W7KWC	147
KH6PY	147
W7DXZ	146
W6AYZ	146
VE6GD	146
W9NRB	145
W6MUC	145
OK2SO	145
ON4TA	144
G3BI	144
W7LYL	143
I1XK	140
W6AOD	140
W6ONZ	139
W6ID	138
ZC1CL	138
OK1WX	135
G3AZ	133
W6TEU	133
W6RDR	133
W6AUT	133
W6OBD	131
ZS2CR	131
W6IDZ	130
W6BIL	130
W7ASG	129
W7GBW	127
G8IP	127
G5BJ	126
PK6HA	124
G5VU	124
W6NRQ	123
W6MLY	123
ZL1GX	122
VK5MF	121
ZS2EC	116
ZS6CT	113
KG6AL	103
VK6SA	103
W7KWA	98
W6DUB	89
W7IYA	59

39 Zones

W2NSZ	221
W3DPA	220
FSBS	219
W9ANT	218
W9RBI	217
W5ASG	213
W3OCU	210
W1ENE	209
W1BIH	209
W3EPV	209
W2HHF	208
W1JYH	208
W2WZ	208
XE1AC	208
VE3QD	206
W5LVD	203
W9IU	201
W2HZY	200
W3DKT	198
W4GG	197
W8HFE	196
W1HX	195
F9BO	193
W9MXX	193
W2CWE	192
W9LNM	192
W3KDP	192
W2AGO	191
W1AWX	191
OK1VW	190
W8SYC	189
W2EMW	187
W1ZL	187
W3JKO	186
WØEYR	186
KP4KD	185
W7PGS	185
W8RDZ	184
W9TQL	184
W3DRD	183
W4INL	183
W2BJ	183
W9FKC	182
W1DQH	181
W2RDK	180
VE3IJ	180
VO6EP	179
W2CNT	173
W8CVU	172
W4LVV	171
W2RGV	171
VE3AAZ	171
W9LM	170
W6CTL	169
W1NMP	169
W3JTK	169
OZ7EU	169
W4VE	169
HC2OT	169
PY2AC	168
W4DKA	168
W2CYS	167
W4RBQ	167
W8LEC	166
W9HUZ	165
W9ABA	163
W4BRB	162
W8VLK	160
W4AZK	159
GM3CSM	159
W4OM	158
W5FFW	158
WØAIW	157
I1AY	157
VK4DO	156
W9YNB	155
DL1FK	155
W8WWU	155
I1AIV	154
G3AKU	150
DL1AT	150
SM5WI	148
ZS2AT	148
W2GUR	146
W6LGD	146
W2MEL	145
OK1AW	144
W6KYV	143
TF3EA	142
W9NZZ	136
W6KYT	135
VE7KC	133
W7ETK	132
W6TE	131
W6WJX	131
W7BTH	131
W5CPI	130
W6NZ	129
OE3CC	128
DL1DA	127
W6EYC	126
W6MUF	125
VR5PL	124
KG6GD	121
W7HXG	120
DL3DU	118
W6NRZ	117
KL7UM	117
W6JWL	114
KL7GG	114
W6FBC	114
W6VAT	110
DL3AB	107
W7GXA	105
W6LEV	103
W7LEE	91

38 Zones

W2HMJ	194
W2PUD	181
4X4RE	181
CM2SW	174
W8KPL	173
W8FJN	173
W2SHZ	169
W2GVZ	162
SM7MS	159
ZL3CC	159
W8EYE	158
W2UEI	156
LU7CD	155
W3LVJ	151
W5MET	150
VE2BV	145
W8ZMC	143
WØAZT	143
ZL3AB	143
W9FKH	135
VE3ACS	134
W6ETJ	132
W4FPK	131
W2PQJ	130
W4LQN	130
W3ZN	129
WØRBA	127
W9MZP	126
FE8AB	126
W9TB	122
GW4CX	120
WØFET	118
VE7VC	116
KL7PJ	115
W6CAE	113
W7EYS	107
W6FXL	92
C1CH	84

37 Zones

W1KFV	171
W2ZA	160
W3WU	157
W3FYS	153
W4IWO	149
W2WC	149
F9AH	146
GM2UU	142
W4ML	140
W9WCE	140
W2AYJ	133
G6QX	133
W7HKT	130
W4DIA	129
W1APA	128
OE1FF	127
VE5JV	126
W9LNH	122
VE1EA	116
G3BPP	112
W6AX	110
WØFWW	108
EA1AB	108
OH3OE	108
W7PK	104
W8HSW	104
W2BLS	99
W6WWW	99
KL7KV	88

36 Zones

W4HA	163
W5KUJ	151
W3MZE	141
I1IT	140
WØCU	139
W9LI	131
OZ7BG	130
OA4AK	128
VE1PQ	128
I1IZ	128
W3AYS	124
F8TM	124
W2BF	115
4X4BX	112
W5CD	108
W2JA	102
W5BK	99

35 Zones

W1DEP	159
W5JUF	152
W1BFT	150
W2OST	146
W4DHZ	132
W9CKP	132
W1MRP	130
W5FXN	129
ZL1QW	123
OE5YL	122
W6ZZ	120
W9RQM	119
CO6AJ	119
W9DGA	115
W9FNR	114
W8AVB	113
W2HAZ	111
WØGBJ	110
KZ5IP	108
KL7CZ	80

34 Zones

W8NSS	133
W1NLM	130
W4IYT	127
W1RAN	122
W5NTT	107
W8JM	102
G2BVN	91
W9WEN	83
W8PCS	80
W6EUV	66
W6OKL	61

PHONE ONLY

39 Zones

VQ4ERR	201

PHONE ONLY

W6DI	192
W6VFR	175
PK4DA	175
G8IG	169
W7HTB	161
W8HUD	160
F9BO	150
VE7ZM	145
DL1FK	125

38 Zones

XE1AC	203
W2BXA	189
W9RBI	186
W6KQY	161
W4CYU	160
ZL1HY	157
W1HKK	153
W6AM	150
W9NDA	149

37 Zones

W1JCX	189
W3BES	182
W8REU	176
W3LTU	169
W8REU	163
CE3AB	163
W9HB	161
W7MBX	158
VK3BZ	158
W6WNH	157
G3DO	157
W6PXH	153
W3JNN	150
W8BF	146
W3GHD	144
W6TT	143
F8VC	124
W7MBW	107
C1CH	83

36 Zones

W1NWO	182
W1MCW	176
W1BEQ	164
W4ESP	154
W2DYR	140
W9BZB	139
GM2UU	135
W9HP	131
W6PDB	130
W4INL	129
W1FJN	128
W8AUP	128
G6BW	127
VE3BNQ	126
VE7HC	123
WØHX	120
W8CYL	112
W3DHM	96
W6SA	92
F8DC	87

35 Zones

HC2JR	171
ZS6Q	156
W4HA	155
W9RNX	149
W6PCK	148
W3EVW	142
W2GHV	137
W2RGV	136
W6CHV	135
WØPUE	135
HC2OT	134
WØEYR	131
W9BVX	130
WØPRZ	124
W9CKP	124
WØANF	124
G8QX	123
W8ZMC	122
W5LWV	108
W4OM	106
W3PA	105

34 Zones

W5ASG	151
W3KT	145
W5JUF	137
I1AXD	130
YV5AB	129
LU8CW	129
W2ZVS	128
W5KC	125
W4LZM	124
W6UZX	123
W8BIQ	122
W5JUF	117
W1BPH	105
W8UIG	100
W4IWO	100
W8QBF	92
WØBFB	70
W2NXZ	65

in one evening. Oh yes, for before breakfast consideration he also worked and received a card from JY1XY.....fone, and located in Transjordan. W2BJ got the word from AR8AB that he wasn't going to work any more Ws until he was once again recognized. It's a sad deal at the best but .....????? Ray says MP4BAF 14040 is a nice one for those that can use. I guess the east coast gang would like the Pacific bunch such as ZM, ZK1, KM6, etc., to give them a break. W1RAN is coming right along and with nice ones being knocked off like FG7XA, KW6AR, ZC4TF, KM6AT (W2BJ pse note), MD2BC, YS1O and VP5BH it shouldn't be too long before he's in the first column.

Speaking of FG7XA, W4LVV told W6AM that the present op at XA is not the same as originally opened up the station. Name of the new op is Andre Latil, and this call is now permanently issued to him. Frequencies approx. 14020 and 14095 kc., and best times would be 1300 to 1500 gmt Sunday mornings. Now it's 10 watts but LVV thinks maybe he can get that changed for the best. What could he mean? W5FFW, W5MIS and W5WI shipped one of the old National FB7XA receivers over to OY3IGO. Nice gesture, boys.

G6QX is up a zone.....this one being UA9OB on 7 mc. Bob has a few countries too.....VP8AI, FG7XA, YS1O and VP9OO. G3BPP worked Zone 37 when he hooked JA2KW. W7OHX/6 has been doing his stuff on 40 and 80 with pretty fair results.....meaning VKs, ZLs, KH6s, KL7s but with the addition of more power hopes to improve things. YV5AB is a new one in the Honor Roll. G8IG is sweating it out for a couple of cards which would give him WAZ on phone. There are a number who have worked 40 (we think) on phone but there is always that ONE elusive card that "just doesn't seem to come in".

VP9KK (W3NSW) was kind enough to pass word along that he will QSL everyone he worked while in Bermuda. Dean was on the air there on 20 phone from December 20, 1949 to May 6, 1950. He worked some 800 stations and probably many who have not received his card would still like it. Dean left the Naval Air Station in VP9 for shipboard duty and at that time stored all his logs and records with the other household effects. As soon as he is planted long enough in the States he will dig out the logs and, with the help of the XYL, will get busy on the cards.

G6RH nabbed VQ8CB on Chagos who told Bob VQ8AS was a phoney. Ho hum, so it goes. But Bob has more.....FG7XA, FB8ZZ, VT1AF, FR7ZA.....and of all things 3P6MN. Somebody's foot slipped. W9HB, who as you must know, still uses NFM which he calls Narrow Futuristic Modulation, continues to hang up new countries. Harry describes AM as Ancient Modulation. Hi. But a few of the best McCormick can produce include KC6WC, EA6AF, ZK2AA, FG7XA and VP5BP.

A letter from pre-war J2NG wants to know what has happened to such guys as W9TJ, W9HLF, W2AZ, W2UK (yeah what has?), W3EMM (Fenton, get that W4 call going), W6AM, W6CXW, W6GRL, W2HUQ, W8CRA (haw), W1JPE and W6NNR. Natch, some of the above calls have since been changed. If any of you are after the WAB award (Brazil) you might be interested in knowing that PY9BR works 10 and 20 phone, this being a rather hard State to grab. If you hook, QSL to L.A.B.R.E. XE1AC received a visit from W2SAI and tells me that Bill went over to Acapulco from where he tried to make Clipperton in a row boat, but due to miscalculating the distance had to give it up as a bad job. Now A1!

W8NBK latched onto a goodie in AC3SQ 14025 and I guess W3GHD got him also. Oh me..... what next.....W6ENV just gave me a blast and after a bit of pumping I gathered he, too, landed this bird.....just yesterday. Andy has just completed building a cage for his final. Now he has all of the harmonics corralled in a metal box..... which is certainly much better than being corraled in someone's flicker box.

Ah, V097D

W6KIP jotted down some dope from ZS2X, who in turn received word from VQ8AF that VQ9FD is the wireless op on a small ship, the "Sir Jules" and operated from aboard ship in Port Victoria in the Seychelles. If he operated from shore at all it was without authorization from the government.....so we guess that one is pegged. No need to scratch, we haven't been counting it anyway. Well, to go on.....VQ8AF relates FB8AB is still not on the air.....the same for other FB8s. VQ8AD is QRT for the time being while living on a sugar estate with no a.c. power mains. 8AF is the only one active as of now.....8AG and 8AX have left with present QTHs unknown. ZS6PE, phone, is on the way to Marion Island. Now about W6KIP.....he worked a guy signing FB8AA who, Alex says, is possibly a pirate. Yes, possibly. While others sleep, KIP works 'em. About the first on LB5ZC.

W6KQY, with the help of the trusty mike, is still climbing.....take a look at what happened on 20 phone to him; AC3PT (QTH, read on), ZK2AA, ZS7B, FG7XA and FP8AW. W1MCW adds ZM6AA, ZD6HJ, EAØAB and FG7XA.

W2NSZ wasn't sure he worked a good one in OY3IGO and says if it was ng plenty of others got "it', too. Cheer up, he's the good one now. And during the merry month of May W3BES established two way communication via wireless telephony with VQ8CB, LZ1DX, KM6AT, SP1JF and 9S4AR. Then in April, though not so merry, there was FG7XA after which he "snuck" over to A1 emission to get LB5ZC, VT1AF and FR7ZA. This whole mess, I mean batch, of good ones on 14 mc. W5MET is back in the Merchant Marine and will be QRT for a while. Good luck, Dick.

ZS3P told W6AM he operates an army station and on off-hours he can operate it in the ham bands. Yep, he's in SW Africa.....and 14160 cw. Help, help.....W1GKK wants it on MD4BPC, YJ1AB and ZD1KR.....just any dope at all.

(Continued on page 59)

The Monitoring Post

gleaned by THE BRASSPOUNDER

THE SECOND ANNUAL VIRGINIA QSO PARTY proved to be more interesting than last year's jam session as 104 stations vied for high scores based upon number of QSOs times number of counties worked. The winners? Tie score for first place—*W4NAD* and *W4LAP*. Others who took prizes were *MWH, KFT, FV, NQV,* and *SDK,* in that order, the prizes being donated by the Peninsula ARC, Potomac Valley RC, Richmond, ARC, Shenandoah Valley RC, Falls Church RC, and SCM *W4FF*. Top scores were based on 76 contacts in 29 counties during the eight-hour session and a good time was had by all. . . . *VE3ABC* was on hand at the hamfest held recently near Ottawa with his portable rig in his converted ambulance—450 watts input to a pair of 813s powered by a motor generator. . . . Mobile jobs present were *VE2AJR, TT, VE3BBW,* and *OJ*.

Few, if any, of the radio club bulletins read fail to carry a notice in the following vein: "A report of the treasurer shows that about one-third of the membership has not paid its current dues." This seems to be a chronic complaint, notwithstanding radio clubs' importance in ham radio. It seems that such club membership should certainly be conscious of the fact that money is necessary to keep any organization alive. While there are a number of radio clubs throughout the country, there are still too few. Such clubs are the backbone of our hobby, as has been evidenced so many times when a specific job is to be done. For instance, when the New York Chapter of the American Red Cross felt the need of an amateur station, the local emergency man was contacted, who in turn appealed to the New York Radio Club to tackle the project. A committee was appointed and in a relatively short time *W2GTE* was on the air, working on all bands. The gear listed a Collins 32V2 transmitter and 75A2 receiver, a Harvey Wells rig for 6 meters, which operates on AC or 6-volt generator; a VHF152 for the two-meter band; a 47.42 mc rig with a dozen walkie-talkies for the Red Cross emergency net. The main transmitter is for all bands up to and including 10 meters. Antennae includes a three-element beam for 10 which can be operated vertical, horizontal, or at a 45-degree angle; dipoles for 20 and 75-meter phone, and a ground plane for two and another for six meters. The club is now starting a training program for members of the Red Cross staff, volunteers, or for any other person wishing to assist in keeping this station on the air; ten operators have already signed up as regulars. A 5KVA generator is expected to be delivered any day, all wiring to accommodate this having already been installed. Its initial test brought contacts with Chicago Red Cross headquarters and with National headquarters in Washington on the high frequencies, while several neighboring local chapters were contacted on the v.h.f. bands. A radio club can take on a big job for the benefit of mankind, and thereby earn great credit for amateur radio.



(Photo by Louis Hippe, W6APQ)

At a recent meeting of the San Fernando Valley Radio Club, the main business of the evening was the wedding of W6DJU and W6JMS; this was a 100% amateur affair, as the pastor was W6ABM, and the best man was W6CSS.

From The Atlantic Ham, official bulletin of the Atlantic RC, is this bit of interesting news: A Catholic nun credited with making the first successful non-commercial radio experiment in the Western Hemisphere died recently in St. Mary's Convent Infirmary at South Bend, Ind. Wireless telegraph signals, transmitted by Prof. J. Green at Notre Dame in 1899 could not be copied at St. Mary's College, a mile away, until Sister Antonine, CSC, built an induction coil to receive and amplify them. She had been a teacher in the Holy Cross Order 54 years when she retired in 1941."

W4MTY, a Georgia Police radio operator, received quite a shock when a radio car called in and asked: "Have you a stolen car report on a Ford, license W4MTY?" . . . The Rochester (N.Y.) ARA voted seven new members into its mobile club—*W2RMS, FRL, SNI, PBC, SGX, QYT,* and *PPR*. . . . The Puerto Rico CR names officers for the next year as: *KP4CL,* pres.; *CB,* v.-pres.; *KD-KB,* sec.; *BV,* treas.; and to the Board of Directors were elected *KP4DJ, JA, GP, CY,* and *IS*. . . . All QPO (police officers'

(Continued on page 54)



Conducted by E. M. BROWN, W2PAU*

THE MONTH OF JUNE, 1951, will be remembered as one of the high spots of v.h.f.-u.h.f. activity. A new world's record for 144-mc DX was established on the night of June 10 when favorable conditions developed between Southern California and Northeastern Texas. The former record of 1196 miles was beaten by a wide margin several times during this opening. When the dust had settled it appeared that W5QNL of Texarkana, Texas, and W6ZL of Glendale, California, were the new record-holders as a result of their solid two-way QSO over a distance of 1396 miles! More details later. . .

A new European two-meter DX record was hung up on June 1, 1951 when G5YV, Leeds, worked SM7BE, Lund, over a path of better than 60 miles. This was also the first G/SM QSO on two meters. The same spell of good weather produced the first G/OZ QSO between G3WW and OZ2FR. These longer-range QSOs tended to overshadow the less spectacular news of the first two-meter contacts with the Channel Islands between G8IL and GC2CNC, and the reports from Ireland that EI8G is now active on two meters and has been successful in working GW2ADZ and G8SB. The spread of popularity of the two-meter band continues!

The six-meter band has been rocked by a series of openings that were record-breaking in scope and activity. Starting surprisingly early in May, the good conditions have continued almost unabated during June. Activity has grown by leaps and bounds, and it is truly a relief to hear the six-meter gang griping about heavy QRM rather than lack of activity!

CO6WW is now active on six meters in Cuba. The first CO/W QSO was between W4EQM and CO6WW on June 16th. Jose subsequently worked W4s MS, FBH, ZD and then W5ONS.

Another new six-meter outpost is manned by KP4NX and KP4HN at Puerto Rico. The first break-through came on 19 June 1951, when KP4NX hooked W8LPD for the first W/KP4 six-meter QSO.

The 420 mc band came very close to making the headlines this month, by virtue of a QSO between K2AH and W4CLY. The distance, from East Orange, N. J. to Cape Henry Lighthouse, Va., is about 295 miles. The sad part of this story—the QSO was cross-band, with W4CLY on two meters. So the record hop remains to be made, but it looks like just a matter of time!

Routine activity on all the bands has been stimulated by the prevalence of favorable propagation conditions. But if these were not enough, during June activity was also boosted by two operating competitions—the Spring VHF QSO Party and the annual Field Day Contest! Both were well attended. The six-meter band (for a change) was in excellent shape for both events. It was open over such wide areas, and for such durations, that it is practically a sure bet that the winner of the VHF Party will be one of the six-meter specialists. (This fact is certain to cause much consternation among the 144-mc holdouts, who can't help but complain that two meters is no match for an ionosphere DX band!)

The Field Day contest produced a good turnout this year. The mountain-top sites chosen by some of the contestants made possible rare DX contacts which would have been out of the question from the usual fixed locations. The two-meter scores piled up by some of the clubs will rival their sweepstakes totals—no mean feat during the middle of June! Before leaving the subject of Field Day—we would like to suggest here that the rule which permitted a two-meter station to work

VHF-Equipped Balloon to make Transcontinental Flight

Take-off Planned for 11 August 1951

The HA-2, a free-flight stratosphere balloon, will be launched at 7 PM MST on August 11 by Hams Associated of Albuquerque in cooperation with Air Force MARS. It is expected that the balloon will rise to its controlled height of 50,000 feet and drift across the country in a northeasterly direction.

Automatic MCW transmissions on 143.9 mc will provide means for tracking the balloon. The call sign AF5QPK will be employed. Special QSL cards will be sent to all persons reporting reception of the balloon's signals.

Pass the word around among your v.h.f. friends. Let's see what DX might be worked from an altitude of 50,000 feet!

(See the complete story further along in the VHF Column)

Associate Editor, CQ. Send all contributions to E. M. Brown, W2PAU, 88 Emerald Avenue, Westmont, Collingswood 7, New Jersey.

another station "twice" by the expedient of switching to CW or MCW be waived in future events. It proves nothing, merely clutters up the band unnecessarily and produces an un-realistic picture of the true amount of activity on the band. Fortunately, most of the contesting stations either overlooked this "loophole" in the rules or were sensible enough to take full advantage of it.

The New Two-Meter DX Record

The night of Sunday, June 10, didn't look like a good one for two-meter DX in Northern Texas. Thunderstorms were raising plenty of QRN, and two sounded pretty dead. Six meters, however, was wide open. W6s were busting in like locals. W6WNN was heard to say that he had never heard six sounding so hot. There was plenty of activity as a result of the VHF QSO Party, which was in full swing at the time. With six meters like this, it might pay to take a look on two once in a while. Some of those sixes were also checking both bands.....

At about 7:15 local time W5AJG in Dallas started to hear signals building up on two meters. They sounded a bit funny—distorted, like DX 'phone signals on 20 when conditions were fading. Leroy tried peaking the ten-element horizontal array on the signals, and found that the beam seemed to have lost a lot of its directivity. The old two-meter final, a pair of 826s running 200 watts input, was all set to go. The first call recognized was W6ZL, of Glendale, California! 1250-mile DX! Don was raised at 7:39. Q5 and S 6/7 reports were exchanged on voice. At 7:40 the phone rang. It was W6BUT of Taft, California who reported that Leroy's signals were S8 out there—over 1300 miles away. Unfortunately, W6BUT was not ready to transmit on two meters. At 7:42 W2PJA/6 at Long Beach, California, was worked. At 7:45 a QSO was held with W6WSQ, but conditions were rapidly getting worse.

Meanwhile, W5QNL, located between New Boston and Texarkana, Texas, was also in there pitching. His first contact was with W6WSQ of Pasadena, California, at 7:03 PM. This contact established several precedents—in addition to smashing the old DX record by a safe margin of about 200 miles, it was the first cross-polarized contact over such distances. W6WSQ was using a 12-element vertical array! Reports of Q5 S 6 to 9 with moderately fast fading were exchanged. W2PJA/6 was worked next, with good reports in both directions. Then, at 7:37 W6ZL of Glendale was raised with readability 4 to 5, strength 5 to 7 reports both ways. Based on the location of the centers of the cities on the western end of these contacts, it appears that the W6ZL-W5QNL contact tops the list by a very small margin. We check the distance as 1396 miles. Full credit is due to the others involved in this opening who only missed the record by a matter of a few thousand feet!

Other stations were active during the record-breaking opening. W6ZL reports hearing W5PDW of Biloxi, Mississippi, on CW at 1801 PST. He also heard several other carriers but due to the poor manner of identification of their call letters (Please take note, fellers!) he couldn't identify them. W2PJA/6 also reported several calls that he was unable to work. Bud admits that some of these were pretty scratchy identifications, and passes them along mainly in the hope that the owners of the correct calls will recognize the possible similarity and appreciate that they were heard in California! He logged W5KNL, (a possible QSO?) W5CVW, W5JCW and W5QNT. From Oklahoma, W5VGX(?) and a W5TEW(?) from Mississippi. And Bud wonders whether a W4C?? was active with his beam headed west during this opening?

What Sort of Propagation?

After every episode of this sort there is bound to be considerable speculation regarding the combination of circumstances which made the record-breaking contact possible. There is a remarkable similarity between the opening described above and the opening during which W5VY and W8WXV hung up their 1200-mile record last year. Six meters was wide open between the affected areas in both cases. There were potentially good tropospheric conditions at one end of the hop and over a portion of the intervening path.

There is every reason to believe that the ionosphere played some part in the performance. W6WSQ made out almost as well as W6ZL and W2PJA/6 despite the fact that his antenna was somewhat smaller in size and was vertically polarized. The peculiar side-band distortion noted by W5AJG is common on ionospheric transmissions, but not on tropospherics to nearly as great an extent. A definite "skip zone" effect was noticed, and stations outside the favored areas were receiving the DX signals very weakly or not at all. The broadening of the beam pattern at W5AJG's might have been due to polarization scattering or to diffusion of the signal by multi-path effects, the signals may have been reflected from a high-altitude layer.

It is the opinion of Ye Ed that the opening was probably due primarily to the effects of sporadic E ionization. The favorable tropospheric conditions, if they were actually present, may have assisted in spreading the effects of the E-skip. It is unlikely that a continuous path of good atmospheric conditions could have been maintained across the rugged terrain that intervened and through the thunderstorms that were raging between the terminal stations.

Can we expect this sort of opening to occur again in the near future? Why not? On June 8, 1951, exceptional six-meter conditions existed in the northeast. Skip was as short as 250 miles. There must have been terrifically strong ionization up there somewhere. W2BDI and W2PAU were watching two meters carefully, waiting for the break. W2BDI reports that at one time weak, dribbling carriers faded in and out. The modulation was distorted and washed out. The beam didn't seem to point correctly. Sounds familiar? But no QSOs! Possibly the areas favored by this one were not represented by sufficient two-meter ac-

tivity. No doubt one would have been off the Atlantic coast! But it could easily happen again. The peak of the sporadic E season has not yet passed! And favorable tropospheric conditions (if these be required) have been the rule rather than the exception during the past few weeks, at least in this part of the country. So watch six and ten meters. When the skip gets real short—down to a few hundred miles—start checking two meters. It won't take high power—the W6s involved in the June 10th opening were all using less than 120 watts input. Who is going to be the first to hit 1500 miles on two meters?

What Time Does The Balloon Go Up, Doc?

This once-familiar query will again be heard on August 11, 1951, when Hams Associated, of Albuquerque, launch the HA-2, a free flight balloon carrying a v.h.f. transmitter automatically transmitting an MCW signal on 143.9 mc.

Hams Associated, with the cooperation of Air Force MARS, is sponsoring this most unusual experiment to arouse interest in v.h.f. activity, to obtain meteorological data and to focus attention on the program of Air Force MARS.

The transmitter (one or two watts output) will be keyed at a slow speed to transmit the call sign of the HA-2, AF5QPK, followed by a four-letter code group for authentication purposes. Battery life is expected to permit operation from 18 to 24 hours. Balloon height will be stabilized at 50,000 feet, at which elevation it is expected that the balloon will drift across the United States in a northeasterly direction. This should bring the balloon within range of many of the larger cities with their many v.h.f.-equipped stations.

Special QSL cards will be sent to all persons reporting the reception of the signals from the HA-2. All persons hearing the balloon's signals are urged to report the time, location of receiver, signal strength, code symbol received and any other pertinent data to Hams Associated. Reports should be addressed to Hams Associated, Tijeras, New Mexico. Summary of the flight:

Date—Saturday, August 11, 1951 through Sunday, August 12, 1951
Time of launching—7 to 8 PM MST.
Frequency—143.9 mc/s
Call—AF5QPK, followed by a four-letter symbol.

Pass the word around among your v.h.f. friends and get them to listen and report their reception.

The ORM Problem

Why does the gang crowd the low end??? This plaintive cry has been heard a great deal of late on both the six and two meter bands, and it is certainly justified. Unfortunate though it may be, the rugged individualist who chooses to operate high in the band away from the milling throng on the low end finds DX contacts mighty few and far between!

This is no doubt due to the prevailing popularity of fixed-frequency operation on our v.h.f. bands (as opposed to the v.f.o. tactics used on 75 and 20 meters). Following a "CQ" one must tune from *some* spot—it's generally the low end. Result—a pile up, and the heck with the guy with the weaker signal!

The obvious cure for this condition is for some of the "strong signal" boys to modify their tuning habits. If a few pioneers would state frequently during their CQs that they were planning to tune from 51 mc *higher* or from 147 mc down to 146 mc you can bet your last dime that the congestion at the low end would rapidly evaporate. It will require a firm determination on the part of each sufferer from low-end QRM to carry out this program, but it can be done. We aim to try it here! Oil up the VFO dials and dust off those h-f crystals!

News and Notes from Here 'n' There

John Shaffer passes along the news that K4WAR will be active on the two-meter band in the near future from Camp Gordon, Georgia. The QTH is a hill top about 14 miles south of Augusta, and results should be excellent. K4WAR will be using a ten-element flip-flop antenna on a 60-foot pole, a rig winding up with an 829 in the final, with crystals to cover just about the entire band, and a converter using a 6J6 r-f amplifier. Al, W8WXV, was at Camp Gordon recently, and he agrees that with a set-up and location like this there should be no trouble working plenty of DX.

From W6MVK comes the latest results on the second phase of the California VHF Marathon. (See "CQ" for September, 1950 and May, 1951 for announcement of contest and results of first round.) The VHF Milage Marathon was won by Frank Jones, W6AJF, with a total of 8693 miles racked up on two meters during the contest period. This accomplishment is especially worthy of note since activity in the northern section is less than in the neighborhood of Los Angeles. Frank was not using his high-powered rig; he ran up this score with an 829 final using controlled-carrier, feeding into a 16-element beam. His receiver was a *quadruple* conversion job with a crystal-controlled front end adaptable to 10, 6 and 2 meters, beating down eventually to an 85 kc i-f amplifier, and using a low-pass filter in the audio!

The Expedition Award was copped by W6LOZ/M. Conditions were poor during the contest, so the Palo Alto to Camino contact, while not spectacular, was sufficient to win. W6IHK, winner of the last expedition award, attempted to repeat, and missed first place this time by only ten minutes! His best contact would have won by at least a 10 mile margin if it had been made during the contest period!

Activity Award winners for their respective sections were: San Joaquin Valley, W6GQZ (XYL of W6EXH, winner of last contest); San Francisco, W6MHF; East Bay, W6AJF; Santa Clara, W6LOZ; Sacramento, W6AUO; Los Angeles, W6HZ and San Diego, W6BYE.

W6MVK reports that there were many more stations sending in logs for the second part of the Marathon, and the effects of the contest seem to

be showing up in the form of increased activity. And now that the world's DX record has come to roost in Southern California we may expect to hear of still greater v.h.f. activity from this section.

Friends of W2ZGP will be glad to hear that Ken intends to continue his work at Cornell, and the "aurora research" station will not fold up as was the original plan. In fact, Ken plans to expand his operations. One project now under consideration is installation of a high-powered remote-controlled transmitter, located near Ithaca, but so arranged that the direct signal pick-up at the receiving site will be weak. Ken hastens to add that the work of the project will still depend as it has in the past on signals from amateur stations active on six meters in the areas affected by aurora. Also in the mill are plans for an installation on the two-meter band which will supplement the work now being done on six. And Ken still insists that he can get out of Ithaca on 420 mc, and he will move his home station equipment into the lab also! At this time, the research men are particularly interested in an effect which has been observed during aurora openings—more than one ham has noted that the reflected signal seems to come back on a slightly different average frequency from the original signal. If some of you "aurora artists" could take time out from DX-ing during the next opening to check the frequency of those "local" signals which can be heard both directly and via aurora, the results might be quite revealing.

VE7FJ complains that there has been very little news on v.h.f. activity in the Vancouver, British Columbia area appearing in print lately. To help correct this situation he relays the information that VE7AIM is currently constructing a 32-element array for two meters. VE7AEB of Victoria is working on a new transmitter and has his receiver perking FB. VE7TT is also trying his best to get started on the band. VE7AME is back in the saddle after several months of silence. VE7JG is also in the antenna-building business, with a new wide-spaced-six coming up. VE7BQ (pioneer two-meter man in the Northwest) is more active lately since his business-moving job has been accomplished. As for VE7FJ himself—Austin is on the air almost nightly when the job permits—night work and two meter activity don't seem to go together very well! The hop from Vancouver to Victoria, over 80 miles across some very rugged terrain, is accomplished regularly (but it takes some very tricky beam handling!).

W3GKP of Silver Springs, Md. is back on two meters again. He is using a pair of twin fives stacked. Smitty's many friends will no doubt be glad to hear that he is back in the "communicating" business. He's watching especially for aurora openings and tells us that W4AO describes auroral signals as sounding like W2PAU's normal carrier. (***---**-*) (Censored—Ed.)

W3IMC of Baltimore, Md., is making a big dent on the teletype channel with his new 20-element array. Howie is an outspoken advocate of bigger and better beams. In fact, he is so much in favor of them that he has offered to custom-build two-meter arrays to order so long as his supply of aluminum holds out. (Advt.)

W7QLZ is also an authority on twin-five beams. Clyde built about six of 'em according to the original specifications before coming to the inevitable conclusion that pigeons and hoot owls are, indeed, rough on aluminum clothes-line elements!

W2QED continues to preach the gospel of 420 mc, and backs up his claims with some very convincing proof of performance. During June he racked up 36 QSOs on 420, many of them choice DX. On June 22nd W3RE and W3AIR of Washington, D. C., 100 miles distant, were both worked with Q5 S9-plus signals in all cases. W3BSV of Salisbury, Md., (80 miles away) was worked on 12 separate occasions. W3OWW (75 miles) was worked 8 times. W4CLY was worked cross-band to two meters 7 times. K2AH has also been worked cross-band over the 90-mile distance on several occasions. Often the 420 mc signals were stronger over the same path than the 2-meter signals. All DX work thus far this year has been done on horizontal polarization.

Ye Ed has a problem. During a recent QSO with W3BQY the teletype machine opened up—it was W2JAV on the auto-call receiver. A little experimenting demonstrated that W2JAV's audio filters would clean off the voice modulation and permit normal operation of the teletype gear. W3BQY didn't mind the small amount of "tweedle-dee" in the background (30% modulation!). So both QSOs went on independently, the guest operators had a nice chat with Bill on voice, while we carried on with Phil with teletype—on the same carrier! The problem, Mr. Anthony, is: what the heck do we put in the log???

From K6NZ comes the tip that it might be wise to check the CAP channels (which are just outside the high end of the two-meter band—"Baker" channel is 148.14 mc) to monitor band conditions. In many sections of the country CAP activity is higher than two-meter ham activity. In Southern California the CAP groups are active every evening. One of your pals from the local squadron can probably be persuaded to disclose the approximate locations of the CAP stations.

W4HHK is back on the air via the "Beacon" technique. Paul's CW signals on approximately 50.1 mc have been reported many times—often when no other DX was coming through. Hope that you can find more time to operate the "big" rig in the near future, Paul. A lot of us are anxious for a chance to renew an old friendship.

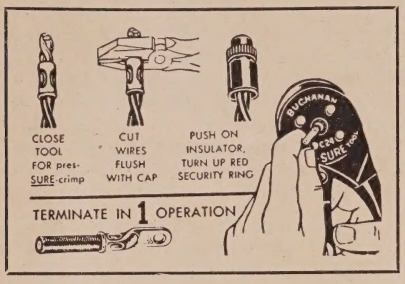
That's about all for now.... Many thanks to those who have kept the old mill supplied with news items. See you next month.

Brownie, W2PAU

Parts and Products

Wire Splicer

Buchanan Splice Caps for "pigtail" splicing of electrical wiring are now available in an improved open-end construction which considerably facilitates their installation and inspection, according to the manufacturer. Only two sizes of Splice Caps are required for all most frequently used combinations of two or more wires ranging all the way from two #18 to three #8. Quickly applied snap-on insulators of fixed insulating



value eliminate necessity of taping of joints and insure against breakdown in service, the manufacturer of this product further states. The hand operated "pres-sure-tool" which installs both sizes of Spice Caps also installs the manufacturer's Termend lugs on all wire sizes from #16 to #8. This tool features an exclusive fourway "pressure-crimping" action which assures permanent connections of maximum electrical and mechanical efficiency and is equally effective on solid or stranded wires. The tool weighs one pound and is 8 inches in overall length with vinyl protected handles. For literature and details about delivery and price, write: BUCHANAN ELECTRICAL PRODUCTS CORPORATION, Hillside, New Jersey.

UHF TV Notebook

Hams can keep up with uhf television with the new "Notebook On UHF Television and UHF-VHF Tuners". This new "notebook" has been prepared by Edward M. Noll, author of "Television For Radiomen" and "Color Television Notebook", and provides practical information supplemented with circuit schematics, block diagrams and specific data on commercial tuners, a bibliography of uhf, table of proposed channels for vhf-uhf television indicating frequency ranges, and a comprehensive tabulation of proposed allocations of vhf-uhf channels by cities and states. The "notebook" measures 8½ x 11 inches and is bound to lay flat when opened. You can obtain a copy by sending $1.00 to: PAUL H. WENDEL PUBLISHING CO., INC., P. O. Box 1321, Indianapolis 6, Indiana.

"Ham News" in Book Form

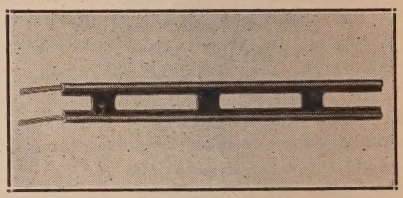
General Electric's "Ham News" is now available in one cloth-bound volume containing a copy of every issue since the first one published in May-June 1946 up through the November-December 1950 issue. Hams and others interested in obtaining this volume which is priced at $2.00 should write to: GENERAL ELECTRIC "HAM NEWS", Schenectady, New York.

New TV Literature

Hams and TV men will find the new JFD brochure No. 92 very interesting. It describes and illustrates 2 new all-channel television antennas which are manufactured for window mounting. For details and the brochure, write: JFD MANUFACTURING, INC., 6101 Sixteenth Avenue, Brooklyn, N. Y.

Bright Color Lead-In

Spaced Goodline Airlead is now available in a variety of eight bright colors: Red, Pink, Blue, Baby Blue, Pastel Green, Chrome Yellow, Ivory, Soft White, Brown and Standard Clear. About 80% of the web between the two lead-wires has been removed (see the illustration) and the manufacturer claims this results in effective utilization of air for insulation and a consequent lower signal loss. The nominal impedance of the "Airlead is 300 ohms. The insulating material is weather-resistant polyethylene. The product is packaged in the following lengths, on reels:



100'; 250'; 500'; 1000' and 2500'. Samples of the eight new colors, new illustrated literature and complete information can be obtained by writing: DON GOOD, INC., 1014 Fair Oaks Ave., South Pasadena, California.

New Rider Manual

Rider's Television Manual, Volume 7, the latest in the series, is now in production and is scheduled for publication in July. A large number of manufacturers have contributed their factory-

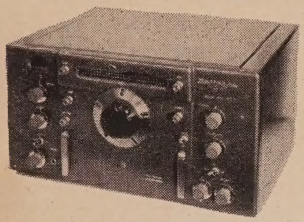
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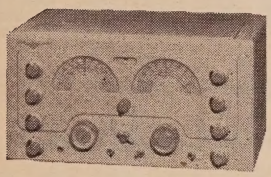


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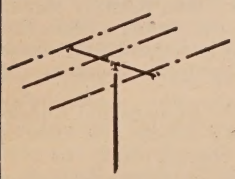
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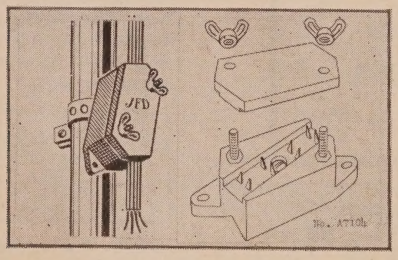
authorized servicing data for the period of Fall 1950 to Summer 1951. Taking up where Volume 6 leaves off, Volume 7 includes information on 776 models and contains schematics, chassis views, voltages, resistance readings, alignment procedures, test patterns, waveforms, parts lists and parts values, boosters, tuners and up-to-date changes on previously published information. Circuit action description and unpacking instructions and installations data are included. Volume 7 is priced at $24.00 from the publisher: JOHN F. RIDER, 480 Canal Street, New York 13, N. Y.

Civil Defense Antennas

VHF antennas for mobile services within the 100 to 230-mc bands have been made available by PREMAX. One is a Fixed Ground Plane antenna which can be installed as the base station. Another model is for roof-top installation in the mobile unit and requires only ½-inch hole for mounting; ceramic insulation. A third model requires no drilling of holes. It uses a large suction cup and is installed instantly. For price information and descriptive bulletin R51-3, write: PREMAX PRODUCTS, Niagara Falls, New York.

Lightning Arrester For TV

JFD has made available a new lightning arrester designed especially for protection of television rotator installations. Referred to as Model No. AT104 Lightning Arrester, it employs eight precision-spaced teeth which maintain double contact with the lead-in wires. The manufacturer states that no wire cutting, stripping or spreading is necessary. The lead-in is simply slipped in and



the cover tightened down by means of two wing nuts. The electrical design is said to safely ground dangerous lightning charges. The 4-wire 8-contact Lightning Arrester is available with the mounting strap, Model No. AT104S, at $1.75 list, and without the strap, Model No. AT104, at $1.50 list. Literature describing the lightning arrester is available on request; write: JFD MANUFACTURING CO., INC., 6101 Sixteenth Avenue, Brooklyn 4, N. Y.

C-D's New Capacitors

A new line of metallized paper tubular capacitors is being introduced by C-D. They feature compactness and lightness, combined with high insulation resistance, low power factor and self healing characteristics, according to the manufacturer. This new C-D line is available in three basic types: the "Pup", "Sealpup" and the "Metapup". Their size represents a 50 to 75% reduction with respect to foil or conventional types of paper dielectric capacitors. Bulletins 142, 143 and 144 describing the new line will be mailed on request. Write: CORNELL-DUBILIER ELECTRIC CORPORATION, South Plainfield, New Jersey.

New Centralab Bulletins

Eleven new technical bulletins covering three product classifications are available from CENTRALAB. The first classification is "Ceramic Capacitors"; transmitting capacitors (High voltage type) bulletin No. 42-102; stand-off capacitors, tubular type, bulletin No. 42-121; solder-sealed button capacitors, bulletin No. 42-122. The second classification is "Printed Electronic Circuits": Model 2 Ampec, three-stage p.e.c. amplifier described in bulletin No. 42-117; TV vertical integrator networks, bulletin No. 42-126; triode couplates, bulletin No. 42-127; pentode couplates, bulletin No. 42-128; Audet p.e.c, bulletin No. 42-129; Model 3 Ampec, three-stage p.e.c. amplifier, bulletin No. 42-130. The third classification is "Switches": lever action switches, bulletin No. 42-141. Bulletins may be obtained free of charge by writing: CENTRALAB, Advertising Department, 900 E. Keefe Avenue, Milwaukee 1, Wisc.

HAMFEST CALENDAR

MARYLAND—Sunday, August 19th, at Triton Beach, Mayo - Fourth Annual Hamfest Picnic sponsored by the Baltimore Amateur Radio Communications Society. Tickets $1.00 per person, children 6 to 12, 50c. Admission includes bathing, bath locker, picnic table, pavilion, parking lot and ball field privileges. Pack a picnic basket and enjoy the gala program. Club station, W3PSG, will be in operation on 10-meter' phone; special prize for the best mobile installation. To reach Triton Beach from Washington take Route 214 through Capital Heights to Route 2. From Baltimore take Route 2 through Annapolis, then follow the hamfest signs. For information write: Chairman Bill Cooke, W3GBB, 3019 The Alameda, Baltimore 18, Maryland.

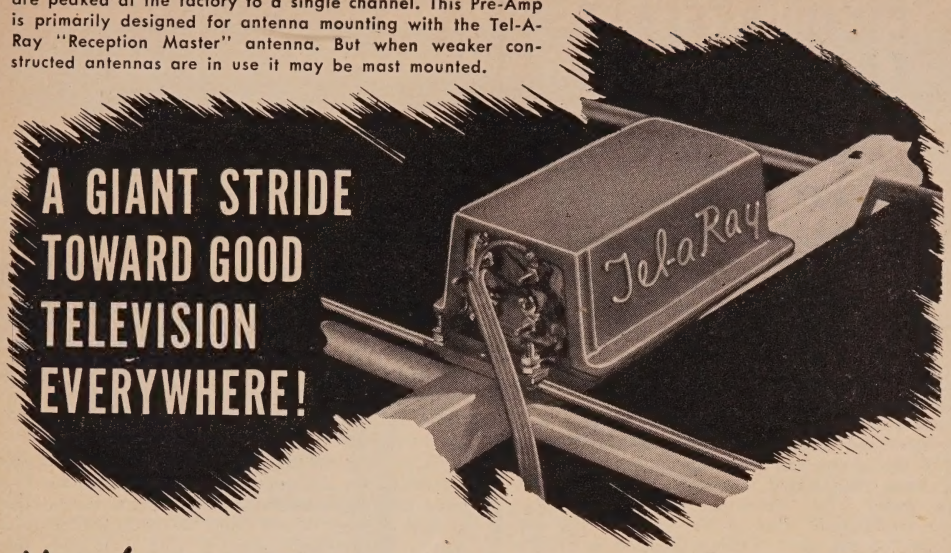
MICHIGAN—August 19 - Blossomland Amateur Association's Anniversary Picnic and Hamfest, 15 miles south of St. Joseph, Mich. on Lake Michigan at Warren Dunes State Park, U. S. Highway 12.

This is a picnic for all the family; bring your own basket lunch and beach equipment, also usable radio gear for Swap and Shop or Auction. No admission charge to park or picnic. Amateur Registration Fee $1.00—Lots of fine prizes. Advance Registrations for extra prizes.

Mail request for Advance Registrations to Dean Manley, W8FGB, St. Joseph, Mich.

ONTARIO—August 25—Niagara Peninsula A. R. C. Stag Weiner Roast, starts 8:30 pm at VE3FZ's farm, Beamsville, Ont. Prizes and refreshments. Tickets $1.50; strictly stag, and visiting OMs welcomed.

Above — For maximum efficiency, Tel-A-Ray Pre-Amplifiers are peaked at the factory to a single channel. This Pre-Amp is primarily designed for antenna mounting with the Tel-A-Ray "Reception Master" antenna. But when weaker constructed antennas are in use it may be mast mounted.



New, Improved TEL-A-RAY PRE-AMPLIFIER

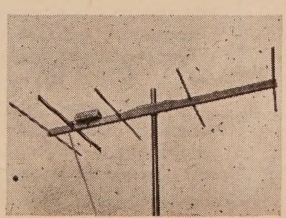
gives clear, sharp reception beyond the fringe areas!

The only antenna-mounted device of its kind, the Tel-A-Ray Pre-Amplifier has established itself as an essential aid in getting good television reception in many locations. Now, it has been tremendously improved. Among other things, there are now separate models for high and low channels, with a matched tuned grid circuit that insures maximum gain and a stable signal.

Here is a must installation wherever signals are weak and snow is a problem . . . a simple, easily installed and economical means of getting clear, sharp, snow-free reception even beyond the fringe areas. For an investment of just a few dollars, you can get far better television. And with multiple installations of antenna and Tel-A-Ray Pre-Amplifiers peaked to different stations, you can greatly increase your choice of television entertainment.

Use With Model T or TD Antenna for the best results

Installation of these famous long distance Tel-A-Ray antennas is the first step in getting clear, snow-free reception. With the Pre-Amplifier, they give up to 300 times gain over dipole.



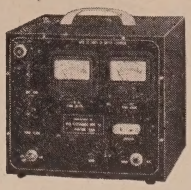
- Gives maximum gain in signal.
- Insures stability of signal.
- Provides for vastly improved signal - to - noise ratio.
- Compensates for lead line loss.
- Eliminates or greatly reduces snow.
- An essential complement to the booster at the set in many locations, and can be used without a booster in numerous cases.
- Made of Dural and weather-sealed . . . completely g u a r a n t e e d against weather damage.
- Inexpensive . . . speedily and easily installed to any mast or antenna.

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HENDERSON, KENTUCKY
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CIVIL DEFENSE TRANSMITTERS

The WEB 25 WATT "CLAMPER"

10 METERS



Size: 8"x7"x7½" Deep

Tube Line up: Osc. 6V6; Final, 2E26; Modulator 6V6. POWER REQUIREMENTS: 300 volts at 100 mils.

The "Perfect Modulator" clamper tube rig. The receiving station will not know you are using clamper tube modulation.

Front panel beautifully silk screened on a conservative dull black panel. Two meters on front 0-150 ma so you can read your final mils and at the same time watch your grid drive on a 0-10 Ma. meter. Two important things in clamper tube modulation. One of the simplest rigs yet, to get "on the air". Cabinet finished in crinkle black, with carrying handle. See them at your dealers NOW:

PRICE (Less tubes).....$59.50
Tubes if desired..... 6.25

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67 West 44 Street New York 18, N. Y.

LETTERS

(from page 6)

1243 Sixteenth Ave., N.
Seattle 2, Wash.

Editor, CQ:

There was no intention on my part to slight any of the research work done by the Wright Air Development Center. If the people at Wright feel that they were left out in my article, I am very sorry.

The material from which I wrote was given me by experts at Boeing Airplane Company in Seattle, and by the public-relations division of that firm. In it was included the photographs and drawings mentioned by Captain Fisher; if these were not properly credited in publication, that is very unfortunate. Possibly it was a printer's error, for I certainly take care to see that ALL material I use or submit is properly credited.

As to who foresaw the need for flush-mounted antennas, the statement I used was the one I got from the people at Boeing. I imagine the situation in that respect varies from research center to research center—and since it was a Boeing story from my standpoint, that was how I wrote it.

Allow me to say that the B-50 Superfortress, Boeing's medium bomber, still is flying with many protruding antennas. Boeing's speedy B-47, however, skims through the air at near-sonic speed without ANY antennas sticking out. Shall we say the EVERYBODY now recognizes the need for flush-mounted antennas?

Louis R. Huber, W7UU

(We can blame the printer for a lot of things, but the omission of the photo credits was entirely and regrettably our fault. Ed.)

CONTESTMANSHIP

(from page 19)

ting something, and *Clickmanship* (especially effective against local Opponent). But these are proper subjects for a more extended treatment.

Perhaps this brief resume will be successful in suggesting how the vast possibilities inherent in contestmanship can add to the pleasure and efficiency of amateur operating. As Kerl has put it, "Als Betrage gewendig sind, so musst Mann." How true!

LOADING COIL

(from page 21)

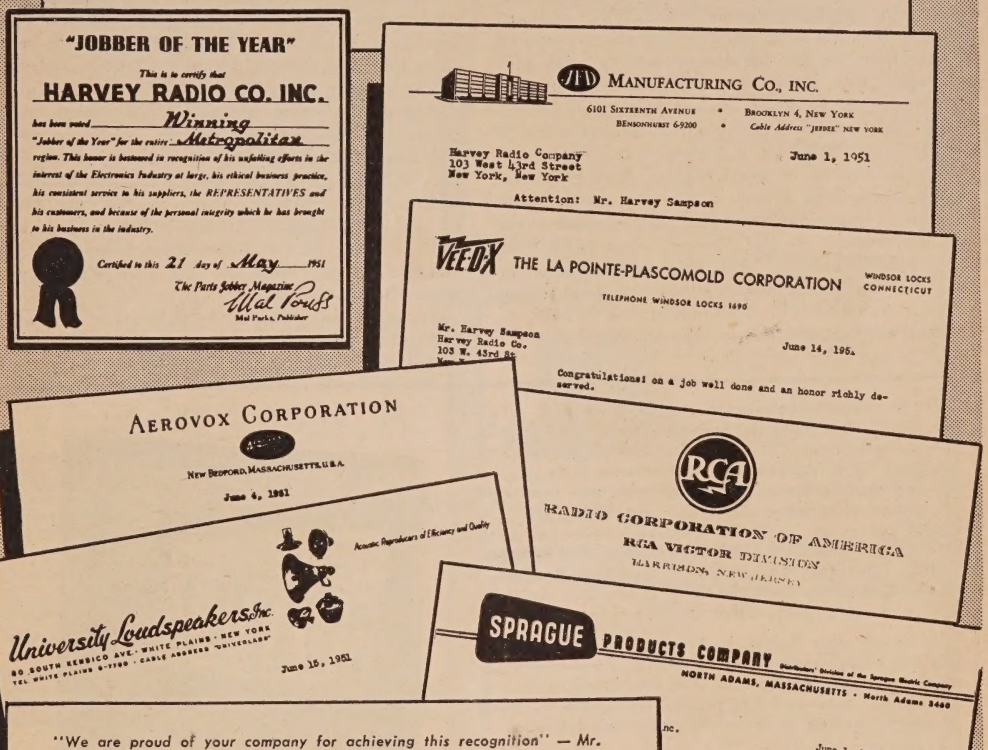
on the coil but experience has shown it to be a substantial improvement over the original.

The idea of using a BC-610 coil is not original. Hams in the Los Angeles area have been using them for some time with and without various capacity devices, and it was from one of these fellows that the author first learned of the idea. The only claim to originality is the adjustable feature and adaptation of the Model A Ford

Harvey Radio Co. Elected "Jobber of the Year" for the Metropolitan New York Region

"In recognition of unfailing efforts in the interest of the Electronics Industry at large, for ethical business practices... and consistent service to customers," the Harvey Radio Co. has been named Winning "Jobber of the Year" for the Metropolitan New York region by the *Parts Jobber Magazine.*

This is an Award not easily given... you have to be good to get it. Harvey customers number in the thousands... all over the world. They know that they can depend upon us for service, values, and the things they want when they need them. Whether you are a broadcaster, an amateur operator, a manufacturer, part of a municipality, or are in Civilian Defense... you can be sure if you BUY IT FROM HARVEY.



"We are proud of your company for achieving this recognition" — Mr. Harry Kalker, Sales Manager, Sprague Products Company.

"... a timely recognition for the splendid jobbing job you've done" — Mr. Charles Golenpaul, Sales Manager, Distributor Division, Aerovox Corp.

"... you can well be proud of the outstanding job you have done" — H. F. Bersche, Manager, Renewal Sales, Radio Corp. of America.

"... a tribute to your fine record of service to the industry"—Mr. Edwar Finkel, Sales Manager, JFD Manufacturing Co.

"... your selection as the 'Jobber of the Year for the Metropolitan regior speaks highly for you and your staff" — Jerome E. Respess, President, L Pointe-Plascomold Corporation.

"Your award ... proves that good deeds and honest leadership are still th seeds of progress" — Larry Epstein, Sales Manager, University Louc speaker, Inc.

These are only a few excerpts from letters received from leading manufacturers. You, too, will like doing business with HARVEY.

hubcaps. Admittedly, there must be some hysterisis and eddy current losses in the metal end-pieces, but they don't appear to be excessive and the "dressed-up" touch is sufficient compensation.

Further Thoughts

Needless to say, the wind resistance of the coil is quite high, and under some weather and driving conditions, a guy becomes almost a necessity. The author is contemplating the installation of a small chrome-plated chain with midget strain insulators.

If anyone feels disposed to try something along these lines, the 1.5 to 2.0 megacycle BC-610 coil might be a better deal as then one could just remove turns until the desired inductance is obtained. As an additional hint to any soul hardy enough to install such a monstrosity on his automobile, much time and repititious speechifying will be saved if one has a mimeographed sheet prepared to hand out to the inquisitive hordes who give out with the inevitable question—what's that, television? As so many people have pointed out, if the coil doesn't perform up to expectations, it can always be used for a portable canary cage.

In case anyone is wondering as to the balance of the transmitter lineup, a 12 volt battery with its own voltage-regulated generator furnishes the primary power. A BD-77 dynamotor (12 volts in and 1000 volts @ 350 ma. out) powers the final and modulator while a pair of synchronous vibrator supplies (12 volts in and 300 volts @ 100 ma. out) handle the low power stages.

ROTARY BEAM

(from page 13)

feet below the 10 meter one. The center of gravity of the entire assembly is thus lowered well below the point of support, which makes it very stable. This method also eliminates the need for a second boom. If you insist on more than two elements on twenty, this will not work; however, many operators agree that beyond two elements there is only a theoretical db. or so for each extra element, MAYBE. Unless wide spacing is employed, tuning will be required to realize even this slim advantage, and in the meantime construction problems have skyrocketed. For the practical case, then, it looks as if two elements on twenty represents the most results per unit effort and cost.

The present array at W4MXP is shown in the photograph. It was completely assembled on the ground except for the twenty meter elements, and was light enough to be hoisted and mounted by one man. The dimensions of the affair are such that it is easy to reach all the cone insulators of the 20 meter antenna. The folded dipole and director for it were then hoisted up and attached by screwing the two cone insulators in place on the crosspieces.

Results? Well, this is the first array we haven't decided to change after six months' use.

Every radio technician should keep abreast of all the latest developments and all phases of Radio-TV service techniques. "SERVICE DEALER" is a magazine designed to bring you up-to-the-minute facts on the use and applications of new instruments, new short-cuts in trouble-shooting—substitution methods, etc. In recent copies of "SERVICE DEALER" we've had such articles as, "The CBS Field Sequential Color System," "UHF Television Converters," "Antenna Rotators," "Build Your Own Instruments," "Filters For Amateur TVI" and many, many other useful articles.

Although your hobby is Amateur Radio, we know you will enjoy reading this magazine. Its contents are written for men engaged in AM-FM, home radio and TV service work and has proved invaluable to many people interested in technical radio and television.

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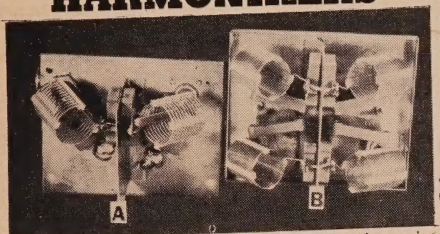
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HARMONIKERS



Here's attenuation of all ham-band transmitter harmonics with negligible insertion loss. With normal TVI precautions and a Harmoniker in the lead in, your silent hours are over! Described originally in the G. E. Ham News, this small 3" x 4" x5" half-wave filter will attenuate as much as 110DB for the TV band harmonics of an 80 meter transmitter. A cinch to build – no tuning or adjusting necessary when using our factory guaranteed 2% accurate condensers. Harrison Harmoniker kits contain B and W miniductors (no coils to wind!), ground posts, indicated condensers, connectors, full instructions and special metal box with all holes punched, shield welded in place then copper plated – ready to assemble. Building is a simple matter of assembly, using a screwdriver, pliers, and soldering iron. Complete the Harrison Harmoniker in less than 20 minutes!

(A) For 50 to 100-ohm single coax line (Includes coax fittings): With 1000 Volt (2000V test) SILVER MICA condensers for stabilized tuned circuits. Will handle 1 KW CW or 250 W AM Fone RF output.

80 Meters–FI-85	$6.59	20 Meters–FI-25	$4.72
40 Meters–FI-45	$5.49	10 Meters–FI-15	$4.17

Same with 2500 Volt (5KV test), 2% transmitting Mica Condensers to handle a full KW Fone!

80 Meters–FI-86	$10.95	20 Meters–FI-26	$7.90
40 Meters–FI-46	$ 9.26	10 Meters–FI-16	$7.32

(B) For 200 to 600-ohm twin lead or spaced open wire. (Includes feed-thru insulators): With 1000 Volt (2000V test) SILVER MICA Condensers. Will handle 1 KW CW or 250 Watts AM Fone.

80 Meters–FI-83	$7.39	20 Meters–FI-23	$6.45
40 Meters–FI-43	$5.99	10 Meters–FI-13	$5.89

Same with 2500 Volt (5KV test), 2% transmitting Mica Condensers to handle a full KW Fone.

80 Meters–FI-84	$14.55	20 Meters–FI-24	$13.50
40 Meters–FI-44	$13.75	10 Meters–FI-14	$12.90

Special copper plated utility box provided with all kits.

NOVICE XMTR



Novice Operators! Beginning Hams! Assemble this rig in less than two hours. Foolproof! – 6F6 tri-tet oscillator drives 6L6 final to 35 watts input on 20, 40, 80, and 160 meters. Pi-network loads any random length antenna. 6L6 PA will double for two band operation. Built-in resonance indicator. Kit supplied complete with punched and drilled chassis, all sockets, hardware, and parts – ready to complete. Photographs supplied show exact placement of components.

Eagle X-30 transmitter kit –	$8.95
Plug-in coils (specify band) –	.99
PR Crystals (80 or 40 meter) –	2.75
Tubes: 6F6G – $.99	6L6G – 1.92

Power supply for above (complete with 80 rectifier) may be mounted alongside transmitter in rack or panel – $9.75

SELETRON BATTERY CHARGER



Mobile Hams! – Keep your battery fully charged at all times. Be ready for any emergency! Charge your battery overnight for less than two cents. The new Seletron Battery Booster assures peak performance – no buckled plates from overcharging. Conservatively rated at Four amperes. Circuit breaker protects against overload. Rugged, long-life selenium rectifier. Compact – only 4" x 4" x 5" high Complete with AC line cord, and 6 Volt DC leads with alligator clips. Instructions included. $9.95

NEW JOHNSON VIKING VFO KIT

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Complete Kit, less tubes $42.75

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Brand new Signal Corps, wide web, linesman's safety belts. Equipped with tool holster and tape holder. High strength webbing – 70" long – fully, adjustable. Just the thing when working on that pole or tower. Cheaper than adoctor's visit. Item MX-14 Complete Outfit only $3.98

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Our new Novice Class Ham-A-Log is now ready! Novice license aspirants and beginning amateurs will find it an invaluable aid. Send for your copy now! Club Secretaries and Boys' Group Radio Advisors – How Many Can You Use?

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Really hot dual conversion reception. Super-Imposition tuning effectively doubles the already extremely wide bandspread – you actually tune both the top half and the bottom half of the entire 144-148.2 MC band simultaneously. 44 to 1 vernier dial. No images from commercial, police, taxi, etc. Rock-Stable voltage regulated oscillator is immune to voltage changes or mechanical vibrations. Coax line input is a perfect match to usual mobile whip or home antenna. Only $44.50

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Covers 10-11, 20, and 75 meter bands. Over 8 linear inches of bandspread on 10 meters! Calibration accuracy better than 1/10 of one percent. Four tubes for maximum gain and selectivity – 6CB6 RF stage, 6BH6 high gain I. F. stage, 6AT6 triode mixer, and 6C4 modified clapp oscillator Matches two-meter converter in appearance. Only $47.60

GONSET ACCESSORIES
New Model B Noise Clipper – Provides excellent suppression of ignition, power leak, and similar interference. A must for every mobile installation! Complete $9.25

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NOVICE CLUB

(from page 17)

of the dads show every symptom of taking up ham radio as a hobby in the near future.

In A Nutshell

As a result of our experiences over the last two years, it appears to me that advice to new Novice clubs and their sponsors might be condensed into the following set of rules. These rules apply particularly to groups composed of teenage boys, but also have some application when dealing with older groups.

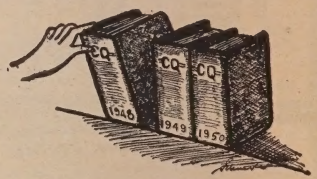
1. Keep the group small. In choosing your membership, emphasize quality rather than numbers.
2. Make your projects simple, and keep your objectives from becoming too broad and inclusive. Since you are interested in amateur radio, avoid the building or servicing of broadcast and TV receivers.
3. Don't be afraid to change your program to follow the changing interests of your members. Just see that they don't lose sight of the main purpose of the club.
4. Let the members use their hands.
5. Don't emphasize theory until the boys ask for it.
6. Allow the club to act democratically, under the supervision (but not under the dictation) of the advisor.
7. Inject a spirit of competition at every opportunity, especially in regard to code practice.
8. As members progress and become independent of help, encourage them to help as many other prospective Novices as possible. This will provide preliminary training for the future members of your club, who can not join at present because the membership is full.
9. Do not take on the job of club sponsorship lightly. Teen-age boys are dynamite! They will tax your strength, vitality, and ingenuity to the breaking point.

MONITORING POST

(from page 41)

net) schedules are maintained on Standard Time, and a change has been made for the 20-meter sked to 6:30 P.M., E.S.T., every Sunday on 14120 kc—*W6HJV, W8MPG,* and *W4MV* will watch for new stations. . . . Police personnel are invited to QNI the 3895 QPO Net on Fridays at 10 P.M., E.S.T., and also a second shed at the same time every Sunday—*W4DD* and *W4WV* can be heard there along with *WØBTD. W6LRQ, W6EAN,* and *W6WJM* can be heard on these nets with CW . . . QPO on 3715 includes *W8DUR, HRC, ULR, FR,* and *CDQ* daily at noon, E.S.T.

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APPEARANCE . . . Your shack, den . . . or wherever you set up your rig can be kept in good shape when all your copies of CQ are in one safe place. The deep, red shade will blend perfectly with any color scheme . . . and, in addition, the backbone will be gold stamped with CQ and any year you desire.

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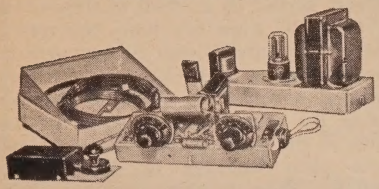
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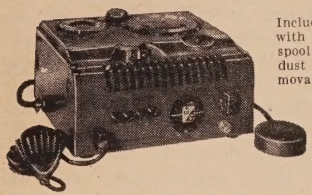
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Brand New — Discontinued Model



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413 434 479 497	391 402	374 383	452 533
414 435 481 503	392 403	375 384	465 536
415 436 483 504	393 404	376 386	526 537
416 438 484 506	394 405	377 387	529 538
418 440 485 507	395 408	379 388	530
419 441 487 509	396 409	380	
420 442 488 511	400 411	EACH	EACH
422 443 490 516		**39c**	**99c**
423 446 491 518			
424 447 492 519			
425 448 493		SPECIAL 200 KC XTALS	
426 462	EACH	without Holders. 21/32 x 23/32	
427 472 EACH		**69c** ea. 3 for **$2**	
429 474 **49c**	**79c**		

HAM CRYSTALS

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5030	6140	6973	7973	8306
5485	6173	7740		
6006	6206	7773	**49c** EACH	
6040	6773	7806	10 for	
6073	6873	7840	**$4.50**	
3735	5850	6473	7340	7640
5305	5873	6475	7440	7673
5677	5906	6506	7473	7706
5706	5925	6540	7506	7806
5740	5940	6573	7540	8340
5750	5973	6606	7573	
5760	6273	6640		
5773	6373	6673	**99c** EACH	
5806	6406	6705		
5825	6440	6740	10 for	
5840	6450	6806	**$9.00**	

SPERRY AMPLIFIER, 4-tube, Elevator Servo-Amplifier, used as voltage amp. to operate relay. Complete with tubes. New **$3.95**

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PAYMENTS must accompany order. Enclose 20c for Postage & Handling. Crystal shipped packed in cloth bags. All Shipments Guaranteed.



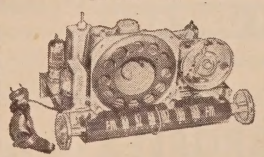
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2-12BA6 1-35W4
1-35B5

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From SCR-522



2 GANG
25 MMF
per section
$1.29

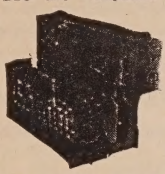


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Used. Good Condition. Covers 150-210 MC Companion to BC-1068A receiver. Contains resonant cavity wavemeter, oscillator, heterodyne amplifier, tuning eye, 110 VAC 60 Cycle Power Supply.



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Used. Good condition. Covers 150-210 mc. Contains many parts, such as 110 V AC Blower, Gen. Radio—1 AMP variac, kilovolt meter, circuit breaker, 110 volt HI & LO voltage power supply, tubes, oil condensers, and many others. Companion to 1073A. Operates from 110 V AC 60 Cycles.

$19.95 - less tubes $9.95
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.500 GAP.	.375 GAP.	.250 GAP.
96-22.15	11- 8.15	111-16.80
115-25.20	106-20.15	127-18 25
124-26.65	130-21.60	143-19.85
	141-24.50	159-21.00
	153-25.95	175-22.50
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Note: Figure in Left Column is Max. Cap. per Section

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Max. Cap.	Gap	Price
300	.077	$ 5.32
230	.171	5.57
250	.219	12.85
500	.219	17.22
75	.344	8.96
245	.344	14.11
50	.469	7.05
100	.469	11.62
150	.469	12.95
75	.719	12.85
100-100	.219	14.11
100-100	.344	15.64
60-60	.469	14.11

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With amateur mobile in CD limited to 28 mc. upwards, local emergency coordinators now plan extensive use of the 6, 2 and 1¼ meter bands.

Mobile operations at these frequencies are working out surprisingly well, too, with excellent coverage using relatively low mobile power. Recognizing the need for inexpensive VHF antennas, Premax offers two new car-top designs. One requires only a single ½" hole for mounting and the other utilizes a suction cup mounting, requiring no holes, yet being always available for service.

A new low-cost ground plane (can be isoplane) antenna is also availeble for fixed station use.

High-tempered spring-wire whips are used thru-out and are mounted on ceramic feed-thrus in the ground-plane and permanent car-top models.

Write for bulletin or see your jobber

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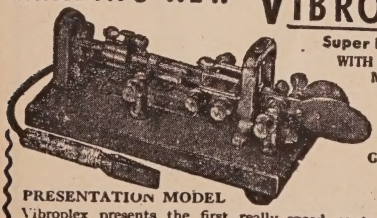
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THE VIBROPLEX CO., INC. 833 Broadway, N. Y. 3, N. Y.

Two chess games were completed recently on the ham bands between the Federal Chess Club of Washington, D.C., and the Army's Records Administration Center in St. Louis. *W3PZA* handled the first game, and *W3CQD* the second, with *WØTCE* on the St. Louis end. . . . A phone vs. CW contest livened up a recent meeting of the Potomac Valley RC when two keys, two sets of phones, and enough wire to span 30 feet were set up for the CW spots, and two sets of sound-powered phones, separated by the same distance. The object of the contest was to make the best copy possible in the shortest time. Message texts varied from plain language to difficult code groups, with both sides handling duplicate copies. Errors, spelling and omissions deducted from a perfect score. *W4KFC* and *W3GRF* on CW vied with *W4ESK* and *W4NTZ* on phone, both sides doing good jobs. CW came out ahead, but results are not considered conclusive. Similar contests are suggested for other clubs, and copies of suggested rules will be sent to anyone interested by applying to W4KFT, 5325 North 26th St., Arlington, Va.

Changes in planning in civil defense amateur radio are leading to better organizations all over the country. More complete coverage is being planned, and local CD officials are installing motor-driven generators in many spots to assure continuance of operation under all conditions. Of course, auxiliary power should be the first consideration in such plans, but, as ever, until an actual emergency arises in communications, little thought is given to it. Amateur radio in civil defense is being considered largely because of its ability to furnish communications under any and all emergency conditions, yet too few of the so-called emergency installations include emergency power. Well-planned stations will not only provide for such power for the operation of radio gear, but will also consider the need for lighting to enable others at control centers to carry on with their work in the event of a power failure. Radio messages cannot be processed unless sufficient overall lighting is provided. Bring this matter to the attention of your local CD officials where it has not as yet been considered.

Birthday greetings to *W1PCH, W1CJD, W4VR,* and *W4MWH.*

CQ'S 1950 DX CONTEST

(from page 35)

FRENCH MOROCCO

	STATION	COUNTRIES	ZONES	SCORE
14 mc.	CN8EX	45	14	35,695

LIBYA

14 mc.	MD2AM	21	7	3,108
28 mc.	MD2AF	27	12	12,909

SOUTHERN RHODESIA

All bands	ZE2KH	27	18	10,710

TUNISIA

14 mc.	3V8AJ	13	3	1,104

UNION OF SOUTH AFRICA

All bands	ZS6JS	58	35	50,034

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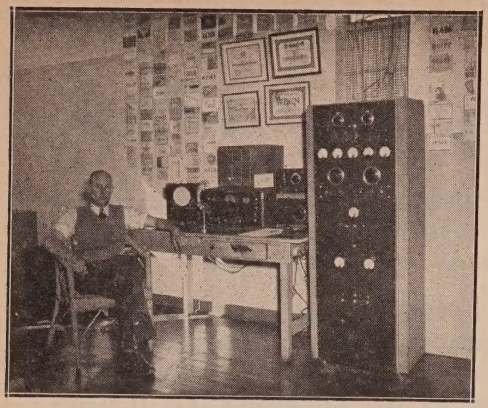
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★ **Writing your initial article is a little like taking a first swipe at a bug. It seems strange and unfamiliar, but practice soon has you pushing a paddle with the best of them on the air. In addition, the editorial staff of CQ is ready to give guidance and advice to qualified amateurs interested in entering the editorial field on a contributing basis. Technical articles, photographs, cartoons, short stories...all of these fields are of interest to CQ editors. Commercial rates are paid for all acceptable material.**

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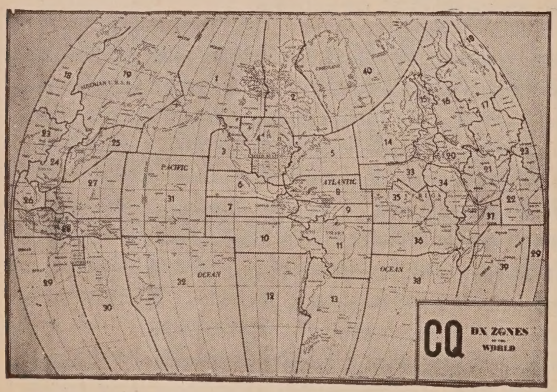
ZS6JS scored 50,034 points. Charles runs about 100 watts into a pair of 814's. For antennas he uses a 4-element rotary on 10 meters and a 3-element job for 20—both being mounted on a 60-foot tower.

Asia-Single Operator Stations

	STATION	COUNTRIES	ZONES	SCORE
ARABIA				
All bands	HZ1KE	18	11	3,219
BURMA				
All bands	XZ2SY	63	34	35,793
14 mc.	XZ2SY	29	15	8,624
28 mc.	XZ2EM	39	19	12,760
	XZ2SY	34	19	9,169
HONG KONG				
All bands	VS6AM	37	22	13,334
	VS6AE	15	14	1,073
14 mc.	VS6AE	5	5	60
	VS6AM	3	3	24
28 mc.	VS6AM	34	19	11,766
	VS6AE	10	9	209
ISRAEL				
All bands	4X4RE	72	32	74,048
SINGAPORE				
All bands	VS1DZ	23	21	7,920
SUMATRA				
All bands	PK4DA	23	18	5,084
TURKEY				
28 mc.	TA1AT	6	4	390

Oceania-Single Operator Stations

AUSTRALIA				
All bands	VK2AMV	26	20	6,348
GILBERT ISLANDS				
14 mc.	VR1C	24	17	12,546
HAWAII				
All bands	KH6IJ	55	36	100,464
	KH6BA	42	27	20,148
14 mc.	KH6IJ	29	20	20,384
	KH6LG	27	24	16,728
	KH6AEX	24	15	9,945
28 mc.	KH6IJ	16	26	28,886
	KH6ADK	16	12	8,148
NEW ZEALAND				
All bands	ZL1MQ	28	24	10,920
14 mc.	ZL1MQ	21	17	5,738
	ZL4GA	10	8	558
28 mc.	ZL1MQ	7	7	826



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Sirs: I enclose $1.00 for which please send me a WAZ DX ZONE MAP OF THE WORLD.

Name .....

Address .....

City ..... Zone ..... State .....

OKINAWA				
14 mc.	KR6FA	20	15	5,565
WESTERN SAMOA				
14 mc.	ZM6AK	8	5	156

Thanks to the following for sending in logs for checking purposes: DL4FS, DL4FQ, F9OO, OZ7HT, EA8BC, G2AJB, G3CS, VE2ID, VE8MJ, KG6HN, ZS2DG, G2MI, ZS6JF, ZS6VX, WØDEA, WØDEB, VP2GE, KZ5BL, KS4AC, ZE3JJ, ZS7C, AR8AB, LU4MW, LU4MG, W6-RMG/HL1 (phone and c.w.).

DX & OVERSEAS

(from page 40)

It cost me 14¢ postage to find out G6ZO worked FR7ZA and FG7XA. That's ok, Jim, whenever that happens we just knock off a country or two. Hi.

Zone Maps

Some of you have asked for zone maps. Just send $1.00 to our New York office and they will take care of the rest. After all, W2ESO has to have something to do.

ZL2GX tells me that to date the following Ws have been awarded their WAP certificates: 6MX, 6OMC, 3GHD, 2QHH, 6BVM, 1ENE, 8PQQ and 2WZ. Only VE is VE7HC. This award is now available with a special phone endorsement where all 30 contacts were on two-way phone. Only 3 phone awards so far, with No. 2 to HC2JR. ZL2GX has been doing a little house hunting and found a spot really designed for a ham. It has a shack conveniently located (to what, Jock?) and plenty of terra firma. Sure, he expects to do a little "sky gardening".

April was good to W4HA.....two-way phone "brung" him FE8AA, CR4AC, FG7XA, ZD6HJ, KC6WC and ZS7C.

Who's kidding Who?

During the past years, and it seems to be gaining momentum, there have been a number of the DX men who have tried to put it over on us in sending in their cards for WAZ. Again I say, "Who's kidding who?" I think if the whole story were to be told in print and it might, it would make most of you wonder what sort of a hobby we're mixed up in. If some of the calls were printed it would make you shudder. Some of the cards that are faked, forged or otherwise distorted are pretty first class jobs of workmanship .....but just not good enough. For the life of me I can't figure out what these stupid people think they're gaining. It's mighty unpleasant everytime we run across one of these jobs and each time I am tempted to literally lay all the cards on the table, and expose the whole thing to you fellows. It might yet happen.

As you can see the DX lowdown this month is, of necessity, quite brief. W2ESO said if I took up much more of the magazine in scores etc., we might as well rename it.....DX. Well, what's wrong? Say, if you boys would start spreading the word around over seas about our World Wide DX Contest you'd help cook up even more interest than we had last year. Tell the boys to send for Contest Rules and Log forms.....out of the New York office, as usual. Enough for now. 73.

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MOBILE HAMS

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A mobile transmitter with a double feature FM or AM at flip of the switch, the MOTOROLA FMT-30-DMS 27-30 MC. . . **$130.00**

P-7253 spring base rear-mount antenna. **$24.75**

MOTOROLAP-69-13 or 18-ARS receiver with special noise limiter for use with any converter having 1440-3000 KC **$60.00**

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P-327-E Fire wall loud speaker **$5.00**

The above comes complete with all necessary accessories and mounting hardware. Order direct or through the Motorola National Service Organization member in your area.

NOTE: This Receiver and Transmitter is equipment which has been returned from the field, modified and rebuilt for Amateur Service.

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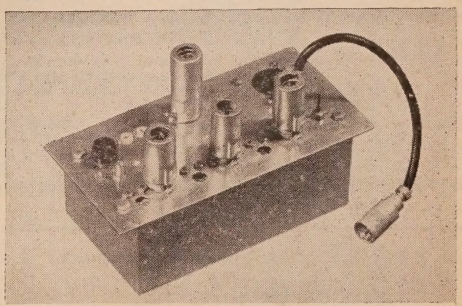
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67 WEST 44th ST.
NEW YORK 18, N. Y.

QTH COLUMN

AC3PT	P. T. Mamgyal Maharaj Kumar, Sikkim, P.O. Gangtok, Sikkim State, Via Calcutta ,India.
IS1CJR	Via Saturnino nr. 6, Oristano, Sardinia.
JY1XY	Leslie Berkley, c/o RAF Station, Amman Trans-Jordan, Asia.
KW6AR	c/o C.A.A., Wake Island.
KM6AT	Navy 3080, Box 2, F.P.O. San Francisco, California.
MD2BC	Via RSGB.
OE7AP	Via RSGB.
VE8TJ	Via VE1FQ
VP8AJ	T. Burgess, 2 Kirkport, Ayr. Scotland.
VP9KK (W3NSW)	Dean E. Snyder, RMC USN, USS Okanogan (APA 220), F.P.O. San Francisco, California.
XE1KB	Box 907, Mexico City, Mexico.
ZB1BS	Eva House, School St., Marsa, Malta; or RSGB.
ZC4TF	Box 451, Nicosia, Cyprus.
ZD6HJ	Mlanje, Nyasaland, British Central Africa.
ZD6NJC	Mlanje, Nyasaland, British Central Africa.
ZE3JQ	M.G.H. "Ben" Hitchcook, Y FLT RAF, Heany, Bulawayo, So. Rhodesia.
4X4DE	Box 4099, Tel Aviv, Israel.
F7AR—3A2AC (W8PQQ)	Capt. Albert H. Hix, HQ 7966 Eucom Det APO 58 c/o PM New York, N. Y.
LZ1DX	Via WØYXO (DO NOT QSL DIRECT UNDER ANY CIRCUMSTANCES)
VS9AO	Via R.S.G.B.

SCRATCHI

(from page 4)

ing for honorary president position, and in making hotel reservations, etc. I are really looking forward to this,. seeing all my old buddies again, having big time at hotel, being elected Honorary President. Boy oh boys.

Come the appointed weekend, I leaving bright and early on Friday afternoon, expecting to arriving in Sandy Ayego the next morning After dinner that evening I driving merrily along and what do you think happened? Flat tire? No. Ran out of gas? No. Merely I get to talking to someone on my mobile rig in the car, so stopping to see this amateur. We talking, and talking, and first thing I knowing it almost midnight. So, going to motel and staying overnight. (Hon. Ed., quit suspecting that something terrible is going to happen—I told you I having wonderful time.)

Next morning I dragging myself out of beds, getting into car, and driving like fury. That old car of mine was really burning up the roads. Whizzz. Whizzz. (Sound of me passing cars.) Gollies, I can't understand it. No cops anywhere. No trubble. I doing so well that I managing to get to Sandy Ayego in the middle of Saturday afternoon (and if you have never been driving in Sandy Ayego on Saturday afternoon, deny yourself the pleasure. The last ten miles to city limits I making in seven minutes, and the last ten

miles inside the city are taking me seventy minutes.) The convention are supposed to start at noon, so I slitely late, but I sure that I not missing much, as election of Honorary President are not being till Sunday.

Finally arriving at hotel, and looking around for old buddies. Most strange. See nobuddy I know. I find registration desk for convention, but nobuddy there either. I ask clerk for cupple guys I know, and he say they checking out quite unexpectedly. Hokendoke!! evidentally Scratchi are all alone at convention. What happening? I are still wondering whether to check into the hotel or not, when I see a ham I know across the lobby. He not a member of the FBCCI, but I going over to say hello, and first thing he telling me is that the Federal Communications Commission are heering about FBCCI convention, and they making surprise raid and picking up all the members of the FBCCI.

So, it true, only Scratchi are left. First thing I doing is taking charge of the program and changing the day of election to Saturday. Next are having election, and inasmuch as only me voting, I naturally elected Honorary President. I knew I would be, see, Hon. Ed? Boy, this are wonderful. Are also changing name of club and making it shorter, as it were much too long. We will now be known as Five-Meter Bootleggers, Inc.

Then are going to hotel clerk and telling him who I am, and from there on things are a blur. I are being treated like royalty. They give me big sweet of rooms, flowers all around, fresh ice-water every hour, just anything I want.

Next day I still living in the clouds. Breakfast are served in bed. Lunch Scratchi is having in a private dining room with six waiters. Everything are so wonderful that it is with regret that I having to check out of hotel that evening. Then come big surprise. The hotel are insisting that I owe them nothing. It was all on them. Well. Well. To say Scratchi are flabbergasted are saying it.

All the way coming home I think and think and I can't deciding why hotel are so nice to me. Free rooms, free meals, free drinks (gingerale, etc.) free service of every kind. Why? Why to me? To Scratchi? You know, maybe it something I saying to clerk when I register. I are anxious to tell him that I are new Honorary President of the Five-Meter Bootleggers, Inc. He seeming so excited when I tell him that I am new west-coast head of the FBI. I not knowing we are so well-known.

Respectively yours,
Hashafisti Scratchi

PREDICTIONS

(from page 27)

noise intensity. This is usually the all dark path. When the MUF at the control points is high enough, the 20 meter band may open from the East when it is dark over Europe, between 2200-

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FOUR SIMPLE INEXPENSIVE, tested, loudspeaker crystal sets. Illustrated instructions. Fifty cents. George Aitken, Hillsburgh, Ontario, Canada.

WANTED: BC-654, PE-104, PE-103, GN-45, BC-348, BC-342, BC-221, TCS-12 sets, cables, accessories, ART-13, ARC-1 RA-34, test equipment, technical manuals, Arrow Appliance, 525 Union, Lynn, Mass.

PORTABLES, bantams and antenna dope in Bantam Transmitter Manual. Send $1. W4BIW, B&B Labs, Box 3281 Station F, Atlanta, Ga.

WANTED: Compact Bound Volumes CQ, 1946 through 1950 issues, state price and condition. Capt. John Parrott, JAMMAT TUSAFG, APO 206-A c/o PM, New York City.

HT-9, $210.00; Meissner EX-shifter, $69.50; SX43, $129.50; BC-348L converted, $79.50; RME-HF 10-20, $59.50; Ultraphone with ant. HF-transceiver $29.50; BC-221, $69.50; BC-654A, $29.50; 1 KW-Xmitter Pr 4-125's, $275: 170 watts on 40 CW., Pr. 809's, $95.00; ARC5 on ten with ECO and Power supply, $49.50; TG-10 practice coder & keyer, $24.50; R-78/APS15A scope, 40 tubes, lots of switches, etc. $49.50; HQ 129/W speaker, $159.50, all above in good condition. Guaranteed. Radio Equipment Co., Lexington, Ky.

SELL: TCS-12, RA-34, BC-221, BC-342, BC-348, test equipment. . Clark Howard. 46 Mt. Vernon St., Boston 8, Mass. (W-1-AFN)

NEED ART-13; ARC-1; ARC-3; DY-17; TS-12; TS-13; MN-26 J or K; BC-342; BC-312; BC-611 Handie Talkie (or any part); I-100; BC-348; BC-788A, AM, B or C; I-152A, AM, B or C; TS-67; teletype, test or any other equipment. Will trade. Write: Bob Sanett (W6REX), 4668 Dockweiler, Los Angeles, Calif.

CODE PRACTICE MACHINES, never used, sacrifice,. Martin Schwartz, 815 Gerard Avenue, New York 51, N. Y.

WØCVU, "Iowa's Most Truthful Station" again mobile 10-20-75 meters. Bandmaster DeLuxe, Gonset Tri-Band and Master Mount Antenna. 38th year on the air.

BARGAINS, EXTRA SPECIAL: Motorola P-69-13 Mobile receivers $29.50; Globe King $315.00; HT9 $199.00; HRO7 $199.00; Temco 75GA $225.00; Collins 32RA 125.00; Collins 32MA $99.50; Collins 75A1 $295.00; new 150 watt phone $199.00; HRO-5T $175.00; Hallicrafters S-47 $119.00; RME45 $99.00; SX17 $89.50; Meissner EX Shifter, NC46, S40A, $69.50; VHF 152A $69.00; SX24 $69.00; Bud VFO 21 $39.50; Globe Trotter $57.50; New Meissner signal calibrators $24.95; MB611 $29.00; 90800 exciter $29.50; Gonset 10-11 converters $25.00; XE10 $14.95; and many others. Large stock trade-ins. Free Trial. Terms financed by Leo, WØGFQ. Write for catalog and best deal to World Radio Laboratories,, Inc., Council Bluffs, Iowa.

WANTED: APR-4 receiver and tuning units. State condition and price. W2DB, 274 Boulevard, Scarsdale, New York.

"CONVENTION NOTICE! ARRL West Gulf Division Convention in Austin, Texas, August 18th and 19th, 1951. The Convention Committee is planning a great program with fun for the whole family! Plan for a great time in Austin in August! For general information, write: Austin Amateur Radio Club, Box 1716, University Station, Austin, Texas.

REVOLUTIONARY copyrighted discovery! Learn Morse Code alphabet in 15 minutes with amazing new code teacher "PHILKODA." 50c postpaid (group size $5.00). Philip W. Miner, 7120 Lahser, Birmingham, Michigan.

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5 ELEMENT 2 meter beams. Riverside Tool Co., Box 87, Riverside, Ill.

AR-88 "S" meters, new, $9.95. W6EH.

SWAP 10" TV-FM with Mallory-DuMont front end, also all kinds of ham gear, for any good Surplus (ARC-1, ARC-3, ART-13, "TS-" units etc.) and lab quality equipment, or will pay top cash. Littell, Farhills Box 26, Dayton 9, Ohio.

SELL: Plate modulated KW rig with driver, all power supplies, meters, shielded 61" cabinet, speech, needs 2 watts drive, cheap. W6IMQ 5331 Blackwelder, Los Angeles WH 2620.

GETTIN READY for the fall operating season? Contact W1BFT for latest used equipment list with many good buys at Evans Radio, Concord, N.H.

10 AND 20 METER BEAMS $23.25 up. Aluminum tubing, etc. Willard Radcliff, Fostorio, Ohio.

"TRADE OR SELL—Like new NC57B, ten meter mobile xmitter 40 watts; BC455 receiver with power supply; PP807 final with 600 volt power supply; want large receiver. Wm. I. Neely, 515 Indigo Ave., Cayce, S. Car.

SELL SX-25, 800 watt 80 mtr xmtr, no junk, will sacrifice. J. Mowry, 2099 Cornell Rd., Cleveland, Ohio.

WANTED: Collins 32V1 or 32V2. Cash purchase. Lloyd Colvin, W4KE, AFF Board #1, Fort Bragg, N.C.

FOR SALE: Johnson Viking transmitter complete with tubes, key, crystal microphone, spare set of tubes. Amphenol 10 meter folded dipole low pass filter, unbalanced to balanced line network, relay unit. National NC-57 with S meter. BC696, BC459, VFO units with regulated power supply. Several additional power supplies. WØZIW—607 6th Ave. S.E., Cedar Rapids, Iowa.

AM-FM Fada chassis; 13 tubes; RF stage AM/FM; PP 6V6 output; Jensen 12" PM; separate treble, bass; $70. Webster 56 record changer, 45 rpm, $15. Both $80, both excellent condition. W3MLZ, 1132 E. Pine St., Mahanoy City, Penna.

QSLs for 3c stamp. Harrison, 8001 Piney Branch Road, Silver Spring, Md.

ELECTRO-VOICE model 1000 speech clipper with instruction book. Delivered $12. Guaranteed. W4MXP, 700 East Broad Street, Falls Church, Virginia.

REMEMBER BLOSSOMLAND Amateur Radio Association's Hamfest Picnic, August 19th, at Warren Dunes State Park, 15 miles South of Saint Joseph, Michigan on U.S. 12. See Hamfest calender this issue for details.

NEW S40-B RECEIVER 3 months old, original carton, $75. W. Rau, WØNUI, Henderson, Minnesota.

TOP CASH for your receiver. Electronic Labs, Box 1821, Lincoln, Nebraska.

QSLs? SWLs? Modernistic? Cartoon? Photographic? QSL samples 10c. Sackers, W8DED, Holland, Michigan. QSLs "made-to-order"!

DB22A (slightly used) $69.95. W8DED, Holland, Michigan.

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0200 GMT, and open from the West when it is dark over the Pacific, during the hours of 1500-2100 GMT. In the prediction charts, path openings from the East Coast have been solved for signals coming from the East, Pacific Coast from the West and the Mid West solutions have been based on both. If fellows in the mid-west don't hear them one way, swing the beam around the other way. Signals will be poor at best because of the heavy absorption on such a long path.

No 10, 40, or 80 meter openings can be expected for these paths.

All basic information for the following prediction charts has been obtained from the National Bureau of Standards Series D-81 Publication.

YL's FREQUENCY

(from page 29)

Well, if we couldn't get in on the White Sands ham picnic, we were lucky enough to be able to attend one in Arizona at our old stamping grounds (W7OOH) of Sedona. We had driven over for a few days vacationing to visit friends and take in the first graduation at the school where we both worked last year. We had no idea a hamfest was in the offing but as soon as we hit town we saw signs saying "QTH." It was an ideal spot close beside Oak Creek, June 3rd was a perfect day, and the picnic table was laden with more food than twice as many people could eat. We were glad to see old friends and new, and among the YLs W7RIJ, Eva Allen, and W7TBR, Jessie Olson, both up from Phoenix. To our pleasant surprise we met there W9FLU, Eloise Rhein, and her daughter W9FZX, Clara, of Carmi, Ill. They came to Arizona for Clara's health and are spending the summer in a trailer at Mesa. They are on 10 and W9FZX has her 40-meter rig, too, and will be on as soon as she can find a place to string up an antenna.

Here and There

Congratulations to W8UDA, Dorothy Ann Willett, who, as of May 26th, answers to the handle of Mrs. Paul Deindorfer. Paul is sightless, too. He is not a ham but we'll bet Dottie will get him interested in short order.

Congrats, too, to W4STH, Nettie Johnson, on getting her ham ticket. W5DRA had QSO'd her many times from W4NQP, but tells us every time Nettie tried the exam she'd freeze up on the code. But she stuck with it; FB, Nettie!

W6HHD, Teresa, recuperating from a seige in the hospital, would be happy to have a note from any YLs with time to spare.

The YLs do get around—W5MJU, Pauline, and her OM, 5JHA, and their twin daughters have been visiting W7HHH, Bea, in Oregon.

Maggie, W2EHR, and OM 2CKD are on the road again and W9GME, 9FZO and other YLs in Chicago have been looking forward to seeing them.

33, W5RZJ

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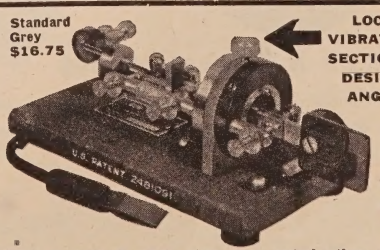
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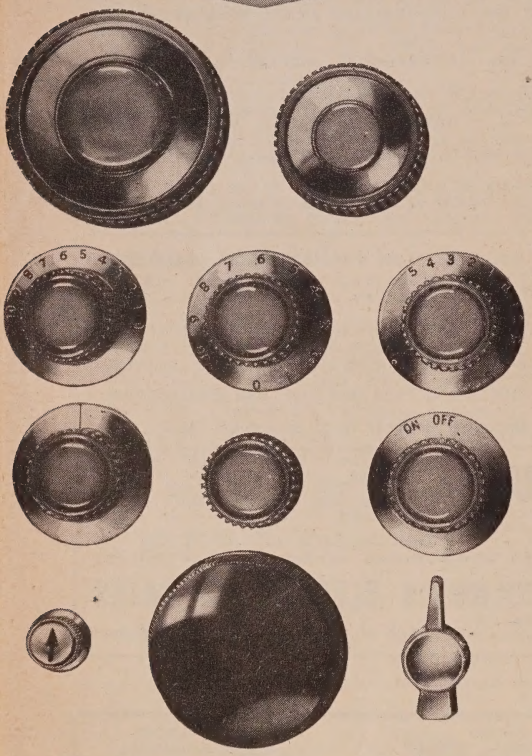
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CQ Ad Index

American Phenolic Corp. 6
Atronic Corp. 60

Bud Radio, Inc. 2

Collins Radio Company 10
Columbia Electronics Sales 63
Communications Equipment Co. 60

Dow-Key Company 63

Eitel-McCullough, Inc. 8
Engineering Associates 62

Federal Electronics Institute 60

General Electric Company (Tube Div.) 1

Hallicrafters Company ..... Cover 2
Harrison Radio Corp. 53
Harvey Radio Company, Inc. 51

Instructograph Company, Inc. 56

Lincoln School of Radio & Television 60

Millen, James Mfg. Co., Inc. 4
Motorola, Inc. 59

National Company, Inc. ..... 64, Cover 3

Petersen Radio Company, Inc. 7
Premax Products 56

RCA Tube Dept. ..... Cover 4

Sun Radio of Washington, D. C. 55
Sylvan Electronic Labs 59

Tab 64
Tel-A-Ray Enterprises, Inc. 49
Trans-World Radio-Television Corp. 60

U. S. Air Force 5

Vibroplex Co., Inc. 56

Web Electronics Mfg. Co. 50
World Radio Laboratories, Inc. 47

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Xtals: 100Kc,	6AG7M	368AS	5750
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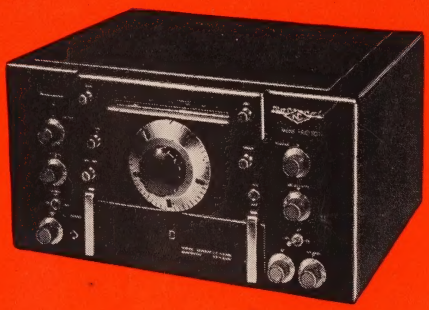


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