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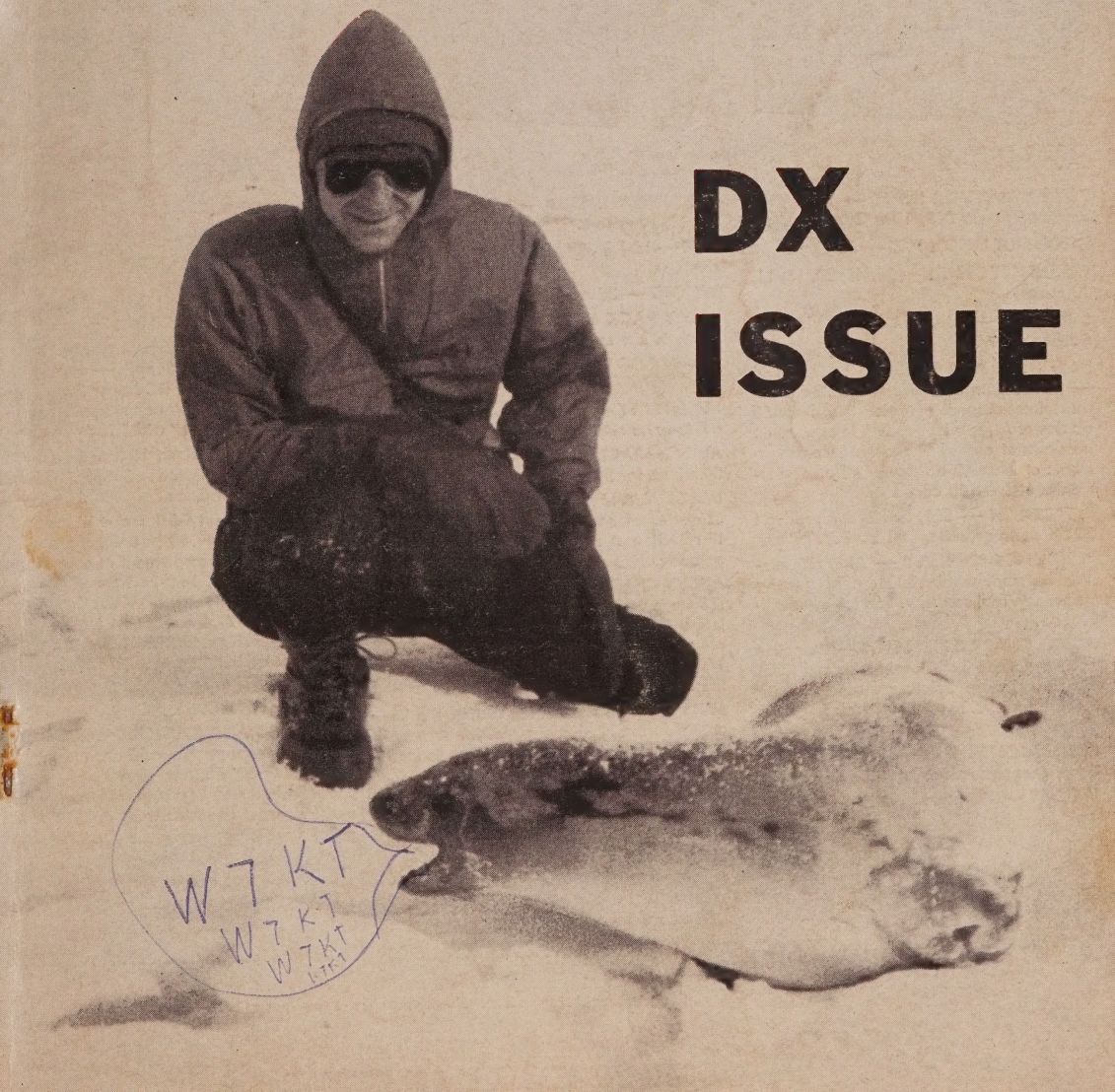
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W7KT

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RADIO AMATEURS' JOURNAL

Marine Mobile page 58



DX ISSUE

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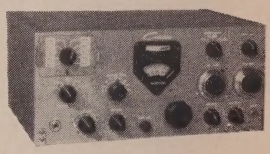
performance...

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KWS-1

POWER AMPLIFIER INPUT — 1 kw peak envelope power SSB, 1 kw CW operation.

R-F OUTPUT IMPEDANCE — 52 ohms.

FREQUENCY BANDS — 80, 40, 20, 15, 11, 10 meters.

EMISSION — SSB, AM carrier plus one sideband, CW.

HARMONIC AND SPURIOUS RADIATION — (Other than 3rd order distortion products.) Intra-channel radiation is at least 50 db down. All spurious radiation at least 40 db down at output of exciter. Second harmonic at least 40 db down; all other harmonics at least 60 db down.

DISTORTION — SSB, 3rd order products 35 db down or better at 1 kw PEP.

FREQUENCY STABILITY — After 15 minutes warmup, within 300 cps of starting frequency. Dial accuracy: 350 cps after calibration.

AUDIO CHARACTERISTICS — Response ±3 db, 200 to 3,000 cps. Noise and hum: 40 db or more below reference output level. Input: .01 volts for rated power output.

MICROPHONE INPUT — Will match high impedance dynamic or crystal.

WEIGHT — 210 pounds. Both units.

SIZE — KWS-1 — 10-15/32" high, Power Supply 30" high, 17⅜" wide, 15½" deep.

RELAY RACK MOUNTING — Mounting brackets kits available for RF Unit and power supply.

Net Price.....$2,095.00

75A-4

FREQUENCY BANDS — 160, 80, 40, 20, 15, 11, 10 meters.

SIZE — 10-15/32" high, 17⅜" wide, 15½" deep.

WEIGHT — 35 pounds.

RELAY RACK MOUNTING — Mounting brackets kits available.

NUMBER OF TUBES — 22, including rectifiers.

SENSITIVITY — 1.0 microvolt for 6 db signal-to-noise ratio with 3 kc bandwidth.

AVC CHARACTERISTICS — Audio rise less than 3 db for inputs of 5 to 200,000 uv.

IMAGE AND IF REJECTION — Image ratio at center of each band 50 db or better. IF rejection at center of each band 70 db or better.

AUDIO CHARACTERISTICS — Output — .75 watts with a 3.0 uv signal, 30% modulated. Output impedance — 500 ohms, 4 ohms. Response of audio circuits — ±3 db 100 cps to 5,000 cps. Distortion — Less than 10%.

MUTING — Provisions for muting the Receiver during key-down operation are provided. A muting voltage of +20 volts must be supplied by transmitter.

FREQUENCY STABILITY (at 14 mc) — Temperature — Less than 1200 cycles drift from 0° to 60°C. Warmup drift—Less than 300 cycles after 15 minute operation. Line voltage — Less than 100 cycles for ±10% change. Dial accuracy — 350 cycles after calibration.

Net Price.....$695.00

KWM-1

RF POWER INPUT — 175 watts SSB PEP or 16w CW.

OUTPUT IMPEDANCE — 50 ohms with not more than 2.5 SWR.

POWER SOURCE — 115 vac 50-60 cps, 320w max, 12 vdc, or 28 vdc, 25a max.

SIZE — Transceiver — 6¼" high, 14" wide, 10" deep. AC Power Supply — 6¼" high, 7⅝" wide, 10" deep. DC Power Supply — 4¼" high, 9" wide, 5" deep. Speaker cabinet — 6¼" high, 7⅝" wide, 10" deep.

WEIGHT — Transceiver, 15 lbs.; AC Power Supply, 25 lbs.; DC Power Supply, 15 lbs.; Speaker Cabinet, 5 lbs.

FREQUENCY — 14-30 mc continuous. Choice of any ten 100 kc bands by crystal switch. Standard complement of crystals — 14.0-14.1 mc CW, 14.2-14.3 mc SSB, 14.9-15.0 mc calibration with WWV, 21.0-21.1 mc CW, 21.3-21.4 mc SSB, 21.4-21.5 mc SSB, 28.0-28.1 mc CW, 28.1-28.2 mc CW, 28.5-28.6 mc SSB, 28.6-28.7 mc SSB.

FREQUENCY CONTROL — 70K-1 Permeability Tuned VFO.

HARMONIC AND SPURIOUS RADIATION — Carrier suppression —50 db, unwanted sideband —50 db, oscillators and mixer products —50 db, second harmonic —50 db, 3rd order products —30 db.

FREQUENCY STABILITY — After 10-minute warmup, within 100 cps. Reset within 1 kc throughout range.

RECEIVER SENSITIVITY — 1.0 uv for 6 db S/N ratio with 3 kc bandwidth.

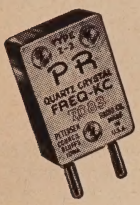
Net Price.....$770.00

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Collins CREATIVE LEADER IN COMMUNICATION COLLINS

There's a PR for every Service!

AMATEUR



40, 80 and 160 Meters, PR Type Z-2

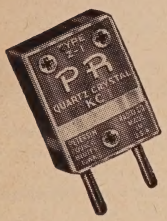
Rugged. Low drift, fundamental oscillators. High activity and power output. Stands up under maximum crystal currents. Stable, long-lasting, permanently sealed.....$2.95 Net



20 Meters, PR Type Z-3

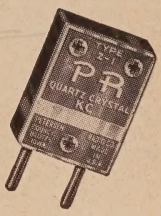
Harmonic oscillator. Low drift. High activity. Can be keyed in most circuits. Stable as fundamental oscillators. Fine for doubling to 10 and 11 meters or "straight through" 20 meter operation.....$3.95 Net

COMMERCIAL



COMMERCIAL, PR Type Z-1

Designed for rigors of all types of commercial service. Calibrated .005 per cent of specified frequency. Weight less than ¾ ounce. Sealed against moisture and contamination. Meets FCC requirements for all types of service.



SPECIAL TYPES

Type Z-1, AIRCRAFT

3023.5 Kc., .005%.....$3.45 Net

Type Z-1, MARS and CAP

Official assigned transmitter frequencies in the range.

Calibrated to .005%. 1500 to 10000 Kc. $3.45 Net

Type Z-6A FREQUENCY STANDARD



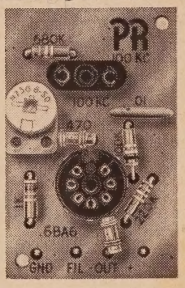
To determine band-edge. To keep the VFO and receiver properly calibrated.

100 Kc. . . . . $6.95 Net

PR PRINTED OSCILLATOR KIT

Has many uses—

- As 100 Kc. Marker
- As 1000 Kc. Marker for Check Points up to 54 Mc.
- As Foundation Circuit for Low Frequency SSB Crystals



Assembled in minutes. Kit contains everything but 6BA6 oscillator tube and crystal.

Each . . . . . $4.50 Net



Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.

1600 to 12000 Kc. (Fund.) ±5 Kc. . . . $3.45 Net

12001 to 25000 Kc. (3d Mode) ±10 Kc. . . . $4.45 Net



VHF Type Z-9R

For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range.

Each . . . . . $4.95 Net

Type Z-9A RADIO CONTROLLED OBJECTS

27.255 Mc., .04% . . . $3.95 Net



Type Z-1 TV Marker Crystals

Channels 2 through 13 . . . . . $6.45 Net

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4.5 Mc. Intercarrier, .01% . . . 2.95 Net

5.0 Mc. Sig. Generator, .01% 2.95 Net

10.7 Mc. FM, IF, .01% . . . 2.95 Net

ALL PR CRYSTALS ARE UNCONDITIONALLY GUARANTEED. ORDER FROM YOUR JOBBER.

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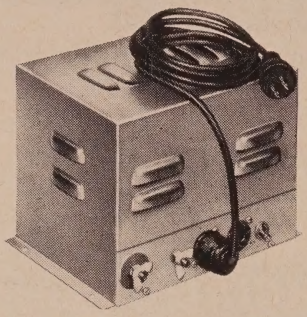
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For further information, check number 4 on page 127.

ALL NEW

C-1470 FIXED/MOBILE

with Dual Vibrators

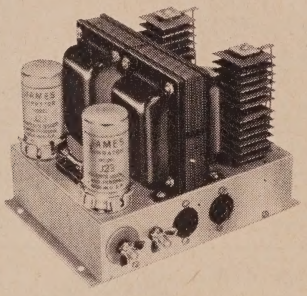


A completely new design for powering fixed and mobile transmitter and receiver—featuring dual vibrators for long life; complete control relay system; separate AC filament transformer; improved filter and hash circuits. For operation from 12v mobile and 117v A.C. fixed. Transmit power 500 volts at 175 ma; receive power 200 volts at 90 ma. C-1470 wired complete with vibrators, fuses and instruction book with installation data for popular commercial mobile

Amateur net $69.95

NEW IMPROVED

C-1050/51 ALL MOBILE



An improved 6 or 12 volt all mobile power supply with dual vibrator design. Complete with transmit/receiver control relay. Transmit Power 500 volts at 175 ma, and Receiver 200 volts at 90 ma. Instructions give full information on popular commercial equipment.

C-1050 — wired and tested
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Amateur net $39.95

See your Distributor or write direct for full engineering literature.

JAMES VIBRAPOWR COMPANY
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Authors would do well to send for the CQ Style sheet which will explain our confused system of abbreviations and symbols. The article "Author Author" (October 1952 CQ) tells all about how to write articles for CQ, how much we pay, etc. Reprints of this article are available from CQ if you have been improvident in keeping up your radio library.

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The WPX Award is granted for two-way contact with certain number of amateurs in different prefixes of the world. Full details are contained in the WPX Record Book which is available for 15c from CQ. Application forms are free.

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Technical Information:

CQ has no one available to answer technical questions. Please check the 11-year cumulative index which was published in the January 1956 CQ for information about articles in past issues of CQ. The December 1956 CQ yearly index will bring you up to 1957. Most back issues are available at 50c each from us, check our "Back Issue" ad for details on those not available. Reprints of the Cumulative Index are available free.

Our Cover

Jim Morrissett, W8BAJ, K2OLK with a no Hamming order from the U. S. Navy sympathizes with one of the local citizens at the South Pole.

CQ, The Radio Amateurs' Journal

August 1957
Vol. 13, No. 8

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Heath amateur radio gear is designed *by* hams—*for* hams, to insure maximum "on the air" enjoyment. Good design and top-quality components guarantee reliability. Heathkits are easy to build and are easy on your budget! You save by dealing direct, and you may use the Heath Time Payment Plan on orders totaling $90.00 or more. Write for complete details.

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DX-100
TRANSMITTER KIT

PHONE AND CW

- *Phone or CW—160 through 10 meters.*
- *100 watts RF on phone—120 watts CW —parallel 6146 final.*
- *Built-in VFO—pi network output circuit.*
- *Easy to build—TVI suppressed*



MODEL DX-100

$189.50

$18.95 dwn., $15.92 mo.

Shpg. Wt. 107 Lbs.

Shipped motor freight unless otherwise specified. $50.00 deposit required on c.o.d. orders.

The Heathkit DX-100 phone-CW transmitter offers features far beyond those normally received at this price level. It has a built-in VFO, built-in modulator, and built-in power supplies. It is TVI suppressed, and uses pi network interstage coupling and output coupling. Matches antenna impedances from approximately 50 to 600 ohms. Provides a clean strong signal on either phone or CW, with RF output in excess of 100 watts on phone, and 120 watts on CW. Completely bandswitching from 160 through 10 meters. A pair of 1625 tubes are used in push-pull for the modulator, and the final consists of a pair of 6146 tubes in parallel. VFO dial and meter face are illuminated. High-quality components throughout! The DX-100 is very easy to build, even for a beginner, and is a proven, trouble-free rig that will insure many hours of enjoyment in your ham shack.

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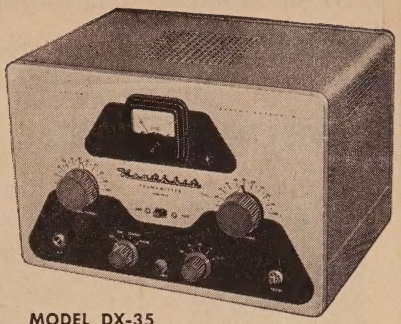
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For further information, check number 6 on page 127.

HEATHKIT DX-35
TRANSMITTER KIT

PHONE AND CW

This transmitter features a 6146 final amplifier to provide 65 watt plate power input on CW, with controlled-carrier modulation peaks up to 50 watts on phone. Modulater and power supplies are built in, and the rig covers 80, 40, 20, 15, 11 and 10 meters with a single band-change switch. Pi network output coupling provides for matching various antenna impedances. Employs 12BY7 oscillator, 12BY7 buffer and 6146 final. Speech amplifier is a 12AX7, and a 12AU7 is employed as modulater. Panel control provides switch selection of three different crystals, reached through access door at rear. Panel meter indicates final grid current or final plate current. A perfect low-power transmitter both for the novice or the more experienced amateur. A remarkable power package for the price. The price includes tubes, and all other parts necessary for construction. Comprehensive instruction manual insures successful assembly.



MODEL DX-35

$56.95

Shpg. Wt. 24 Lbs.

$5.70 dwn., $4.78 mo.

- *Phone or CW—80 through 10 meters.*
- *65 watts CW—50 watts peak on phone—6146 final amplifier.*
- *Pi network output to match various antenna impedances.*
- *Tremendous dollar value—easy to build.*

BRAND NEW

HEATHKIT DX-20
CW TRANSMITTER KIT



MODEL DX-20

$35.95

$3.60 dwn., $3.02 mo.

Shpg. Wt. 18 Lbs.

- *Designed exclusively for CW work.*
- *50 watts plate power input—80 through 10 meters.*
- *Pi network output circuit to match various antenna impedances.*
- *Attractive and functional styling—easy to build.*

Here is a straight-CW transmitter that is one of the most efficient rigs available today. It is ideal for the novice, and even for the advanced-class CW operator. This 50 watt transmitter employs a 6DQ6A final amplifier, a 6CL6 oscillator, a 5U4GB rectifier and features one-knob bandswitching to cover 80, 40, 20, 15, 11 and 10 meters. It is designed for crystal excitation, but may be excited by an external VFO. A pi network output circuit is employed to match antenna impedances between 50 and 1000 ohms. Employs top-quality parts throughout, including "potted" transformers, etc. If you appreciate a good signal on the CW bands, this is the transmitter for you!

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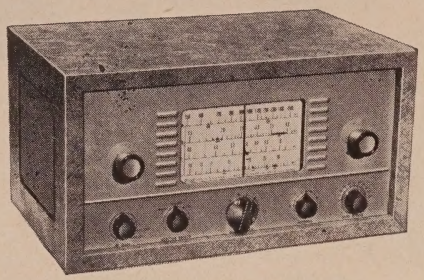
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HEATHKIT

COMMUNICATIONS-TYPE, ALL BAND

RECEIVER KIT



This receiver covers 550 kc to 30 mc in four bands, and is ideal for the short wave listener or beginning amateur. It provides good sensitivity and selectivity, combined with fine image rejection. Amateur bands are clearly marked on the illuminated dial scale. Features transformer-type power supply—electrical band spread—antenna trimmer—separate RF and AF gain controls—noise limiter—headphone jack—and AGC. Has built-in BFO for CW reception. Shpg. Wt. 12 Lbs.

MODEL AR-3

$29.95

incl. excise tax
(less cabinet)

$3.00 dwn., $2.52 mo.

CABINET: Fabric covered cabinet with aluminum panel as shown. Part 91-15A. Shipping Wt. 5 Lbs. $.50 dwn., $.42 mo. $4.95

Ⓐ HEATHKIT VFO KIT MODEL VF-1

Covers 160, 80, 40, 20, 15, 11 and 10 meters with three basic oscillator frequencies. Better than 10 volt average RF output on fundamentals. Requires 250 VDC at 15 to 20 ma, and 6.3 VAC at 0.45A. Incorporates regulator tube for stability and illuminated frequency dial. Shpg. wt. 7 lbs. $1.95 dwn., $1.64 mo. **$19.50**

Ⓑ HEATHKIT GRID DIP METER KIT MODEL GD-1B

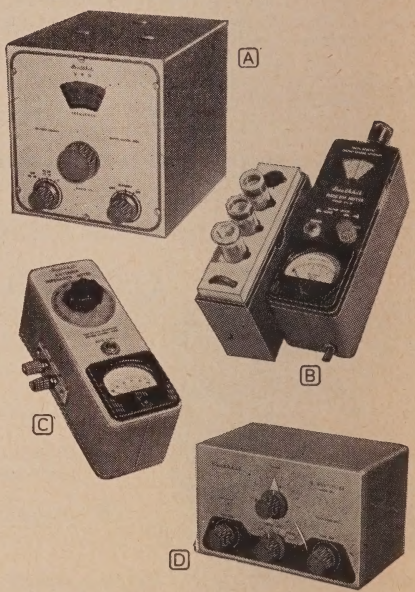
Continuous coverage from 2 mc to 250 mc with prewound coils. 500 ua panel meter for indication. Use to locate parasitics, for neutralizing, determining resonant frequencies, etc. Will double as absorption-type wavemeter. Shpg. wt. 4 lbs. $2.00 dwn., $1.68 mo. **$19.95**

Ⓒ HEATHKIT ANTENNA IMPEDANCE METER KIT MODEL AM-1

The AM-1 covers 0 to 600 ohms for RF tests. Functions up to 150 mc. Used in conjunction with a signal source, will determine antenna resistance and resonance, match transmission lines for minimum SWR, determine input impedance, etc. Shpg. wt. 2 lbs. $1.45 dwn., $1.22 mo. **$14.50**

Ⓓ HEATHKIT "Q" MULTIPLIER KIT MODEL QF-1

Functions with any receiver having IF frequency between 450 and 460 kc that is not AC DC type. Operates from receiver power supply, requiring only 6.3 volts AC at 300 ma (or 12.6 vac at 150 ma), and 150 to 250 vdc at 2 ma. Simple to connect with cable and plugs supplied. Provides extra selectivity for separating signals, or will reject one signal to eliminate heterodyne. Effective Q of approximately 4000. Shpg. wt. 3 lbs. $1.00 dwn., $.84 mo. **$9.95**



HOW TO ORDER...

It's simple—just identify the kit you desire by its model number and send your order to the address listed below. Or, if you would rather budget your purchase, send for details of the Heath Time Payment Plan for orders totaling $90.00 or more.

HEATH COMPANY BENTON HARBOR 12, MICHIGAN

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For further information, check number 8 on page 127.



Feenix, Ariz.

Deer Hon. Ed:

Resent events what happening to Scratchi are cawsing me to sitting back and thinking soberly that despite all the sooper geenyuses we having in this world, we are not yet knowing everything there is to knowing about everything.

Yes indeedy, we having our A-boms and H-boms and new meddysins to curing germs we not even knowing we having yet, to saying nothing about the Yewnited Nayshuns or even single and dubble sidebands, and despite all this are some simple things that we not knowing anything abouts.

Like you taking what happening to good old Scratchi in last cupple weeks. First day it happening I not reely know it are happening, if you seeing what I meening, Hon. Ed.

After brekfust that morning I wandering into Hon. Shack and turning on reseever and are amazed to finding some dee-x coming in. Heering country I not working, so throwing switch on rig, and giving short call along with eleventeen other fellows. Dee-x coming rite back to me, and we having nice ragchews, and dee-x even ending QSO by saying he needing my card and would I exchanging QSL cards.

I are pleesed, natchyourally, but thinking no more abouts it just then. Are getting into car to riding into town to doing errend for Hon. Brother Itchi, and turning on mobile rig in car. Calling seek-you to seeing if local armchoors are on air, and are getting answer from old friend of mine in New York. Hon. Ed., paying attenshun—this are on seventy-five meters this are happening!!

Finishing ragchew just as getting to place I going to. Accidently finding parking place rite in front of store, going in and getting wated on rite away, getting in car and coming home. It are on way home that idea are beginning to coming to me.

Howcomes I working that dee-x, then working cross-country on 75 in daytimes, then finding parking place—with time on the meter yet—then being served so quick-like in store? This not normal for Scratchi, not by longshots. Then howcomes??

Maybe good-lucks will keeping up, I thinking. So, rushing home to trying out my luck.

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Paul Reichert, West Salem, Ohio	2nd	10 weeks
Harold Phipps, LaPorte, Indiana	1st	28 weeks

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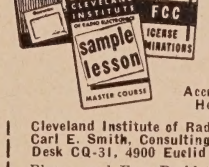
Letter from nationally-known Airlines: "Radio Operators and Radio Mechanics are needed for our company. Periodic wage increase with opportunity for advancement. Many company benefits."

OUR TRAINEES GET JOBS LIKE THIS:

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"Since enrolling with Cleveland Institute I have received my 1st class license, and am now Chief Engineer of Station WAIN. Thanks to the Institute for making this possible."

Lewis M. Owens, Columbia, Ky.



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Application



The No. 90801

EXCITER-TRANSMITTER

The No. 90801 Exciter-Transmitter is of the most modern design including features and shielding for TVI reduction, band-switching for the 4-7-14-21 and 28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter. 5763 oscillator-buffer-multiplier and 6146 power amplifier. 90 watts input for CW. Can be keyed in the oscillator and/or amplifier or by means of keyed external V.F.O. such as the 90711. 67 watts input phone. Rack mounted 3½" panel height.

JAMES MILLEN MFG. CO., INC.

MAIN OFFICE AND FACTORY

MALDEN

MASSACHUSETTS



Switching on to-meters reseever, finding band are open, and working three new states!! Next are checking log, finding that needing only one state on six meters, so going on six, calling seek-you, and state I needing are coming back to me!!

Turning on regular reseever and turning band-switch nob to band what never working before on acct. of bad switch contacts. Hokendoke!! Signals coming threw like furies. Hon. Ed., I can hardly buleeving my luck!!

Then, are remembering QSL card I losing one time from country that no longer on air and that I needing for another zone. Opening drawer in operating table, looking around and not finding anything at first, then flipping open old logbook and there it is!! After two years of looking for it!!

Desiding I better trying some more things. Getting my trusty old electric drill that only working when holding wire certain way. Turning it on, wiggling wire very which-way—still works!! Not mattering whether holding wire just-so any more.

Turning on rotery beem motor to seeing if beem geers are still sticking when they getting around to where beem are pointing at Africa. Beem rolling right along, not sticking on Africa or South America or anyplace. Turning smooth as greesy doornob.

Digging volt-ome-meter out of junk pile to seeing if needle on meter still catching on glass up neer 25,000 omes. Shorting test leeds together to swinging needle. Going all way over to zero!! Not catching!! Hon. Ed., what you thinking? What a marvelus feeling to have everything going so rite!!

But I not boreing you with detales. In cupple days that following everything going rite, not only with amchoor radio and things like freakwency meter that now working and standing wave rayshow on antenna being down so low can't measuring it; but, also everything going rite with Hon. Brother Itch and XYL-to-be Lil Watanabe.

Reel reeson for riting you, though, Hon. Ed., is that it are now all over. First piece of paper I yewsing to rite you are ripping when I putting in tiperiter, just to giving you example. In factly, it being over since this morning, when cutting Hon. Chin with razor.

How can sighentists and other grate peeples explaneing something like this? How often are it happening? Can it happening to peeples more than once? Hon. Ed., maybe next week is *your* week.

Respectively yours,
Hashafisti Scratchi

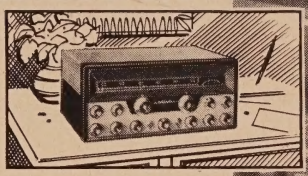
Subscribe Now. (see page 124) the November newsstand price is going to be One Dollar.

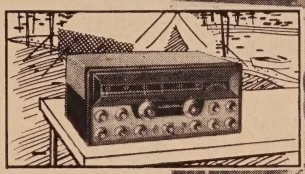
For further information, check number 9 on page 127.

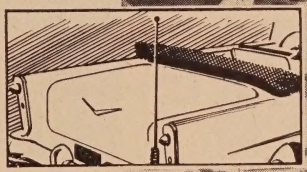
Coming from Hallicrafters laboratories

. . . First transistorized all-band, single sideband fixed-portable-mobile transmitter-receiver!

Again from Hallicrafters comes another first . . . a transistorized transmitter and receiver in one compact package. The FPM-200 possesses the same clean signal and crispness of the HT-32 . . . sparkling performance from a new transistorized receiver. Watch for the revolutionary *new* FPM-200 . . . coming from Hallicrafters laboratories.

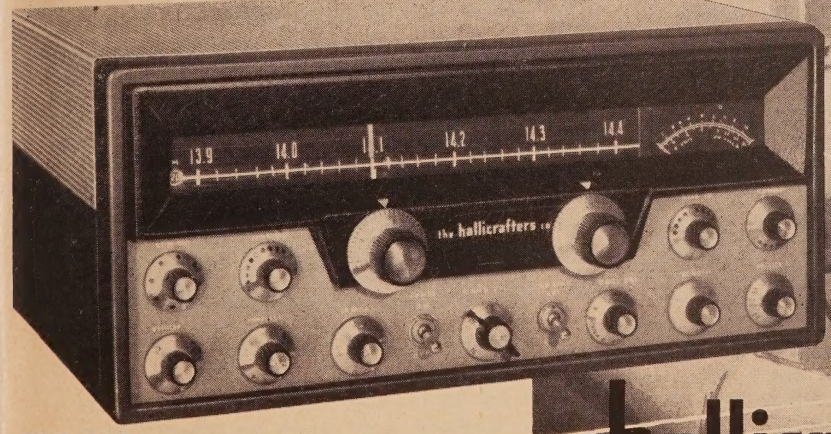






- **Complete coverage of 80, 40, 20, 15, 11-10 meter bands.**
- **Dual VFO—not a transceiver.**
- **Upper and lower sideband; CW, AM SSB.**
- **Performance comparable to HT-32.**

For further information, check number 10 on page 127



FPM-200

The best ideas in communications are born at

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EDITORIAL . . .
WAYNE GREEN

. . . de W2NSD

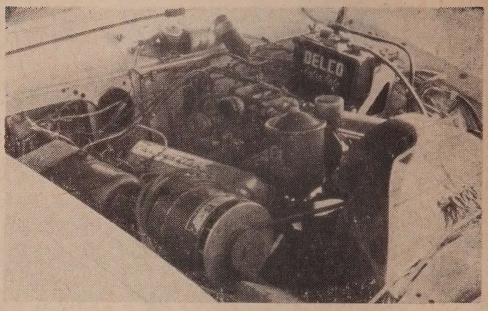
NEVER SAY DIE

Save Eleven

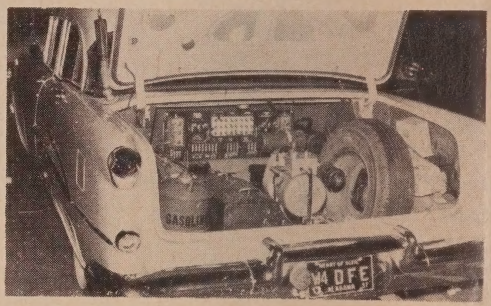
Everything considered, the Save Eleven Contest on June 8-9 was a runaway success. And everyone had a wonderful time. Just about every log submitted mentions this and suggests that we run more Eleven Meter contests. The band was pretty poor on the 8th, but opened nicely on the 9th to many parts of the world.

No doubt you have procrastinated on sending a hot note to the FCC and your Congressman telling 'em that Eleven should be kept a ham-band and not taken away to be used as a Citizens Radio band for local communications. Since the date for receiving your views has been extended to September 3rd you will have to feel guilty for another month. Why the heck can't you do something just for once and sit down right now and write a note to the FCC, Amatur Division, Docket 11994, Washington 25, D.C. Tell them that you too want them to keep Eleven for the Amateurs. It is a good DX band, interference is low enough to make it excellent for mobile operation, it is the only long range experimental band we have, etc.

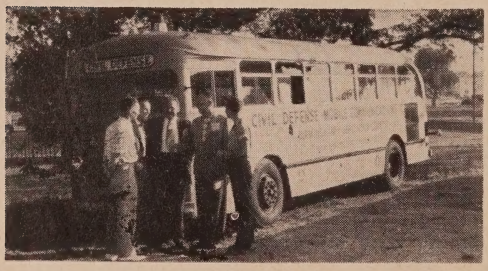
I'll have the winners of the Save Eleven Contest next month plus a list of everyone who was active over that weekend . . . quite a list. Conspicuous by their absence were most of the "big guns" of ham radio who make such a fuss about ham spirit over the air.



W4DFE is ready ready ready. Up front is chocked full with dynamotors, Leece-Neville, etc., while back aft is an impressive switchboard, more dynamotors, a gas generator, gasoline, tools, shovel, food and paper napkins. Come what may.



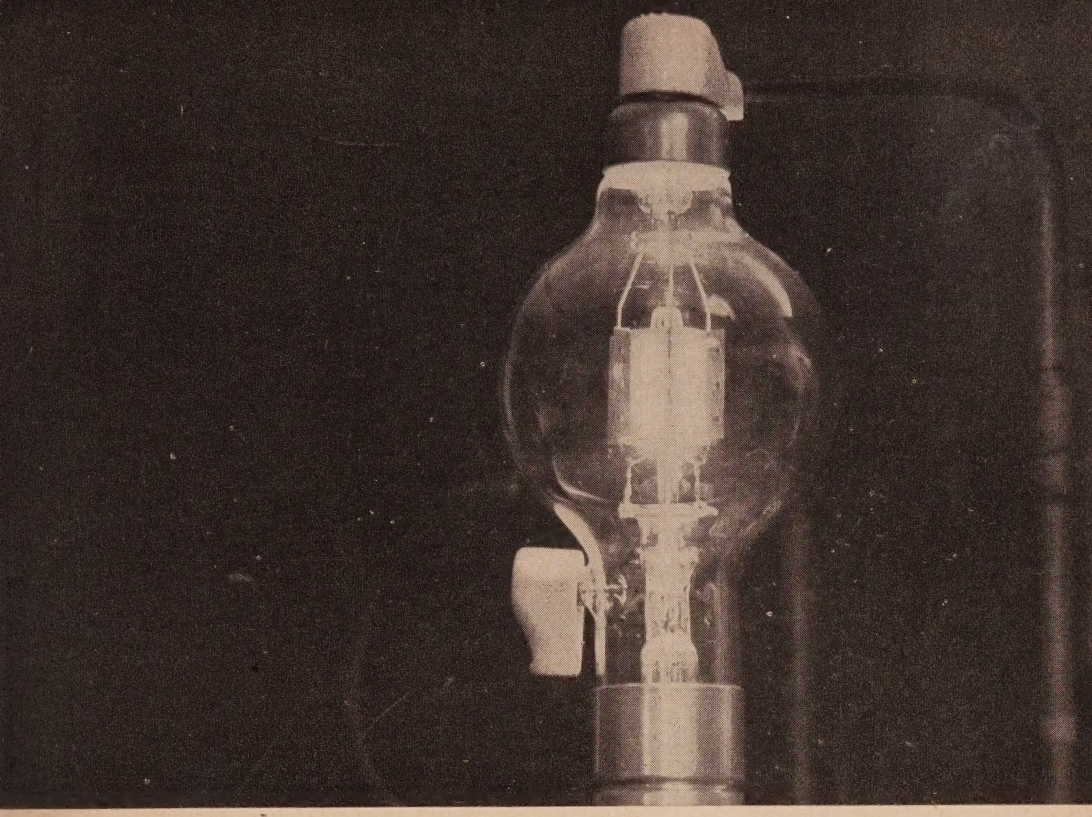
Visited by the Editor



The Birmingham Amateur Radio Club has fitted out this real posh ex-bus for CD work. It has already seen good use and is really something to be proud of. Separate positions are set up inside for radio communication with police, firemen, CD, etc., plus several amateur operating positions.



Willis, K2BQI, operating W2JXH/2, which was set up in the lounge of the Normandy Theater in New York for the opening of the ham movie, "If All The Guys In The World." This all SSB installation made possible the demonstration of world-wide ham communication to interested moviegoers.



22 year old, 50T in test after its recent return to Eimac.

FIRST EIMAC 50T RETURNS HOME AFTER 22 YEARS

This is the first Eimac 50T that ever rolled off the production line. It returned home as good as new—22 years after being given away as a prize at a Fresno hamfest in 1935. When it was received at the Eimac plant, it was placed into a series of tests. The 50T had retained its vacuum, without element deterioration. The tube took its rated input without irregular operation.

The amateur who must have the best dignifies his transmitter with Eimac tubes. This way he is assured of getting a product that is the result of the finest engineering plus painstaking craftsmanship and construction.

Eimac, always aware of the strict requirements of the amateur for "tubes that can take it", is constantly improving, and adding to, its line of tubes. A request to the Amateur Service Bureau will bring immediate, comprehensive information about the tube of your choice.

EITEL-McCULLOUGH, INC.
SAN BRUNO CALIFORNIA

See Eimac Tubes That Can Take It at WESCON, San Francisco Cow Palace, Aug. 20-23, booths number 1706 and 1727-28.

Eimac

For further information, check number 11 on page 127.

Seven outstanding Eimac tubes for the amateur.

4CX300A	4-65A	4-125A
4X250B	4-400A	4E27A
4-250A		



Here we see Aubrey, W4OLG, tuning the NC-183 at one of the operating positions in the CD Mobile Unit.



W3NL, Andy, posed for this quick Minox shot during my recent trip to D.C. Andy is the fellow who puts out the Autocall which we so unconscionably plagiarize.



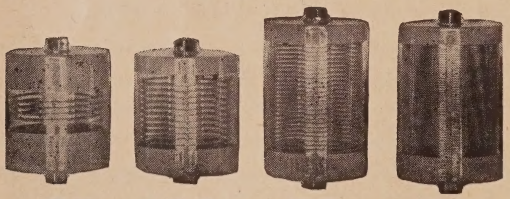
K4GLO's shack is built into the pantry since his old man W4OLG has the cellar all filled up with his stuff. Note strange similarity of call letters, claimed to be coincidental.

[*Continued on page 76*]

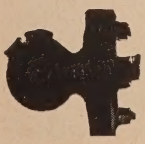
BASSETT VACUUM ANTENNA COILS

(Pat. Pend.)

PROVEN PERFORMANCE! EXTREMELY HIGH "Q"!



VC-15 VC-20 VC-40 VC-75



Fiberglas top rods
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Mobile base mounts

- The only genuine hermetically sealed antenna loading coils.
- Evacuated and filled with pure helium.
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- Unconditionally guaranteed.

Also Bassett All-Band Vacuum Coil Model VC-1075 Covering All Bands 10, 15, 20, 40 and 75.

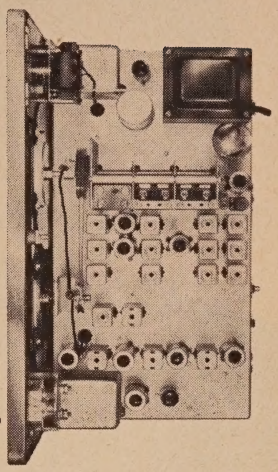
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For further information, check number 16 on page 127.





it's got what it takes...

HAMMARLUND HQ-110

It's no wonder the HQ-110 performs so well. . . .
Take a look behind the front panel and observe the well designed, neat circuitry applied to high quality components.

The HQ-110 incorporates the features that are important to the amateur and is designed to provide continuous high performance for many years

Value-wise, no other receiver approaches the HQ-110. Feature-for-feature, dollar-for-dollar, the HQ-110 is the best buy ever offered the amateur.

$229.00*

* Optional Telechron automatic clock-timer $10 extra

FEATURING —

- ★ Double conversion
- ★ 6, 10, 15, 20, 40, 80 and 160 meter bands.
- ★ Separate SSB linear detector.
- ★ Q-multiplier.
- ★ Dual dials for maximum bandspread.
- ★ Crystal calibrator.
- ★ Crystal control.
- ★ Separate stabilized BFO.
- ★ Dial scale reset.



SSB AT ITS FINEST . . . TRULY MAGIC!

HC-10 CONVERTER

The finest SSB/CW or AM/MCW converter ever offered. Works with any receiver having IF range of 450 KCS to 500 KCS. Connects to receiver in seconds. There's no limit in the variations and combinations you can get from the HC-10 in tuning You've got to try it to believe it! **$149.00**

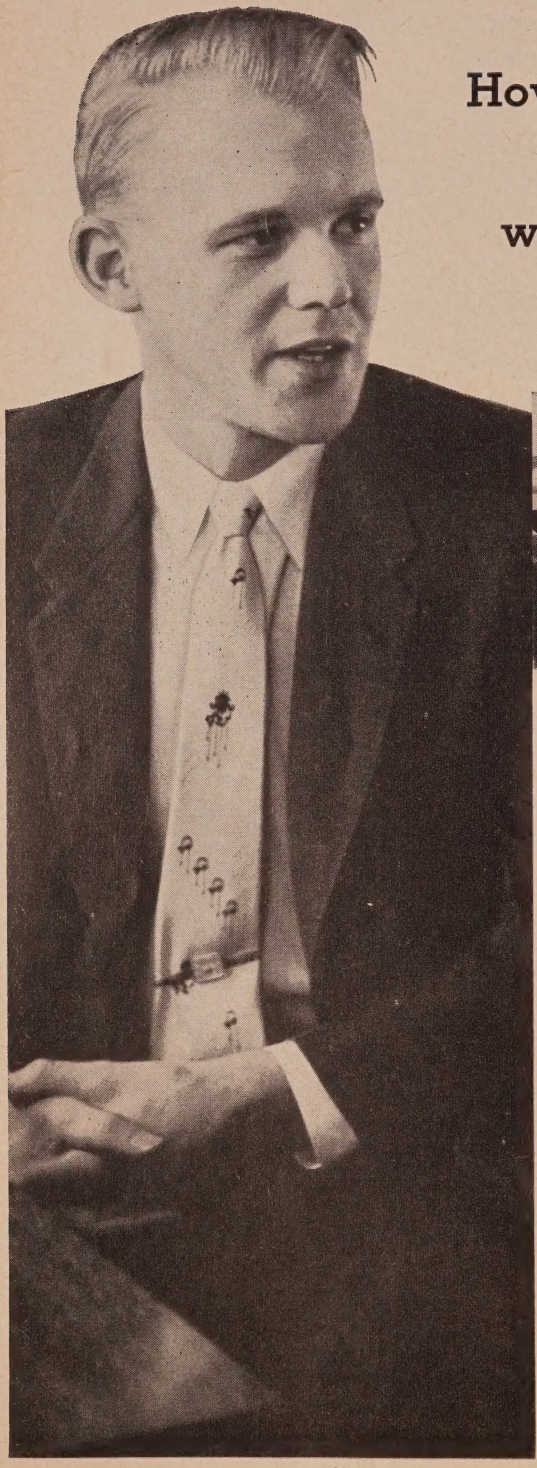
HAMMARLUND

Established 1910

HAMMARLUND MANUFACTURING COMPANY, INC., 460 W. 34th ST., N. Y. 1, N. Y.

Export: Rocke International, 13 E. 40th St., N. Y 16, N. Y.
Canada: White Radio, Ltd., 41 West Ave. N., Hamilton, Can.

For further information, check number 12 on page 127.



How far can you go in Electronics without a Degree?



Bernie Roth examines ribbon from printer during Field Engineering Laboratory period.

Without a formal degree, 24-year-old Bernie Roth is already handling a key responsibility with IBM. At the McGuire Air Force Base, a directional control site for Project SAGE, Bernie is part of a team maintaining an entire electronic digital computer system. In this assignment, he must stay abreast of all the most advanced electronic concepts—developing his professional know-how every day. "That's what's different about IBM," Bernie says. "The graduate engineer has an advantage anywhere—but here at IBM the technician also can grow into managerial positions."

IBM instituted its program for specialized technical training many years ago. The theory behind this built-in educational system asked the question: Why should the capable man be denied the opportunity simply because he lacks a formal degree? The wisdom and foresight of IBM's decision are reflected in the story of Bernie Roth—in the misgivings of his past—in the certainty of his future.

The Navy steers Bernie on the right course. When Bernie graduated from Flemington, N. J. High School in 1950, he received a general diploma—mathematics and science made up a small part of his curriculum.

Enlisting in the Navy in 1951, Bernie proved his aptitude for technical work and was assigned to the electronics preparatory school in Jacksonville, Fla. Later, he attended the Class A Aviation Electronics School in Memphis, Tenn., but, an event that occurred during a furlough in the spring of 1955 put a brand-new light on Bernie's future.

Reports for training. After reading an advertisement mentioning opportunities for IBM Kingston and Project SAGE, Bernie hopped a bus to Newark for an interview with the IBM representative. He took the required number of tests—talked over his hopes and ambitions, and, "That's about all there was to it." In July, Bernie notified IBM that he was definitely available. Soon afterward he received instructions to report to Kingston to begin training in the applications of electronic computers.

The material he studied at Kingston. "The Kingston program is quite an eye-opener in electronic techniques. First of all, I studied basic circuitry. Then, I actually learned a new way to think—the ability to comprehend the whole from the assorted parts. Later on, I studied the various input-output devices which are used as auxiliary units to the central computer. Finally, I analyzed the methods that supply the power for this electronic giant. Millions of watts are needed — a phenomenal amount. In general, I'd say that you couldn't find a better training ground for understanding the uses of electronic as well as electro-mechanical equipment."

How does Bernie feel about his current assignment? "I'm responsible for the performance of the input-output devices—the auxiliaries that supply information to the central computer. The many Project SAGE outposts—picket ships, reconnaissance planes, Texas towers—flash their signals to the input devices which, in turn, correlate and compile the data. This, incidentally, is one of the world's largest computers, which is built and tested at Kingston, then disassembled and shipped to a directional control site such as McGuire. Sometimes, I have the chance to assist in systems and displays. Now displays really fascinate me. There's a kind of television screen on which you can detect a plane, determine whether it's friendly or hostile, and where it's headed. My work is always different, never routine, and that's very important to me."

How does the future look to Bernie? A happy and prosperous future is in the offing for Bernie Roth. Based on the records of his older associates, he's confident that in a short time he will qualify as a Systems Engineer, at the very least.* The next steps going up the ladder are Group Supervisor and then Group Manager. "IBM is quick to recognize and reward improved ability through greater knowledge."



Here, he scans the schematic of computer circuits.



Bernie checks a unit in one of the operating consoles.



An outdoor man, Bernie takes full advantage of the New Jersey game preserve.

What about you? Since Bernie Roth joined IBM Military Products and the Project SAGE program, opportunities are more promising than ever. This long-range program is destined for increasing national importance, and IBM will invest thousands of dollars in the right men to insure its success.

If you have 2 years' technical schooling—or equivalent experience—IBM will train you for 6 months as a *Computer Units Field Engineer.*

If IBM considers your experience equivalent to an E.E., M.E., or Physics degree, you'll receive 8 months' training as a *Computer Systems Engineer.*

After training, you will be assigned to an area of your choice. You receive *salary*, not wages, plus overtime pay. In addition, every channel of advancement in the entire company is open, and IBM is a leader in a field that is skyrocketing in growth. Of course, you receive the famous IBM company-paid benefits that set standards for industry today.

WHY NOT WRITE—today—to Nelson Heyer, Room 12708, IBM Corp., Kingston, N.Y.? You'll receive a prompt reply.

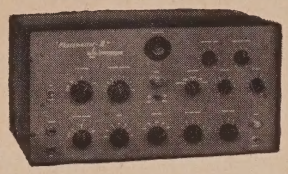
**Note: Since this article was originally prepared, Bernie has been promoted to Computer Systems Engineer, with assignment to Santa Monica, California.*

DATA PROCESSING • ELECTRIC TYPEWRITERS
MILITARY PRODUCTS • SPECIAL ENGINEERING PRODUCTS
TIME EQUIPMENT

IBM MILITARY PRODUCTS

For further information, check number 13 on page 127.

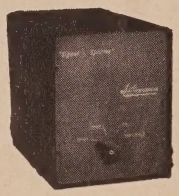
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AMATEUR COMMUNICATIONS



PHASEMASTER II
The ultimate for SSB, a complete self contained 75W PEP Output Transmitter.
only $329.50 wired

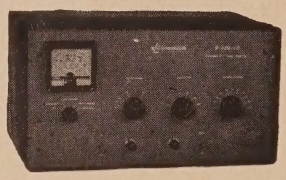
BANDHOPPER VFO
Companion VFO to PM II unexcelled stability, 100:1 Gear Dial Drive, all band operation
only $139.50 wired

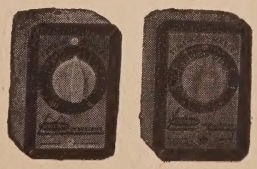




SIGNAL SPLITTER
Receiver Adaptor gives superb SSB with most receivers lacking SSB performance
only $74.50 wired

P-400GG LINEAR
400W PEP Output Linear Companion Amplifier. All Band, Bandswitch. Exclusive Metering Circuit.
only $269.50 wired





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Transistorized Audio Oscillator
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Automatic 10 minute timer
$7.95

Write Dept. H. for complete literature

Lakeshore INDUSTRIES
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MANUFACTURERS OF PRECISION ELECTRONIC EQUIPMENT

For further information, check number 17 on page 127.

Letters . . . to the editor

Printed Circuits

Dear Sir:

I collaborated with Mr. Klien, W4UHN in making the etched circuit boards, photo-engraving negatives and photo-engraved cuts for the recent series of printed circuit units in CQ. If any hams are interested in securing duplicates of these items to build their own units they may contact me. Thanks,

Herman Peretz
260-49 Langston Ave.
Floral Park, New York

Radio Control

Dear OM:

Why don't you run some articles or have a section of CQ devoted to Radio Control of Model Planes and Boats?

Norman O. Merz, W9YNB
Racine, Wisconsin

I don't run 'em because nobody sends them in, that's why. Logical?

Perspective

Dear OM:

That article in your May issue by K2ORS called Perspective is something after my heart, wonder why some of the TV Show Makers don't come up this alley and see what 4X4-land can offer? DSB sure created havoc here and yours truly expects to be up soon with a pair of 807's to QSO the SSB gang, hi.

Bob Avigor, 4X4CJ
Tel-Aviv, Israel

That weak SSB station on 14290 frantically calling you is W2NSD.

The Navy

Dear Boss:

Groan and moan. We sure could use that rig on the air. It seems downright undemocratic. Here sit almost 800 guys aboard the Curtiss, a few hundred more aboard the cargo ship and ice-breaker, while there are less than a hundred over at L. A. And darn it, while I was in the shack at USA, lots of stateside stations called in with messages or phone patch tfc for fellows on the ships. USA couldn't arrange patches for them at all, and could rarely arrange to pass messages over to the ships.

KC5USN could have had a heyday handling phone patches. I have a hunch we could have matched or even outworked the KC4 stations with our shipboard rig and "perfect" ground.

So many guys have heard about my being a ham and have asked if I could get thru to the states for them, I feel guilty for not bootlegging. After all, K20LK/MM or /KC4 is legal, if I just weren't stuck on a *Navy* ship with regulations against amateur radio.

Gee, boss. This is a non-military operation. Nothing classified going on here at all, so why no ham stations on the ships? As it is they're missing out on the biggest (and *by far* the cheapest) morale booster they could have aboard. I don't like to rub it in (I don't?) but why doesn't the Navy get hep to ham radio? The Air Force and the Army are.

Yours uncommunicatively,

Jim

Panic

Dear Editor Green, W2NSD

This is in further comment to your brief mention of

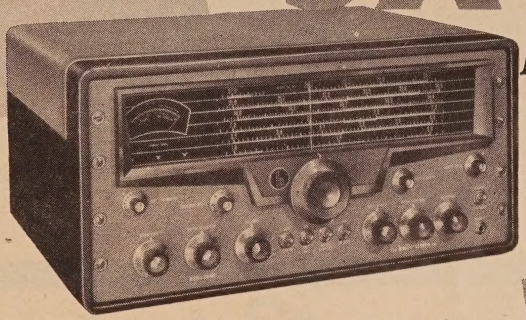
[*Continued on page 106*]

Watch
next month
for details on

hallicrafters

exciting September
single sideband
contest

More than 50 lucky amateurs will WIN *an* SX-101 *Receiver*

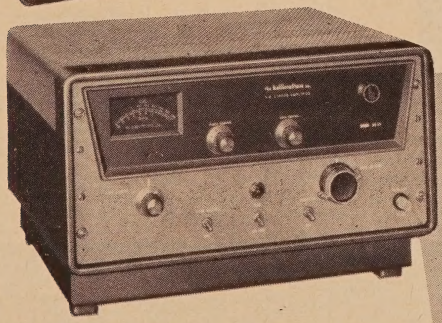


and one lucky amateur will also WIN



an HT-32 *transmitter*

and HT-33 *kilowatt amplifier*



The best ideas in
communications are
born at

The hallicrafters Company

4401 W. Fifth Avenue Chicago 24, Illinois

For further information, check number 18 on page 127.

Hamfest Calendar

Syracuse

The Radio Amateurs of Greater Syracuse are having a Ham-Nic on Saturday August 24 at the Longbranch Area of Onondaga Lake Park. Thruway interchange #39, turn left and follow signs. 75-10-2 meter mobiles will assist. $2 per family, bring your picnic basket. Games and prizes galore, noon to nine. Write: H. Warren Middleton K2UIT, 241 Fairmount Ave., Liverpool, N.Y. (This is a CQ approved event . . . bring money for subscriptions.)

Virginia

"The Shenandoah Valley Amateur Radio Club will hold its Seventh Annual Hamfest Sunday, August 4, 1957, at Dickey Ridge Picnic Grounds on the Skyline Drive, five miles from Front Royal, Virginia. As in the past many prizes will be awarded and entertainment is planned for the whole family. Registration commences at 10:00 AM, E.S.T. For more information, Contact W4RKC, P. O. Box 139, Winchester, Virginia."

Arizona

The Huachuca Amateur Radio Club is having a hamfest at the picnic area in Garden Canyon, Fort Huachuca, Arizona, August 31 thru September 2. Prizes, contests, guest speakers, swap & shop, and entertainment. $1 before August 24th, $150 after. Harmonics under 12 free. Write: P.O. Box 902, Fort Huachuca, Arizona. Camping facilities and power are available.

New Jersey

The Lakeland Amateur Assoc. of Wharton, N.J., will hold their 2nd annual Hamfest on Sunday, August 4, 1957, starting at 10 a.m. The location is the Dover Water Works Picnic Park just off Princeton Ave. in Dover, N.J. Princeton Ave runs north from route 46 starting at the foot of the viaduct on the west side of Dover. The new Elks bldg is located on the corner of Princeton Ave. and route 46. Watch for this as a marker. Watch for L.A.-R.A. signs. There will be rigs operating on both 6 and 2 to assist mobiles on their way in. A very interesting program is planned for all members of the family.

Illinois

The annual Egyptian-St. Louis area Hamboree is to be held Sunday Aug. 25, at the Egyptian Radio Club grounds. The club is located one block south of the Chain of Rocks Canal bridge (U.S. Highway 66) on the East bank of the Mississippi Chain of Rocks Navigation Canal.

Attractions this year will be "Diver" Delps,

[*Continued on page 117*]



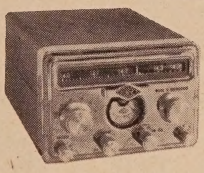
For further information, check number 19 on page 127.

GONSET MOBILE TWINS



Gonset's Mobile Twins, G66-B Receiver and G77 Transmitter, represent the perfect mobile combination. Outstanding Multi-band performance--beauty of appearance--finger-tip control--6 and 12 volt operation--compactness without compromise! Typical Gonset dollar-for-dollar value--real "owner satisfaction."

G-66B RECEIVER



6 BANDS: 540-2000 kcs. 3500-4000 kcs. 7000-7300 kcs. 14,000,14,350 kcs. 21,000-21,450 kcs. 28,000-29,700 kcs.

AM, CW, SSB RECEPTION. Highly stabilized HF and BF oscillators and xtl controlled 2nd conversion oscillator.

STEEP SKIRT SELECTIVITY: 265 kc 2nd I.F. 8 high Q tuned circuits. 3.5 kc I.F. bandwidth at 6 db down.

DOUBLE CONVERSION ALL BANDS: 2050 kc 1st I.F. Double input tuning (3 tuned circuits) on high bands for high image rejection.

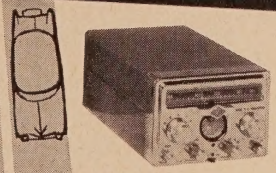
AVC—Noise limiter—Panel S meter—antenna trimmer—BFO pitch—Audio-RF gain control—slide rule dial—3 watts audio.

G66-B RECEIVER....less power supply.....209.50

"3-way" (6-12V DC-115V AC) Universal power supply/speaker..44.50

"Thin pack" power supply. 12V DC only, no speaker.....29.50

G-77 TRANSMITTER



FREQUENCY RANGE: 80-40-20-15-10 meters. VFO or xtal, switchable. Highly stable VFO, each band spread over most of slide rule dial.

FULL BANDSWITCHING: Exciter ganged with VFO, pi network output.

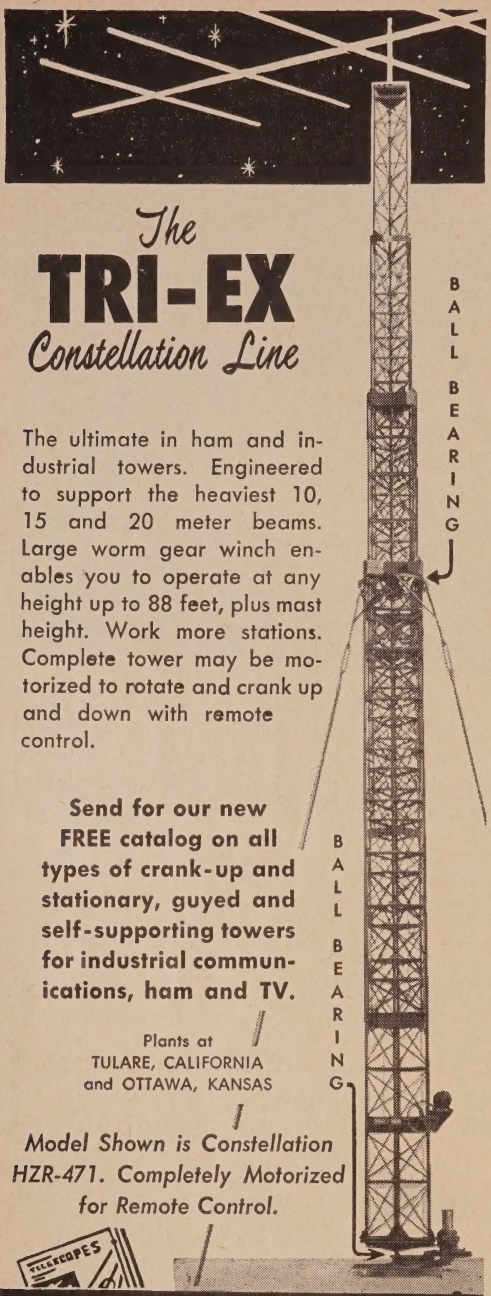
POWER INPUT: 50-60 watts, modulated. CW provisions, 6146 tube in output. New modulator has integral speech clipping. High gain speech for PA-type dynamic, reluctance or xtal mikes.

POWER SUPPLY: Heavy-duty, vibrator, 6 and 12V DC. Output voltage 500-600V full load, Selenium rectifier, low drain both on standby and transmit. Power supply is a separate compact unit.

G77 Transmitter w/power supply/modulator.....289.50
(less microphone and crystal)

GONSET ....DIVISION OF L. A. YOUNG SPRING & WIRE CORPORATION.
BURBANK, CALIFORNIA

For further information, check number 20 on page 127.



The
TRI-EX
Constellation Line

The ultimate in ham and industrial towers. Engineered to support the heaviest 10, 15 and 20 meter beams. Large worm gear winch enables you to operate at any height up to 88 feet, plus mast height. Work more stations. Complete tower may be motorized to rotate and crank up and down with remote control.

Send for our new FREE catalog on all types of crank-up and stationary, guyed and self-supporting towers for industrial communications, ham and TV.

Plants at
TULARE, CALIFORNIA
and OTTAWA, KANSAS

Model Shown is Constellation HZR-471. Completely Motorized for Remote Control.

TELESCOPES

SEND TODAY FOR FREE CATALOG

TRI-EX TOWER CORPORATION
127 EAST INYO ST., TULARE, CALIF.

NAME

ADDRESS

CITY STATE

For further information, check number 21 on page 127.

AUTOCALL

Answer to SEND
MORE
MONEY

D=3, E=5, M=1, N=6,
O=Ø, R=8, S=9, Y=2.

Answer to Ham transmitter problem is . . . Carl, Viking II; Bob, Ranger; George, Collins; Red, Gonset; Vic, B&W.

Try these on for size

♯1. "A" found a $10 bill which he gave to "B" in payment of a purchase, who gave it to "C" to apply on account, who in turn gave it to "A" in full payment of a debt. Who lost?

♯2. Here is an interesting problem sent in by W2CBQ.

Five men spent the day gathering cocoanuts, and placed them all in one pile, agreeing to divide them equally the next morning. During the night each man got up when the others were asleep, went to the pile, and divided it into five equal parts with one cocoanut left over. The extra cocoanut was given to a monkey each time, one part hidden by the man, and the remaining four parts reassembled into a pile. The next morning the five men divided the then remaining pile into five equal parts, with one cocoanut again left over. They gave the extra cocoanut to the monkey bringing his total to six. What is the minimum number of cocoanuts which could have been in the pile initially? ■

Contest Calendar

Frank Anzalone, W1WY
14 Sherwood Road
Stamford, Conn.

September	**7-8**	**LABRE-CW**
September	**14-15**	**LABRE-Phone**
October	**5-6**	**VK/ZL-Phone**
October	**12-13**	**VK/ZL-CW**
October	**26-27**	**CQ W.W.-Phone**
Nov.	**30-Dec. 2**	**CQ W.W.-CW**

LABRE CONTEST

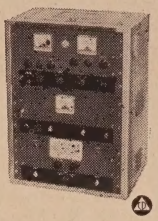
1. **Contest Period:**
   CW Section: 0001 GMT Saturday to 2400 GMT Sunday of the first week-end of September, each year.
   Phone Section: 0001 GMT Saturday to 2400 GMT Sunday of the second week-end of September, each year.
2. **Bands:**
   The contest activity will be in the 3.5, 7, 14, 21, 28 and 50 mc, amateur bands. No cross-band or A1 to A3 contacts are allowed.

[*Continued on page* 61]

Those who believe quality only is a factor are leaving themselves open to excessive charge. And those to whom price alone is the consideration may spend little but buy even less. We have tried to combine economy with quality to offer the finest performance for the least money . . . honestly believing this to be the wish of the Amateur. Sales acceptance has proven us right. We invite comparison with any other transmitters, . . . dollar for dollar, . . . watt for watt, . . . feature for feature . . . by test or testimonial. After all, it's you who should be the judge!

Now, increased safety factor through use of the 4-400A Final Tube

Globe King 500B



A bandswitching transmitter for 540 watts on fone and CW; 540 watts on SSB (P.E.P.), with 10W external exciter.

Outperforming any rig in its price and wattage range, the King bandswitches 10-160M in a 31x22x14¾" handsome cabinet, especially designed for TVI-suppression. The Transmitter is relay controlled; includes a built-in antenna relay; built-in VFO; and separate power supply for modulator section, allowing better overall voltage regulation. Commercial-type compression circuit keeps modulation at high level. King features grid-block keying for signal clarity. Pi-network matches most antennas, 52-600 ohms. Provisions for crystal operation.

Cat. No. 145AF001—Wired & Tested.....$699.00*
*As of Sept. 1, 1957 this price will be advanced to $725.00

All WRL Electronics Transmitters operate on most CAP and MARS frequencies.

Globe Scout 680



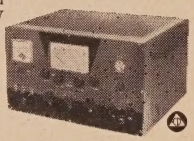
65 watts CW; 50 watts on fone, plate modulated.

A compact, self-contained, bandswitching transmitter for operation of the 6 through 80 meter bands, with built-in power supply. High level modulation is maintained. TVI-suppressed cabinet. Pi-network output on 10-80M; link-coupled on 6M, matching into low impedance beams. New type, shielded meter. Globe Scout 66 is identical, except bandswitching 10-160M. Size: 8x14x8".

Model 680
Cat. No. 145AF007—Kit.....$84.95
Cat. No. 145AF006—Wired & Tested.....$99.95
Model 66
Cat. No. 145AF005—Wired only.....$99.95

Globe Champion 300

A bandswitching, 10-160M, Transmitter for 350 watts CW, 275 watts fone, and 300 watts SSB (P.E.P.), with any 10W external exciter.

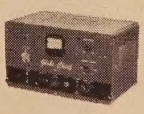


The single-switch bandswitching Champion is extensively TVI-suppressed, filtered and bypassed. High level Class "B" modulation is sustained without usual clipping distortion through use of a new commercial type compression circuit. Pi-network output circuit, 48-700 ohms, built-in VFO, push-to-talk, antenna changeover relay, and improved Time Sequence keying are all features. 1000 volt plate capacity of Final tubes offer 33⅓% safety factor. Only 12x21⅜x17" in size, self-contained.

Cat. No. 145AF011—Kit.....$349.00
Cat. No. 145AF010—Wired & Tested $449.00
*As of Sept. 1, 1957, due to inclusion of a pre-assembled VFO, this price will be advanced to $375.00

FCDA Certified on factory wired and tested models for crystal controlled operation.

Globe Chief 90



A completely bandswitching, 90 watt transmitter for 10-160M.

Here's a compact, 8x14x8", sturdy rig with well-filtered, built-in power supply. Pi-network matches most antennas from 52-600 ohms. Modified grid-block keying is employed for maximum safety. Has provisions for VFO input and operation. Kit form includes complete manual and all tubes and parts. Meter and cabinet carefully shielded for reduction of unwanted TVI.

Cat. No. 145AF013—Kit.....$54.95
Cat. No. 145AF012—Wired & Tested.....$67.50

Guaranteed
FOR ONE FULL YEAR

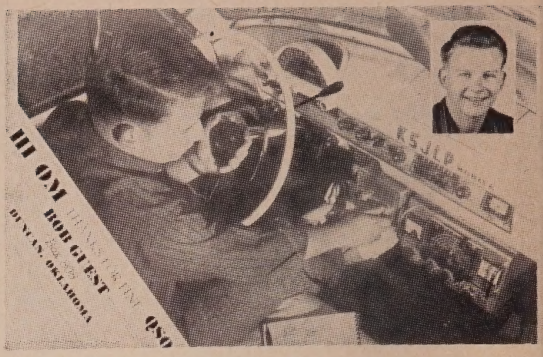
SEE YOUR NEAREST DISTRIBUTOR
MOST OF THEM CAN OFFER TIME-PAYMENTS TO SUIT YOUR BUDGET

WRL Electronics
34th & BROADWAY
COUNCIL BLUFFS, IOWA

For further information, check number 23 on page 127.

QSL Contest

Winner this month is K5JLP with his mobile installation photo and mug insert . . . clever. Honorable mention goes to the more magnificent losers: W3YPI, CN8JQ, and XE1IG. XE1IG is a four color card . . . real nice. W3YPI looks like it was silk screened in red on a yellow card stock.



WINNER

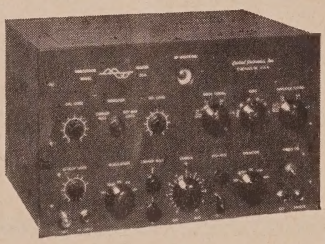


LOSERS





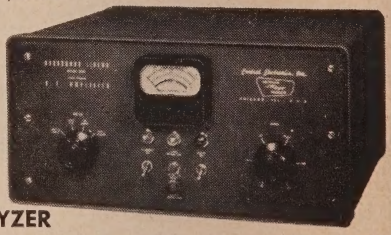
SUPERIOR GEAR—FROM THE SSB PIONEER



MULTIPHASE 20A EXCITER
Now Better Than Ever

The "Work-Horse" of SSB. It's a fact — there are **More 20A'S on the air than all other makes combined!** 20 watts P.E.P. output on SSB, DSB, AM, PM & CW. Perfected voice-controlled break-in. Band switched 160-10 meters. Increased stability — improved linearity — higher output on HF bands, versatile, dependable, reasonably priced. Quality thru and thru.
Wired and Tested.....$279.50 Complete Kit.....$219.50

MULTIPHASE 600L



Broad-band linear amplifier for SSB, DSB, AM, PM & CW. **No tuning controls of any kind!** Single knob band-switching 10 to 160 meters. A 20A easily drives it to 500 watts DC input. Single 813 in high efficiency class AB2. Built-in regulated power supplies. Exclusive meter reads watts input, RF AMPS & SWR. TVI suppressed — parasitic free.
Complete Ready to Operate.....$495.00



MULTIPHASE MM-1 RF ANALYZER

What's your signal really like? Hook in an MM-1 and stop guessing! 3" scope instantly shows up flat-topping, improper bias, incorrect loading, etc., and how to correct them. SSB or AM—5 watts to 5KW—1MC to 55MC—take your pick of envelope, trapezoid or bow-tie patterns. Built-in 1KC oscillator for complete alignment of SSB exciters.
Wired and Tested.....$129.50 Complete Kit.....$99.50

A POSTCARD BRINGS YOU INFORMATION ON ALL MULTIPHASE GEAR.

MULTIPHASE EQUIPMENT

Central Electronics, Inc.
1247 W. Belmont Ave. Chicago 13, Illinois

For further information, check number 24 on page 127.

F-6 *Precision* CRYSTALS

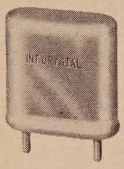
For Commercial Use 1000 KC TO 60 MC

Wire mounted, plated crystals, for use in commercial equipment where close tolerances must be observed. All units are calibrated for the specific load presented by equipment.

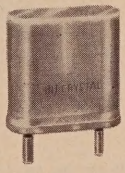
Holders: Metal, hermetically sealed.
Calibration Tolerance: .0025% of nominal at 30° C.
Tolerance over Temp. Range: .005% from —55° to 90° C.
.002% from —30° to 60° C.
Circuit: As specified by customer. Crystals are available for all major 2-way equipment. In most cases, necessary correlation data is on file.
Drive Level: Maximum—10 milliwatts for fundamental, 5 milliwatts for overtone.
Prices: Available on Request.

International Crystals also available in 60 KC to 100 MC. Write for complete information.

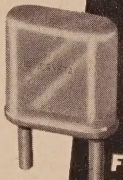
F-605
pin dia. .050
pin lgth. .238



F-609
pin dia. .095
pin lgth. .445



F-612
pin dia. .125
pin lgth. .620



ONE DAY . . . PROCESSING . . . . . CRYSTALS



FAST REPLACEMENT for all major 2-way equipment . . .

ELIMINATES large crystal inventory for new equipment!

PREVENTS bottlenecks in development work!

HOW TO ORDER

F-6 Series Crystals— Specify Frequency, Holder Type (Adaptors supplied ¾" pin spacing), Circuit Data, Equipment Model Number.

FA-9 Series Crystals— Specify exact frequency; crystal will be calibrated to .01% or better of this frequency.

We prepay Airmail postage when cash accompanies order; otherwise, shipped C.O.D.

Fast Service — Usually we ship within one working day of receipt of order.

FA-9 Spot Frequency CRYSTALS

FOR AMATEUR USE 1500 KC TO 90 MC

Wire mounted, plated crystals for use where tolerances of .01% are permissible and wide range temperatures are not encountered.

Circuit: Designed to operate into load capacitance of 32 mmf on the fundamental between 1500 KC and 15 MC. Operate at anti-resonance on 3rd overtone modes into grid circuit without additional capacitance load. 5th overtone crystals designed to operate at series resonance. (Write for recommended circuits).

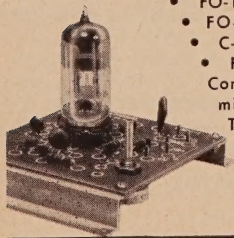
PRICES Pin Diameter .093
Pin Spacing .486

Frequency Range	Tolerance	Price
1500- 1799 KC	.01%	$4.50
1800- 1999 KC	.01%	4.00
2000- 9999 KC	.01%	3.00
10000-15000 KC	.01%	4.00

(FA-9 Fits Same Socket as FT-243

Frequency Range	Tolerance	Price
Overtone Crystals-3rd Overtone Operation		
15MC-29.99MC	.01%	$3.00
30MC-54MC	.01%	4.00
Overtone Crystals-5th Overtone Operation		
55MC-75MC	.01%	$4.50
76MC-90MC	.01%	6.50

ask about these
PRINTED CIRCUIT UNITS!



- FO-1 and FO-1L Oscillators
- FO-6 Oscillator Assembly
- C-12 Alignment Oscillator
- FCV-1 Crystal Controlled Converter • FO-100 Transmitter, 6 Meter • RC-100 Transmitter, for Model Radio Control . . . and others! New Catalog now available!

International
CRYSTAL MFG. CO. INC.
18 N. LEE OKLAHOMA CITY, OKLA.
Phone FOrest 5-1165

SEND FOR YOUR FREE 1957 CATALOG TODAY!

For further information, check number 25 on page 127.

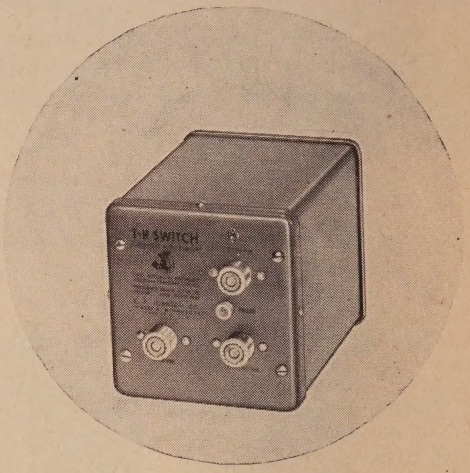
Johnson introduces...

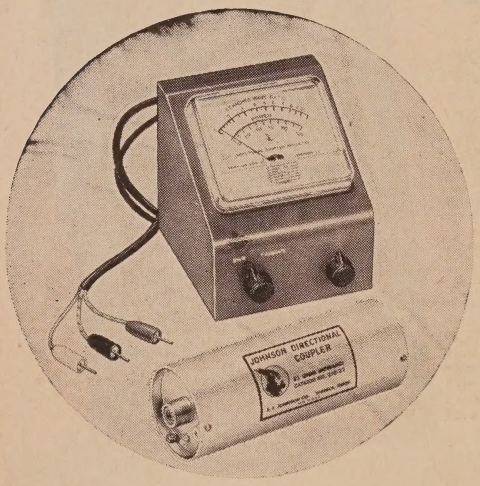
2 NEW STATION ACCESSORIES!

T-R SWITCH

This new Johnson T-R Switch provides instantaneous high-efficiency electronic antenna switching. Exclusive double-gated circuitry, with 6BL7 dual triode, gives excellent receiver isolation—printed circuit wiring means extra durability. Gain: 0 db at 30 mcs. — 6 db at 3.5 mcs. Will handle high peak power capabilities of new linear amplifiers —rated at 4,000 watts peak power. Instantaneous break-in on SSB, DSB, CW or AM. Will not affect transmission line SWR—will provide an effective impedance match to most receivers through the 3 to 30 megacycle range. Nylon tip jack facilitates connection to an internal RF probe for driving an oscilloscope or other monitoring device.

Cat. No. 250-39 — T-R Switch wired and tested, with tube and power supply.....**$25.00** * Amateur Net





DIRECTIONAL COUPLER AND INDICATOR

The new Johnson Directional Coupler and Indicator provides a continuous reading of SWR and relative power in the transmission line. Coupler may be permanently installed in 52 ohm coaxial line—will readily handle maximum legal power as specified by the FCC for amateur service. Standard tip jacks will permit the use of a commercial multimeter as an indicating instrument—reference sheets showing curves are supplied with each coupler for popular multimeter basic ranges. Indicator consists of a 0-100 micro-ammeter calibrated directly in SWR and relative power. Continuous monitoring of either incident or reflected power may be quickly selected with a switch on the front of the meter cabinet. A second control on the front panel, permits easy adjustment and calibration of the meter.

Cat. No. 250-37 — Directional Coupler, wired and tested.....**$11.75** Amateur Net

Cat. No. 250-38 — Indicator, wired and tested.....**$25.00** * Amateur Net

See your distributor
Most authorized Johnson distributors offer liberal terms. Often as little as 10% down puts you on the air, and your used equipment (especially if it's Johnson) is always worth top dollar in trade.

E. F. Johnson Company

2832 SECOND AVENUE SOUTHWEST • WASECA, MINNESOTA

*PRICE SUBJECT TO CHANGE AT TIME OF DELIVERY

For further information, check number 14 on page 127.

Spitzbergen.....SM8KV/LA/P

H. Olle A. Ekblom, SM5KV
P.O. Box 10
Sigtune, Sweden

Early one morning in August my ship pulled through the fog into the harbor near Ny-Alesund, one of the most northern villages on Svalbard (Spitzbergen). The sight was at first depressing for there was little to see. In the distance were a few low hills with snowy tops, nearby was very cold water and black rocky landscape. A few people stood watching us from the small railroad bridge at one side. Just over the hill I could see the white puffs of smoke from the coming train.

I looked around for some place to set up my station and antenna, but there were no trees or high houses. After considerable discussion with the local telegraph operator and two local people I got permission to use the local telegraph station. Fortunately I was able to get the only horse cart in the vicinity to carry my equipment to the station. Next the antenna. The best I could do was hook a 10 meter vertical to a telegraph pole, but this worked out as a half wave on twenty and a ground plane for fifteen and forty.

Let me tell you a little bit about Svalbard, this group of islands about 400 miles north east of Norway. They were first discovered in 1194 by some hunters and fishers. They were re-discovered in 1533 by Sir Hugh Willoughby and in 1596 by William Barents. Norway has had the administration of the entire group of islands since 1925. There are about 2000 Russians in three mining villages, Barentsburg, Gruvmantbyen and Pyramiden. 1400 Norwegians live in the two mining villages. Longyearbyen and Ny-Alesund. The climate is surprisingly mild, considering the northern position, but this is due to the Gulf Stream. There are ice bears, foxes, reindeer, musk oxen and thirty different kinds of birds. In the sea are whales, seals and walruses. Flowers and two kinds of bushes are surprisingly numerous.

Once the equipment was set up I loaded the antenna and called a very short CQ . . . de SM8KV/LA/P (Norway, Polar Arctic). W7PHO was right there for my first QSO. When I signed with him I thought for a moment that the receiver had developed some horrible trouble where all signals come in on one frequency. There must have been at least a thousand stations all on my crystal frequency! It was over fifteen minutes before I could get enough off my frequency so I could settle down and work them.

The honyemoon was over shortly. Within a few days I began to get more and more requests to go to 15, to 80 to 40 phone, to sked so-and-so on 14020 at 1614 GMT (he would usually turn up on 14110!), etc. . . . skeds . . . skeds . . . skeds. In all I made 1049 contacts, 277 of them on phone. I worked 55 countries with WAC on both phone and cw.

My ship was due back just two weeks after



The shack: HQ-140X and HT-20. Power was 220 v.a.c.

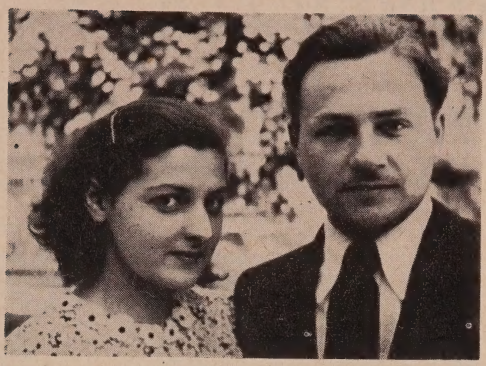


Telegraph station QTH with poles. Pipe in foreground is for water . . . too cold to dig a ditch for it.

I arrived, so I finally had to shut down and pack up. I had been operating about ten to fifteen hours a day and was really tired. I did take off a few hours to walk around the village, visit friends, motor boat and mountain climb.

It was really great fun putting this rare spot on the ham map and I want to thank all of those who helped me, both on Svalbard and over the air. ■

Tima YU1FR and his XYL.



The Evolution of a Yugoslav Ham

Tima Popovic, YU1FR
Banat Nove Selo
Yugoslavia

Doubtlessly, not many of the American hams, surrounded by handsome commercially built rigs and all imaginable test equipment to chew the rag, are able to realize how many difficulties less fortunate amateurs encounter in their attempts to get on the air. In most parts of the globe the average ham most always builds his rig and all the auxiliary accessories himself. The lack and costliness of suitable stuff is a matter of major importance.

Another, even more important difficulty, was the fact that people in less developed areas are liable to stigmatize the owner of an amateur radio station as being a subversive individual, in other words one who is supposed to be ready at any time to betray his own land. During my pre-war activities, many people, including my good friends, have asked me, "What's *your* profit in operating that radio station?" Although completely free of any hidden intention, my efforts toward explaining the essence of the matter failed. I tried to compare hamming with Philatelism, sporting or chasing, but no one would accept my motives just as a hobby. But not to get ahead of my story, let me start from the beginning.

I had Just come home for a two months' vacation from high school when I decided to build a short wave receiver. It took me several days to complete the set of heavy self-supported coils in a simple battery powered two tube job, but the results were worthwhile. From the very first moment I began working overseas short wave broadcasting stations appeared strongly on the dial. Many sleepless nights were spent listening to programs of W2XAD and W2XAF in Schenectady, N.Y., W8XK in Pittsburgh, Pa., W1XAZ in Springfield, Mass., Havana, Cuba or Rio de Janeiro. Ten meter openings were quite frequent at that time and W stations came through during the early afternoon hours with such strength and crystal clearness that I could hardly believe they were overseas.

Then one day I discovered the 40 meter amateur band.

There were a lot of active Romanian, Italian and Polish amateur phone stations, which was a revelation to me since I didn't know anything about amateur radio. From then on my interest toward short wave broadcasting stations faded rapidly. Through listening to daily schedules I began to get first notions about QRM, QRN, QSLs, log books, skeds, etc. In a couple of weeks I became rather familiar with the most frequently used ham terminology.

On occasion someone would give the full address of a QSL bureau, asking for reports from random listeners. My desire to learn the game more quickly aroused my curiosity to a point where it became necessary for me to do something other than just listening. I kept an accurate log as best as I could. The next step was an SWL card. As you might guess, it was pretty hard job, since I didn't know much about it. Relying upon my imagination I finally completed the design and had several hundred printed. It wasn't much of a card, but I was proud of it. Perhaps quite a number of old time W's may still have that card among their files.

My very first QSL card came from W2GHK and it made me just about the happiest guy in Yugoslavia. After that it didn't take long before I sent out all my cards and by the time the first answers arrived my vacation was over. Back at school in my spare time I collected and studied all the radio literature I could find on the market. I was more anxious than ever to make use of the knowledge I was storing. Upon finishing school I moved to my grandfather's home where I attempted to build my first transmitter. Since the village had no electricity the only source of power available was batteries.

The transmitter consisted of a simple self-excited Hartley oscillator, operating in the 40 meter band. A home-built carbon mike, a small two tube choke-coupler modulator and

a windom antenna completed the job. The input slightly exceeded one watt at 130 volts. To be honest, I didn't expect much when I fired the transmitter for the first time. To my astonishment the results were quite satisfactory, both as to strength and clearness at the distance of several hundred yards.

Ham radio was taboo in my country, but a little battery powered transmitter, I said to myself, could do no harm. I didn't expect it to go much farther than my own backyard. What an error!

I asked some of my acquaintances, a little more than two miles away, to look for my transmission on their radios. They reported good signal strength. Afterwards, however, several of them showed a strange attitude toward me. A good friend of mine spoke frankly to me and advised that I had better stop such "dubious activities" implying that I was becoming "persona non grata". I didn't pay much attention to these comments, ascribing them merely to their rustic mentality.

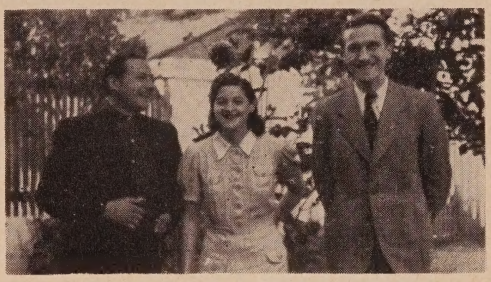
Although still incredulous, as far as the capacity of my transmitter was concerned, I invented a call sign, something like ZX4Y, and filled the air with my first CQ calls. Early one morning I heard a CQ call from a strong Italian station. I took a chance and gave him a call. It was more of a job than I supposed it to be, for I was literally trembling with excitement. My breathing was irregular, my voice so harsh that I barely recognized it. The Italian came back . . . to another Italian. Whatever my disappointment might be, I sighed with relief. The palms of my hands were wet with perspiration and I felt terribly hot.

Gradually my nerves began to settle, my heart beats were about normal when suddenly I heard one Italian fellow say: "There was another pretty weak station calling me on the frequency. It must have been DX. Let's see who it was", and invited me to repeat the call. The excitement prevailed me again.

Several seconds passed before I found the switch, fearing at the same time that I might lose the contact unless I use haste. Speaking as calmly as possible I gave him another short call. I switched over and holding my breath, I waited for an answer. An exhilarated feeling passed through me as a the Italian's voice rang in my ears: "ZX4Y, ZX4Y, ZX4Y" . . . Needless to say my emotions rose to their heights!

It was a strange feeling, as though I were sinking, but far from being unpleasant. I was confused and hardly understood any of his message, but became aware of the fact that he wanted to know what part of the world I was living in. Stammering and stuttering I begged his pardon for not telling him the name of my country. Since I was operating under cover I didn't dare reveal my location, however, I mentioned I wasn't too far away. Seemingly amused he expressed his hope that I would be operating legally in the near future and signed off.

That first radio contact completely exhausted me. It was impossible for me to make another contact that day even if I wanted to. I sat at my desk astounded by my accomplishment, as I was sure that not many people in the surrounding areas would be able to do such a performance. The thought gave me such confidence that I at once considered myself an extraordinary fellow. However, as soon as the first excitment was over, all that self-confidence wasn't worth a damn!



YU7BJ & XYL with YT7TJ, who spent a long time in a German concentration camp during the occupation, later was deported, and is now dead.

This extraordinary fellow became suddenly conscious of the consequences. What if anyone did listen to that QSO? I had unequivocally admitted that I was operating under cover and had also made it clear that the place I was staying wasn't far from Italy. Considering that only a few countries operated without licensed radio amateurs in Europe, it wasn't difficult to presume that I was in Yugoslavia. Furthermore, there were a certain number of people who knew about my transmitting trials. Perhaps it was childish, but my imagination had worked me into such a nervous state of anxiety that I already saw myself imprisoned!

Seeing my agitation, the XYL asked: "What are you so excited about?"

I replied: "If I don't hide this damned thing well enough, I might never see you again!"

No place seemed safe enough, and it struck me then that the hollow trunk in a large apple tree would be an ideal hiding place for this ridiculously small thing. I found it to be an excellent idea. Who would think of looking for a radio transmitter in an apple tree? The hollow fitted the purpose and there the equipment lay for two weeks without anything happening. Figuring that I waited long enough for something to happen I removed the little object from its hiding place.

Once a guy has tasted the forbidden fruit you might guess that he would want to try it again . . . and I did. Despite the fear that still unnerved me, I was soon on the air again. This time I contacted a Romanian station who came back to my call. It then occurred to me that I might adopt a Romanian call, for

security reasons. My QTH was only about 40 miles from the Romanian border and according to my calculations any directional finding device which might be pointed from the west toward my location would show the right direction for my call. It was as simple as that, and I began to relax for the first time.

The Romanian ham told me that my transmission was weak, but surprisingly enough there wasn't a trace of hum on my carrier. Because of perfect clearness of the modulation he was able to read me 100%. "Maybe the trouble lies in the radiating system," he said. "Anyway the lack of hum does mean a lot." I was flattered. Of course I didn't tell him about the battery power I was using. I was too proud.

The same day I raised the power to about 2½ watts and with that QRO I was able to get in touch with Romanians, Hungarians, Polish, French and Italian phone stations. Enthralled by the progress I was making I spent every free second on the amateur bands the following several weeks.

My grandfather hadn't the faintest understanding about what I was doing, and I never took the time to explain it to him. I was highly amused when he apostrophized me one day: "Well, son, if you're so fond of telephoning, why don't you get a job with one of the telephone companies?" I told him briefly that even though I used headphones, it had nothing to do with direct telephoning as we know it, but that messages were picked up by radio waves. He just shook his head, still unable to understand.

I did not know of any other ham in YU land, nor did I ever hear a YU station on the air. Therefore, you can imagine my unexpected amazement upon receiving a letter from Ljubljana, signed by YU7AY. It was some time before I found out how this had come about. A British ham had sent a QSL card to him for me in answer to my SWL report and YU7AY in turn got in touch with me. Informed that I was just a beginner, he gave me instructions regarding SWLing as well as the address of the under cover QSL bureau in Zagreb and another amateur, YT7TJ in Belgrade, suggesting that I could refer to him for further information in the event that I wanted to get on the air.

I then decided to meet YT7TJ and took the first train to Belgrade. Upon arrival it was a simple matter to find the apartment occupied by his family because the feeders of a Zepp antenna unmistakably marked it. I stared at it for several minutes as it was the first transmitting antenna I ever saw. My eye followed along the wire down to the feeders to the window, and intending to knock on the window I was startled as I noticed a fellow wearing earphones watching me suspiciously from inside the house. Almost intantly a tall good-looking young man appeared at the door, pale and worried. Looking over his shoulder I saw an even more pale and terrified middle-aged woman, who, I found out later, was his mother. Evidently they misunderstood my intentions so I hastened to explain the reason for my calling and it was then the young man welcomed me in.

We spent the rest of the day making several QSO's on his neat three stage transmitter. This was the beginning of a long and warm friendship between YT7TJ and me.

My new friend introduced me to YT7KP, an electronic engineer, attached to the Tungsram firm in Belgrade, who had already been a permanent QRT. It was only several months earlier that the police broke into his home and after discovering his amateur radio station confiscated everything, even the drawers of his desk with radio junk, all his QSLs and trophies. He had spent time in prison, but because no law was ever issued to regulate the sturdiness of such transgressions as amateur radio, he was finally released.

Despite his own misery, YT7KP was a wonderful friend. We discussed again my working possibilities. The main trouble was that I did not have a power line available, so YT7KP suggested that I build a two stage transmitter with a 6V6-ECO and 6L6-PA plate and screen modulated by another 6L6. The whole station operated from a car battery, by means of a vibrator power supply.

In the meantime I adopted the call sign YU7BJ and worked on 14 mc CW. I was greatly disappointed with the result of my new station on the air, running about 15 watts on cw and somewhat less on phone. The average contacts did not show improvement on those received working my old one watter. The best DXs were from some North African stations that I had worked with my QRP station. But, feeling ashamed of the poor job I was doing I did not dare call a single CQ-DX, fearing no one would reply.

It was in the early summer of that year that I sat listening on the 20M band. Accustomed to working only strong European stations, this on particular evening a weak call was trying to come through. After launching my CQ I could hardly believe my ears as I received a reply from YV5AE in Caracas, Venezuela. We scarcely finished the QSO when another call came from HI6Q. The next catch was W8NJP, followed by W8MHU and a lot of other W's and some LU's. I became so enthusiastic about DX that I didn't care to work another European station for quite a while. YU's were such rarities at that time that every CQ call brought about dozens of DX's.

Late in the year of 1939, with the outbreak of the war, a great amount of amateur radio activity ceased, but DX signals were still crossing the air, as if though nothing important were happening. I was quite aware of the fact that now, with practically no European station on the air, the DX'ers were greatly hindered. I was thoroughly possessed by the hamming passion (I felt I couldn't do without it). What

I did not know was that most of our hams had been discovered and reduced to silence. Naturally, it was during this time that the DX was pouring in from all directions and I was having the finest time of my life.

One afternoon as I was working in my grandfather's garden my mother ran into the yard out of breath. In between gasps she announced that police agents had been at my parent's home looking for a hidden radio station. Panic seized me. Dropping everything I ran into the house and literally ripped out my station, hiding the pieces among several large bushes in the garden. Fear gripped my heart the rest of the day and much to my relief, the agents failed to come to my grandfather's home.

Early the following morning, just before sunrise, I gathered the station and with my QSL cards sealed everything in an iron chest and buried it three feet deep in the flower garden. I was heart-broken as my pride and joy of becoming ham operator YU7BJ came to an end. I suppose one would think, "Well, it's better to be alive," but I could feel no solace with this fact, because now I felt there wasn't much left to live for.

Several weeks later, a civilian, followed by a uniformed policeman, appeared at my door. The civilian was messenger of the General Direction of PTT and was given instructions to search the house. How they had found out that a clandestine radio station was in the house was beyond my knowledge. The policeman stayed with the XYL and my grandfather, while the civilian and I went through the rooms, he carefully inspecting every corner. He deliberately chatted about amateur radio and I couldn't help noticing that he was expecting to get more information out of me. However, I was wise enough to play skillfully along with him.

YR5CJ and YT7TJ on a visit to YU7BJ's home in 1939. YR5CJ lost his eyes in a misfortune during the war.





YU1FR (YU7BJ) with his pre-war equipment.

The result of the inspection was the confiscation of my short wave receiver which I didn't find necessary to hide.

Shortly, thereafter the war machine trampled us. During the German invasion I again was forced to withstand battle fury. In time, after four full years of killing, destroying and starving, the evil had come to an end. There is nothing I can say that you probably haven't already read or known from your own experiences of just how one feels when wars have ceased.

After the victorious closing of the liberation, Yugoslavia amateur radio met a better fate. All this time the transmitter was buried in the ground. Four times did the flowers bloom over its hiding place. When I was finally able to dig up the old iron chest, there was nothing left of the equipment that could be usable except the tubes. But I wasn't discouraged, in fact I was quite happy to know that all was not lost. We had at least won our freedom, for thanks to the full understanding, cordial assistance and cooperation of the new Yugoslavia, amateur radio was officially recognized. After a period of consolidation, first licenses were issued in 1950. From then on, membership increased at SRJ, Yugoslavia Radio Amateurs Union and ham groups took on quite an impressive proportion. Nowadays SRJ has over 20,000 members with about 1500 licensed amateurs. A YU station is no more a rarity on the air today and no one will ever lose their breath trying to contact me. Although many times I have to work hours on end for a DX contact I don't mind, because you see, practicing ham radio in full legality and freedom is to me just about the most wonderful thing there is! ■

DXpedition a la Drag-Net

Lee R. Shoblom, K6ADA,
4637 3rd Street
La Mesa, California

Editor, CQ Magazine,
300 W. 43 St.
New York 36, N. Y.
Dear Sirs,

Attached is a manuscript accounting the adventures of a group of teen-age hams on a recent (summer-1955) "DXpedition" to Catalina Island.

I am sure you are well aware of the tremendous increase of teen-age amateurs since the introduction of the Novice license and the easing of licensing regulations of the general (or class B) license.

You probably have observed a very noticeable change in personalities of these young hams, as compared to those of the pre-1951 period.

In those days, a teen-age amateur was more of the bookwormish, child prodigy type (with exceptions, of course). He was usually considered rather odd, was very shy with girls, and as a general rule, more of the introvert type.

Nowadays, a teen-ager doesn't have to be a "miniature Einstein" to enjoy ham radio. Teen-hams today, are quite often, the presidents of high schools, can outbop the rest of the cats on the dance floor, can fast talk their way out of a bad situation, and generally speaking, are a normal, well balanced youth.

CQ magazine (this is a fact) is preferred by today's teen-age hams. This, no doubt is because of the informal manner in which it is presented, while its competition is a stiff collar magazine. It has good information, but leaves you feeling of having read the dictionary (lack of human interest).

All this is to say that the readers of your magizine, especially teen-agers, in my opinion, would really enjoy this story (which, incidentally appears to be fiction, but is, in fact, 100% true).

This is my first attempt at writing and any corrections will be very welcome. If you wish to publish this story, I would be glad to furnish you with photographs of the yacht, the club members, the "natives", the island or anything you would like.

I am the president of the Drag-Net, which has been in existence 4 years, and I will soon be twenty years of age and will have to be an honorary member (past-teens). I am married, (Jan. 20, 1956) have a brand new baby girl, I am going to college taking an Electronic Technician curriculum, and I work at the Naval Air Station in San Diego as a Aircraft Radio Technician.

I am not particularly interested in remuneration for my efforts, but perhaps a few non-hams would read it and get the idea out of their heads that we teen-age hams sit in the corner and watch the world go by (along with those hams that would consider it good reading —interesting). People shoud realize that the teen-ager with a ham license has license for fun and that the adventurous, exciting element of a ham license attracts more fun-loving people (with technical ability) than it used to (the old days: ultra technically minded prodigies who lived in books).

However, if remuneration will be paid, I should be most happy to accept it (HI).

If the manuscript is rejected, please return it. I have enclosed the necessary postage. Thank you very much.

Yours very truly,
Lee R. Shoblom

It was nearing dusk as the fifty foot luxury yacht, Rowana, pulled away from San Diego harbor. Small craft weather warnings (issued by the Coast Guard) were out but we weren't small craft. After passing the Point Loma lighthouse, we headed due west, completely unaware of the misfortunes ahead. Crew and passengers consisted entirely of Drag-Net members (a teen-age San Diego ham club) including (all K6's) Myself-ADA, Bill-ANV, Bud-CSW, Pete-BBO, Jer-DXY, Al-DXZ, Doug-EFE, Jack-GLQ, Ron-GZA, Bob-KNE, and Ed-GUO. This being our first voyage, it was to be a new experience to all.

Communications

After one week of preparing the ham gear, we felt we had things pretty well in control. The rigs consisted of a Heathkit AT-1 with modulator, an NC-98 receiver, a pair of homemade 3825 kc walkie-talkies, and a portable 5 watt phone rig for use as a relay station from the walkie-talkies on the island to the yacht. Antennas were limited to whips (including one little surplus beauty that punctured fifty feet of the ether).

One hour out of San Diego we had our first contact. It was a San Diego mobile. Very enthused at being one of those rarely heard low frequency Mobile afloat stations, we continued to work all the stations we could, using both forty and eighty meters. The rig was set up in the wheelroom of the yacht so the fellows who didn't want to operate could fool around in the 'living room' of the boat. This room, you would have to see to believe. It had a television set, a piano, a tape recorder and was finished in a Chinese Modern effect.

Five of the fellows have a dance band and of course they all brought their instruments.

For three hours the voyage went smoothly, the dance band was below recording some of their songs and the rest up front working the rig and running the ship (GLQ handling this end nearly 99% of the time).

It was approximately nine o'clock, there was a slight wind from the North. QRM was get-



ting rough so the rig was shut down for the night. A poker game was going strong down below. GLQ was alone at the whel listening to some Rhythm and Blues on the AC-DC. Three of the guys decided to hit the sack. They were going down the narrow stairway leading to the bunks, when, above all the noise of the card game and the recorder, we heard GLQ yell at the top of his lungs. What we heard was completely unintelligible and so thought perhaps he was fooling around or maybe wanted someone to take the wheel. While wondering if he had flipped his lid, without any warning, the cards and the table flew up and hit the roof, the TV fell off its stand and water was rushing in through the sliding windows. Ron and Bud who were going down the stairs were on top of Pete who had reached the bottom before it happened. Bill-ANV (whose father owns the yacht) and myself ran forward to see what the boat had hit. After making about five feet the boat took another lurch, this time raising up and pinning us to the deck.

Control

We finally made it to the wheel room where Jack was wrestling the wheel and yelling for someone to help him. Help he really needed. The wheel was throwing him around as if there was no one touching it. As we came through the passageway we saw the AT-1 lying on its side on the floor. The receiver luckily had been on the floor in the first place. Being landlubbers, we thought our young lives had come to an end. The waves I would have sworn were seventy feet high, but were later reported to have been only twenty-five to thirty.

This continued throughout the night.

As a result of our compass being smashed we completely missed our island destination. Dawn came. The monster waves did not subside. A strange disease broke out among the men, the symptoms being a greenish appearance and frequent vomiting. This dreadful disease infected all but three of our able bodied red blooded American boys. The lucky three being our Skipper GLQ Ron-GZA and myself.

Ron, Jack and myself being the only ones left having the ability to keep ourselves in a vertical position now had the responsibility of running the ship and preventing possible attempted suicide among the diseased crew members. Al-DXZ was lying on the top of the boat in a semi-conscious state. He didn't answer when spoken to and was in very sad shape. With his head hanging over the side (for obvious reasons) and with the ship rockin' and rollin' we came close to losing a club member. I found a long rope and securely tied one end around his waist and the other around a post.

All things must come to an end and finally the waves subsided and the wind stopped. Life seemed almost worth living again. The boys were slowly beginning to revive. Everything was going smoothly except that we didn't know where we were or where we were going. The compass was beyond repair, the AT-1 had two broken tubes. We had the walkie-talkies and the five watt rig. The idea of calling for help was almost out. The walkie-talkies were useless at any distance over five miles. Our only hope was the five watter. The yacht, very well equipped for 110 ac, had two 2½ KW generators.

Firing up on 3825 kc we were really filling up the ether with our powerful five watts. "SOS SOS SOS this is K6ANV mobile—lost at sea, somewhere off west coast SOS SOS SOS." Also tried MAYDAY, QRR and the old standby: *Help!* After giving that up we realized what a serious spot we were in. Our fuel was getting dangerously low and we were, by this time, completely out of food. We were hungry, I say *hungry*, boy.

We decided to kill the engine to save fuel while we decided what to do. Talk about rock 'n' roll, Cats, we were the swinginest. Our big whip almost touched the sea each time we leaned over, rolling with the swells.

Then it came to us. There was a broadcast station at iur destination and we had to be *somewhere* near there. We found an old portable (loop) minus batteries and two tubes. We took out our emergency repair box, got the soldering gun and went to work on the old dog.

Taking the batteries out of the walkie-talkies and hooking them in series, we discovered we had the equivalent to the B-battery needed for the portable (which had a loop antenna that we were hoping to use as a direction finder). The needed tubes came out of the TV and the NC-98, we were all set.

Sure enough, the portable worked. Now, would it work as we wanted it to? Well, it sure wasn't easy with that loud station. After fooling with it for a few minutes, we found a slight increase in a North-South direction. We chose South. Heading the Rowana due south, we settled back and relaxed. We knew we were either going toward the island or directly away from it. Nothing to worry about.

Food at last?

Now that the crisis had been successfully met (we hoped) we decided to make a final search for food. We were almost ready to keel over from lack of nutrition. Searching from one end of the ship to the other, nothing edible could be found. Nothing to eat or drink in the place except for the liquor locker. Except for the liquor locker. Hmmmm, liquor locker.

Well, you must admit it was a drastic situation. It was this or cannibalism. To make a long, wonderful story short, I will only say we no longer had the hunger pangs and we were, needless to say, very happy about everything in general.

Then it happened, Land. It was land. Real hard type land. 'Way off in the distance, but it was land. We were even happier.

It took quite a few hours to get there. Now that we felt we were safe, we started to notice the living creatures around us. Like the two seven or eight foot sharks that were alongside the ship. We wondered how long they had been hanging around.

Off in the distance we saw a huge sailfish leaping out of the water. A small group of porpoises swam by. As we neared the island a pair of California Sea Lions frolicked alongside. We saw those things we had doubted for so many years, Flying Fish. Sure enough, they would jump out of a wave and sail across the water for fifty to a hundred feet.

Closer and closer we got and, at last we were there.

Arrival

Catalina — mysterious, little known foreign island, 22 miles west of Long Beach, California.

We anchored in the bay of a little native village, Avalon.

Anxious to go ashore, we put on a few more clothes and lowered the dinghy into the water.

"Hand me the oars, Bill."

"What oars?"

There we were, an unexplored village not two hundred yards from us and no way to get in to shore. So I volunteered to strip, put on fins and push-paddle them to shore.

After finally reaching the shore we were astonished to discover that the native girls looked a great deal like our own. Much darker skin pigment, however. Sort of a bronze color. And so many of them. They were celebrating, a sort of native custom. The ships stop at the island rarely (twice a day), bringing spice, and other goodies, including passengers from the East. The Natives all run to the piers at this time and really have a ball. A particularly large native, Carlos Bailoy of the local station KBIG interviews the incoming tourists. It is a big occasion and all the natives hold street dances, in honor of the great White Ship.

After looking the village over we decided to return to the ship and get dressed for the dance in their beautiful ballroom.

We were amazed when we bought our tickets (one dollar in American money) to find dozens of beautiful native girls (red, brunette, blonde, and black-haired) of all sizes and shapes, in all forms of attire from formals to Capri pedal-pushers.

Once past the language barrier (so who needs language?) things went quite smoothly.

After the dance, we called a shore boat and got off at the Rowana. We sacked out on the big, thick wall to wall carpets in the front room. That is, some of us sacked out. Half of the guys stayed out all night.

Talk about a rough night. It's miserable trying to sleep when your body is being tossed back and forth all night. Many kicks.

The next day we skin-dove all morning and fooled around Avalon all afternoon and night. That evening in between the show at the Casino theatre and the dance at the Casino ballroom, we went back to the yacht and got our sleeping bags, went ashore and put them in a locker (10¢).

After the dance and after taking the girls to their cottages, (later, anyway) we went into town, picked up our sleeping bags, and cut out across the hills trying to find a place to flake out for the rest of the night. It was either all rock or all uphill. Pitch-black, we couldn't see a thing. Finally finding a level, fairly soft place, we laid down and immediately fell asleep.

We woke up hearing voices.

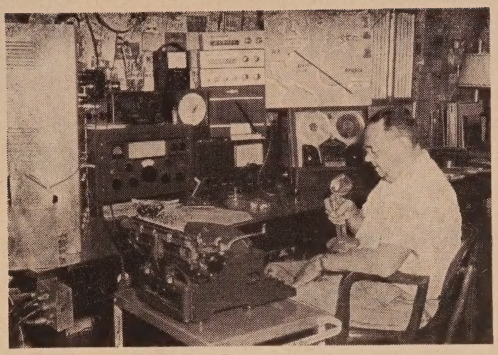
"Hey, Charlie, look at this," somebody said.

"For pete's sake," came the reply. We rolled over and slept for another hour.

We were suddenly jolted awake with a violent ringing in our ears. We discovered we were sleeping in the horseshoe pits of the St. Catherine Hotel.

Very sheepishly we picked ourselves up and departed. We stowed our gear in a bush (free) and went into the hotel and cleaned up. Then

[*Continued on page 115*]



a Man Named Harry

"From a quarter of New York, a man named Harry responds to the appeal of Leopoldville"

Wrapped up in this three column headline from a foreign newspaper lies the tale of how amateur radio helped procure a life-saving drug for a critically ill two-year-old boy in Leopoldville, Belgian Congo.

The Man

Harry Fendt, W2PFL, Staten Island, New York, was casually tuning the 15 meter band one Saturday afternoon when he heard an urgent call from Gerard Capelle, OQ5BI. Answering the call, Fendt learned that a young lad in Leopoldville was suffering from hemophilia (an affliction which prevents blood from clotting). Local supplies of a blood-clotting agent were exhausted and outside help desperately needed.

Could someone in the United States aid in procuring the necessary drug and expediting its shiptment to the Belgian Congo? Fendt could . . . and did.

Bob Link, W2VKF, supervisor of Civil Defense for Amateur Radio, City of New York, after being apprised of the situation, contacted Dr. Irving F. Klein of Seaview Hospital, West New Brighton, Staten Island for help in obtaining the drug. This being a weekend the medical supply house was closed. But few doors remain closed in an emergency and a quantity of the drug soon was available.

The New York Daily News found out about the incident. Reporters and photographers got into the act with pictures and stories of Fendt and Link. Pan American Airways had a plane leaving the next day and was glad to carry the drug 6,966 flying miles to the Belgian Congo. The life-saving drug reached Leopoldville about 59 hours after OQ5BI first contacted W2PFL. Recent word from OQ5BI and Julien Boca, OQ5CX, who also played a big part in the episode, indicated that the child had been released from the hospital.

In addition to providing vital assistance when needed, W2PFL and W2VKF also enhanced the prestige of amateur radio throughout the world. The New York Daily News gave amateur radio a generous pat on the back in its stories of the incident. An interview on a national TV show plus an interview on a national news-type radio program resulted in more favorable publicity for amateurs. Accounts of the episode have appeared in newspapers in the United States, Africa, and even in an Arabic language newspaper! To make it a matter of permanent record, an account of the proceedings was entered into the Congressional Record by Rep. Klein of New York.

Recognition

In recognition of their deed, both W2PFL and W2VKF were presented plaques and citations by Major General Robert E. Condon, New York City director of Civil Defense. ■



Antarctica
part II

Jim Morrissett, K2OLK/brr

Western Man is an incorrigible tinkerer, messer-arounder, and snooper into things. He can't "leave well enough alone," as nothing is quite "well enough" to suit him. Now he's puttering around in Antarctica, the bleak, sterile, inhumanly frigid continent that caps the southern end of our earth. Why? What is he looking for? What does he expect to find?

Whatever he is looking for, he has certainly picked a spot this time. Antarctica presents the "Ultimate" in a number of things. Scientists have been itching to get down here ever since word reached the world of the first sighting of this frozen continent. A few have managed to get down here, but with severe hardships. The ardent researchers who made the trip had to leave most of their laboratory doodads at home.



Well, here I am, complete with radio station.

Cold

Antarctica is the ultimate in low temperatures. This continent, nearly the size of North America, shoulders the biggest and coldest mass of ice and snow on earth and over this hovers the biggest and coldest air mass in the heavens of the earth. This last fact is of the greatest immediate interest—as large cold air masses, or "lows," have a far-reaching effect on weather.

Little actual precipitation occurs over Antarctica, it being simply too cold for much condensation and precipitation to occur. But the accumulated snow and ice on the continent is tremendous. If the captive water of Antarctica were to melt, the oceans of the earth would rise an estimated 140 to 200 feet. There has been a rise of a few degrees in the average temperature over the last fifty years, but it would take centuries or eons for this enormous mass to melt under foreseeable conditions.

Life on Antarctica

Antarctica is the ultimate in lifelessness. The Sahara Desert teems with life by comparison. Only a few organisms have been found growing on the continent—simple lichens, a hardy variety of plant life in one of its earliest evolutionary forms, clinging to the undersides of a few exposed rocks.

Though free of germs, the sterile atmosphere of Antarctica abounds in "life" of another kind. At the ends of the earth, where magnetic lines of force draw together and turn sharply in toward the poles, the dance of the ions becomes intense. Encouraged by the partial collapse of these normal protective layers, and less impeded by the clear, frigid polar atmosphere, cosmic rays penetrate to the surface at higher energies, in greater concentrations.



McMurdo Camp. Where'd they get all that dirt on this supposedly "frozen continent"?

The Skies

The spectacular aurora compels the interest of scientist and layman alike. Ionospheric physicists, airglow specialists, researchers in geomagnetism, cosmic rays and meteorology are drawn together in their desire to unlock the mysteries of the fascinating polar phenomena.

Antarctica presents the ultimate earthly challenge to man-made machinery. Normal engine lubricants act more like glue or chewing gum during the Antarctic winter. Pre-heating of engines is a winter necessity.

The Weather

Antarctica puts on a hoary, unworldly display of extreme cold weather conditions.

Possibly the lowest natural temperatures recorded on earth will be collected this winter (July, August) by the lonely Pole station. Dr. Paul Siple estimates that the winter temperature at the Pole will drop to *–130°F!*

The cold air mass covering Antarctica is thought to have an effect on the world's weather way out of proportion to the size of the continent it covers. The Antarctic mass is consider to be the key low pressure area in the entire ocean of air which blankets our earth. Knowledge of its movements should provide data for more accurate and longer range weather forecasting over the entire planet.

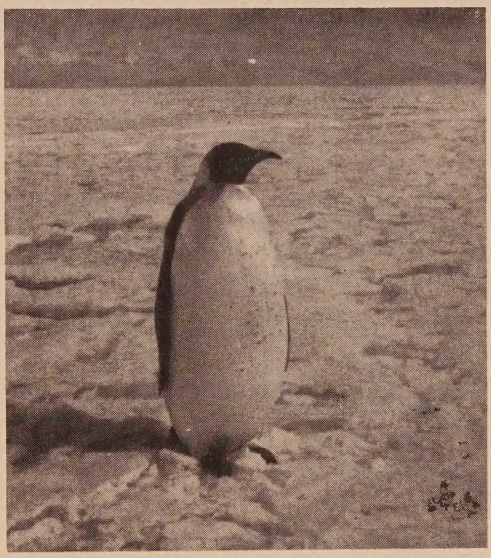
Prediction

Now, with the establishment of over 40 Antarctic weather stations, a world-wide chain of observation points is completed. Correlated data from these stations should provide the basis for immense advances in the science of weather prediction. Using modern computer techniques, accurate and detailed weather information could be made available for all parts of the earth—with a savings in life and property loss of inestimable value.

Antarctica is the ultimate in remoteness. Our space-annihilating devices have taken this challenge in their stride, though not without minor difficulties. The giant Globemasters can span the continent in non-stop flights, carrying heavy loads. But extreme cold weather is a hazard, and the dreaded "whiteout" conditions ("like flying inside a ping-pong ball") can strike fear in the most steel-nerved pilot.

Radio

Our lightweight space-spanner, radio, has strained the lease in covering the required distance. But Antarctic radio conditions are not all peaches and cream. An area of concentrated ionospheric activity, Antarctica occasionally enjoys complete radio "blackouts" averaging from two to four days in length, with hangover effects up to one week. "Normal" conditions are noisier than elsewhere, and characteristic fading and true "one-way skip" plague the signals entering and leaving Antarctica's atmosphere.



Native who wandered over to watch those crazy tourists.

What Next?

Soon man will have charted the ends of the earth. He will have proved himself capable of living in the coldest, the hottest, the wettest or the driest climates on earth. His vehicles will carry him anywhere under the skies with ease and with speed. Instantaneous communication with any point on the globe will be taken for granted. His ability to handle matter and energy, his ease in annihilating space and accelerating or retarding time will also be commonplace realities. His freedom from superstition and

his ability to understand in certain categories will have approached the standards of a golden age.

What conquest next?

The Trip

Few people have vaguer concepts of geography than I have. Lacking the ability to discriminate at the time, I identified all geographical information which was offered in my fifth and sixth-grade classes with the stringy-haired, apathetic teacher, the bleak walls charged with scenes of unpleasantness and thousands of child-hours of boredom, and all other forces inimical to life coming under the general heading, "Education." Slack jowls and joyless, paste-colored faces populate the area where some scant information on a great continent at the southern end of the earth might be stored. Only visions of snow and ice and blizzards, dogsleds and buried huts and bitter cold, and a brave fellow named Admiral Byrd accompanied me in my escape from grammar school. The enigma, how can people grow up to be like teachers, covered the wonder I might have had about the *Secret Land* itself, and Antarctica to me simply meant sailing and exploring where winter is magnified a hundred times.

Who, Sir? I, Sir?

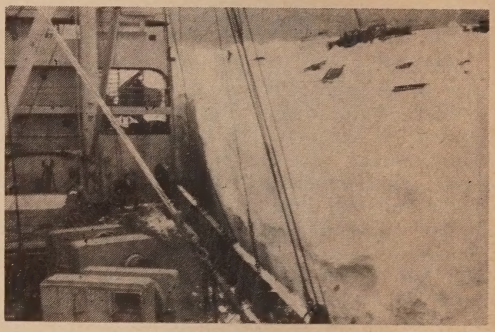
Well, Fate has a way of correcting one's little omissions. In childhood I imagined myself in Byrd's fur-lined boots, but I never expected to transport my own flesh-and-blood form to those regions for further edification. I am not a born polar explorer. A flurry of palpitations does not wrack my bosom when I think of going to a lot of trouble just to be in an unusually cold place. I secretly held hopes of deserting my scheduled ride somewhere near Tahiti.

We departed San Diego Dec. 27, 1956, on the USS Curtiss. Me with a complete ham station, all set to make ham radio history on the Navy-IGY Deepfreeze II mission. Three months later I returned to the same port with the most-travelled and least-aired Pacemaker and NC-300 in existence. With a mobile ham station, any trip, amongst any company, can be made pretty interesting. How many times we all regretted our failure to interest Chief of Naval Communications in mobile amateur radio authorization for Deepfreeze I won't try to express here. As with the fixed bases in Antarctica, an otherwise dull and oft-times tedious operation could have been transformed by that magic catalyst—a simple little ham station, where informal, two-way communication with the rest of the world is possible.

The first two weeks weren't bad. We spent a lot of time getting acquainted and discussing the scientific projects which were to make up the program for the International Geophysical Year. Ionospheric physicists, glaciologists, meteorologists are already looking to Antarctica as to a Mecca of enlightenment.

Two weeks and two days put us in Lyttelton, New Zealand for a three-day stop. First stop, first land sighted. Scott Air Force Base nearby is the base from which all our flights to Antarctica originate. Scientists and newsmen from various countries join us for the rest of the journey by ship.

From there on, our adventure can be broken down into several episodes, with a lot of traveling and sitting around in between.



The ice was higher than the deck at Little America.



The Curtiss at McMurdo. Tied right up at the ice.

We took a week from New Zealand to McMurdo Sound in Antarctica. There we brought in the new personnel, picked up the old. Deepfreeze II replacing Deepfreeze I. I visited Hut Point, the base at McMurdo Sound, and the small New Zealand base in construction over in the next bay. That is KC4USV and ZL5AA, respectively.

Two days and about 400 miles east took us to the site of Little America V (KC4USA). Here we discharged the remainder of our southbound passengers, with the exception of the "tourists," the newsmen and observers, and the crew of the Curtiss.

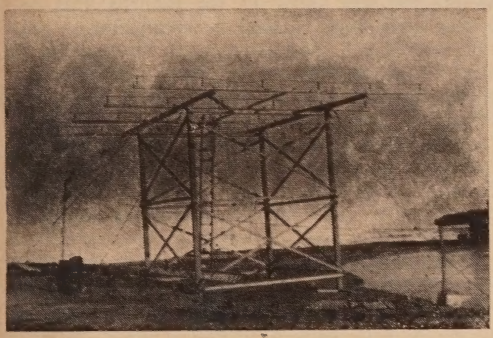
While there I took the opportunity of flying over to visit the old Little America III (and what's left of L. A. IV). Had to climb down the hatch to see this one. The whole station is buried under 30 to 60 feet of snow.

On the return trip I met the fellows who staked out and built the South Pole Base (KC4USN), the Byrd Base (KC4USB) on the Marie Byrd Land plateau 500 miles east of Little America, and the Adare Base at Cape Hallet (KC4USH) north of McMurdo Sound.

The other two of the seven U.S. bases I know about only by hearsay. KC4USW, on the other side of the continent, and remote KC4USK on the Knox Coast were not on the air yet when we left Antarctica in February '57.



They sure do grow a lot of icebergs around here.



20M Stateside beam (rotates with earth).

New Zealand to McMurdo

We'd just got used to the idea of summer in January. Now we're bound for January summer in the *deep* South, where average summer temperatures run from about 15 below up to freezing or a few degrees above, in the daytime. At night—well, there is no night. Not 'til along about Memorial Day and the Fourth of July does a decent nighttime come on down there, and then, brother, it is *total*, with unearthy cold of 40, 50, 60, down to 78 below, and for months no light in the heavens above but the warmthless, eerie glow of the aurora australis. And stars. Strange constellations, hard brilliant flecks in a dome of bitter cold.

McMurdo is our first stop. On Ross Island in the western Ross Sea, the southernmost point on earth reachable by the sea, lies Hut Point, on the same location as the earliest bases of Scott and Amundsen. Now swelled to the size of a small town, Hut Point is the headquarters for NAF, the Naval Air Force supporting all other U.S. stations.

NAF-McMurdo, or Williams Air Operations Facility, is directly on the route between New Zealand and the Pole, and is the primary base of operations for the airlift to the Pole. Here a 5000-foot strip of bay ice is kept cleared as an airstrip for the mighty C-124's, the Globemasters. The ham station at McMurdo: KC4USV.

Ironically enough the Globemaster flights have been called off on account of fair weather. For nearly two months the airstrip has been too treacherous to risk a landing. The load has been thrown onto small planes, R-4-D's and the versatile de Haviland *Otters*. Long distance and major weight-lifting operations are at a standstill.

Five scientists, plus food supplies for five, must get to the pole, or the scientific program will be handicapped. Fuel is needed at Byrd station, or in a few months they'll be in danger without it.

It's getting late in the season and the big freeze may come only too quickly. The period during which the Globemasters may be used safely may be brief once the airstrip is usable again.

For our part we're not feeling too easy about the ice down there, particularly the potential ice, the enormous expanse of water just a degree or two above the freezing point, which can jell and freeze solid to make an unwilling ship a permanent part of the landscape. A couple of oil tankers were frozen in last year.

Each day we get a better picture of the scope of the IGY program for Antarctica. Having run out of cold-weather training movies, we devote most of our morning and afternoon sessions to lectures by various specialists. Occasionally a GQ, or general quarters drill is called. Then we don life jackets and gather in prescribed areas while simulated emergencies are dealt with . . . a reminder of many things that could happen to break up our comfortable routine. Jan. 16 we simulate collision with an iceberg which stoves a nice hole in the starboard bow, flooding several compartments. Like in the movies, the good guys won.

Byrd's Eagles

Byrd's first Eagle Scout become scientist is wintering over at the Pole with a crew of 16.



Within easy commuting distance was ZL5AA at the McMurdo New Zealand Camp. L to R, Dr. Ron Viets, W7YVW (will be stationed at Little America), Ted Gawn ZL2US, Lin Martin ZL4IP, Perky Z2WAI, and Jim K2OLK/KC5USN (ha).

Eagle Scout Dick Chappell of Buffalo, N. Y. was chosen to accompany Deepfreeze and is sailing with us on the Curtiss, to winter over at Little America. Dick is interested in ham radio and expects to take the Novice exam while there. Right now he's putting my tape recorder to good use, practicing code.

Jan. 17. 50°. Soon we cross the Antarctic "Convergence," where the temperature of the sea drops sharply. Soon after, the imaginary circle enclosing the Antarctic.

Jan. 18. 39°. Slight snow flurries. Rendezvous tomorrow with ice-breaker USS Glacier. We're told the ice field is well broken to McMurdo and we'll have no trouble getting thru. Helicopter transfer of cargo will start early a.m.

Jan. 19. All shutterbugs on hand bright and early. There must have been over a thousand pictures taken of the helicopter this morning. Back and forth, back and forth. Finally the last lensman gave up. At lunch Crunch! Splash! and Glub! No more helicopter. The bow of the ship pitched up at the same time the whirlybird tried a low take-off, and tripped it by one of its wheels, sending it side-slipping into the icy sea. She belched one large bubble including two stunned pilots, then dived like a rock. We pulled them out in time to avert a tragedy. Eight minutes is about all you can stand in that water. No one got pictures of the crash.

Our nightly movies attract a solid core of viewers whose fortitude is truly awe-inspiring. I suspect they've been steeling themselves by nightly sessions with TV back home, but in any case their stamina far exceeds mine, and I'm poor competition in the marathon staring sessions.

However, tonite's movie did get a grip on me, so I was in the wardroom the first time we had to close the portholes to make it dark enough to show the picture.

At 10 p.m. the movie ended and I stepped out on deck for a breath of cold air. Still light out, yipe! I rushed back for my camera to catch a few shots in broad daylight at 10:30 p.m. Then I stood around trying to decide whether to be sleepy or not. It was then I met the "Big Eye."

The Large Orb Clan

Senior members of the clan are located at the Pole, but most of the adherents to "Big Eye" are at McMurdo and Little America. Now the Curtiss has a rapidly growing chapter. "Big Eye" men are the ones who don't feel right about sleeping 'til after the sun goes down. Where the sun stays up for months, this becomes a problem. Unless he establishes a routine, the "Eye" man is likely to be seen up at any hour playing cards, smoking, drinking coffee, or just milling around with bloodshot eyes.

So each day my roommate and I close the steel port at 10:30 "p.m." and open it again at 7 "a.m." I am not a real "Eye" sufferer, but occasionally I wander out in the wee hours to commiserate with the sleepless ones.

Strangely enough, the worst time for "Big Eye" is during the long winter night. Between April 20 and August 20 at McMurdo and at L. A. it gets dark and *really* cold. Activity abruptly ends. Full, exhausting days of hard outdoor work are exchanged for effortless indoor shifts of radio operating and instrument checking. Outdoor fun and games are reduced to that of standing out in the open a few moments, seeing who can breathe the loudest breath. At –60° to –70°, you get a beautiful crackling sound as the moisture of your breath freezes instantly.

Cooped up indoors, with no activity to make them really tired enough to sleep, some go for three days of more without being able to sleep. Even the endless permutations of the pasteboards fail in their hypnotic duty of inducing slumber.

Jan. 20. Lots of marine life. Porpoises, flying fish. Whale sighted already. The Glacier has left for another rendezvous. We're in fairly clear water. The ice-breaker North Wind will meet us tomorrow. She's the one we've seen in the movies, fighting her way out of some really tough spots. Good old North Wind.

Jan. 21. The North Wind is leading us in. Pretty big chunks of ice around, and a lot of small ones, but nothing like a solid pack. No danger here, though occasionally we hit one that sends a resounding *bung!* throughout the ship. Only one out of 50 ships has escaped without getting banged up a little.

Land, ho! Open the porthole, face an icy blast of air, look up ahead, and—well! there *is* land down here. A filthy but beautiful cliff

of black volcanic rock juts straight up out of the Ross Sea two miles ahead. Strange sight after these numberless white and blue-white icebergs.

As we cover the last few miles into the bay, the clouds clear away. There's no mistaking it now, that's Mount Erebus, the giant overlooking the Ross Island Bay, our parking lot of the next few days.

Erebus is entrancing. Roomie guesses it to be between 3000 and 4000 feet. Those foothills *do* look to be only a few hundred feet above sea level. Lesson number one in judging. Those "foothills" are three and four thousand feet high and the mountain itself is 13,200! The air is so clear down here that distant objects are no hazier than near ones. And it's practically impossible to tell what *size* snow is. There are no telephone poles or houses or tiny men in the distance to use as rulers.

Parking down here is not quite as easy as simply pulling up and switching off the ignition. It takes us several hours of cautious maneuvering to settle into a spot where we won't get our sides banged up too badly by the ice shelf. An eager crew has already assembled on the ice, securing "dead men" in the ice and helping us tie up to them. They're eager, all right. To see old friends, new ones, and mail. And word has leaked out that we're carrying a large cargo of beer.

Rope ladders roll down, and—good lord, the shutterbugs are at it again! Clickety-clickety-clack.

McMurdo

Jan. 22. 17°. Roommate Earl and several engineers are among the first party to visit Hut Point. I give him a few copies of December *CQ* to drop at USV along with the word that I'm all set to be invited over. As their weasel train scoots over the ice trail toward the base, I join a few sailors who are harassing the local citizens, in this case large seals. The whiskered denizens look a little the worse for wear. Everyone wants his picture taken petting a seal, but the seals want to be left alone. They bear patiently as much poking and snow-balling as they can stand, then let out a despairing howl and hump across the ice for the nearest water.

Blast it, I wish we had that rig on the air. We could be talking to USV right now. Not to mention all the people back home.

A pair of Levis, a sweater, parka, boots and gloves seem to suffice for this beautiful sunny day. Delicious, crisp air. Germless, they tell us. Envigorating, anyway. What a place for a summer resort! 24 hours of sunlight a day, and skiing on fabulous Mount Erebus. There's a plume of smoke rising from the peak of Erebus at the moment. Here layers of gentle snow cover one of the largest of the world's few active volcanoes.

Would you believe it? Beer on ice in Antarctica. And when they say ice here, they don't mean just a few little cubes. They mark off a section of ice, stack up the cases, and there's the bar.

"Beer is being sold on the ice until 1700," announces the p.a. They get customers, too. Wonder how a warm beer concession would go down here?

Beer cans and gum wrappers strewn over Antarctica! What frontiers, next? Beer cans on the Moon?

A comfortable hour of reading, dinner in the wardroom, with white linen, ties and jackets, then a leisurely game of chess, followed by movies and a snack of fresh oranges. Oh, the hardships of Antarctic living! I must remember to check my reservations on the Moon Rocket. I'll bet the Luna Hilton up there will be real plush.

Jan. 23. 12°. Today the South Pole Station dedication ceremonies will be held at Hut Point. Admiral Dufek, Dr. Gould and a copious supply of dignitaries will be on hand. Correspondents and observers will be picked up by tractor train. Eats and entertainment on the house.

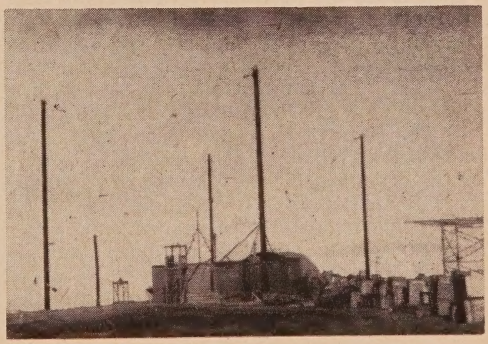
The five-mile tractor ride takes about an hour. No strain, but the corps of lensmen manage to get a little exercise by jumping out and running up ahead to catch pictures of the

[*Continued on page 96*]



We found the immigrants friendly.

KC4USV and antennas.



Outboard DXpedition to the British Virgin Islands — Tortola

Bill Thomas, KV4BB
St. Croix, V.I.

A DXpedition is something that most of us wish we could make, but few of us get the opportunity. I'd thought of several choice spots not too far removed from St. Croix, but the nearest I'd come so far was almost being included in the Aves Island trip last summer. That had fallen through, though.

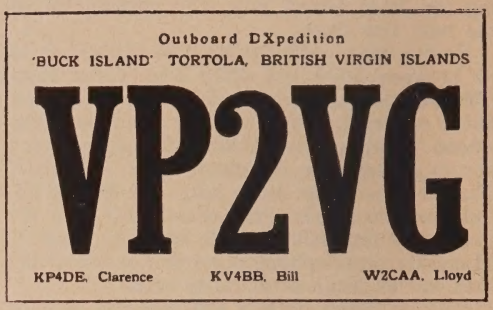
KV4AA's column in the February '57 CQ carried the announcement that the British Virgin Islands were being accepted for WAZ credit as of July 1, 1956, the date on which the Colony of the Leeward Islands was dissolved and the Colony of the British Virgin Islands, among several others, constituted.

Dick and I had been meeting on 7mc at noon for quite a long while, and this announcement of his was naturally the topic of conversation on our next schedule. As Dick described just how easily I could reach Tortola and set up operation, I visualized a palm-lined beach, coconut frond ham shack and dancing girls to entertain when the bands were a little dead. Dick had talked with Bill Bailey, VP2VG, regarding a possible trip to Tortola for a week of hamming, and Bill had offered the use of his cabin on Buck Island, a small island of 30 acres or so lying just off the southeast end of Tortola and separated from it by only 200 yards or so of very shallow water. Bill had a 5kva diesel plant on the island that was soon to be installed, so power would be no problem — we thought.

Several more days of hashing the thing over between Dick and me, with professional advice from Reg, W6ITH, who was then at FS7RT and is without question a past master in the art of DXpeditions in the grand style, and I decided it was now or never if I ever expected to go.

Dick made the necessary arrangements with Bill for the use of his island complete with cabin and VP2VG call, and also contacted the Administrator of the British Virgin Islands, Mr. Geoffrey Alsebrook, and obtained official permission for me to operate under Bill's call.

In the meanwhile I had been busy, too. Transportation had to be arranged. Caribair flies DC3's between St. Croix and St. Thomas, but it is strictly boat from there to Tortola. After itemizing the list of needed equipment, and also finding out that the boat schedule from St. Thomas to Tortola couldn't be made to fit my timetable, I was about to toss in the towel when KV4BL came to my rescue. He



The card.

was in New York at the time, but I'd talked with him several times via Lloyd, W2CAA and fonepatch. When the problem was explained, he suggested that I take his 22-foot fiberglas cabin cruiser. The only hitch to this was that the ARAWAK is powered by two 25hp Evinrude outboard motors, and they had been disposed of some time before and the pair of new ones hadn't arrived from the USA and our projected trip was less than two weeks away. Bill promised to try and get a pair of 35hp Evinrude LARKS shipped by Air Cargo in time to meet the deadline.

With everything done in that direction, equipment had to be gotten together. I had a 20A and a KW final, but moving that from one room to the next meant more work than fun, and moving it from St. Croix to Tortola was out of the question. I had a KWS-1 also, but felt a little backward about taking it along. After all it represented something that was fairly large to get into so small a boat.

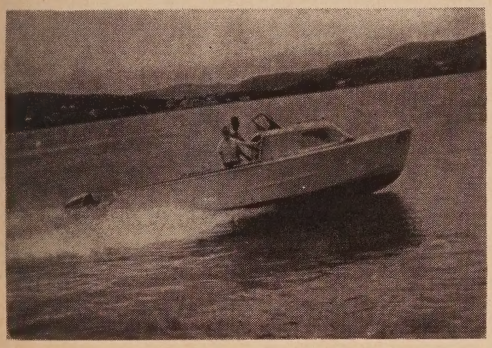
The February issue of CQ carried my answer. The Hallicrafters HT32 seemed to be made to fill the bill. I'd been contemplating the purchase of a new exciter for my final, and this one loooked good. After a few contacts with the various dealers in the Eastern USA I was a little disheartened, however. Deliveries were just starting from the factory and no one that I contacted had one in stock. As a last resort, I wrote direct to the factory and explained my predicament and my plans.

I sweated out the next few days until the reply came. I could have delivery, but only five days remained until the projected sailing date. Well, we made it. The HT32 and an SX101 were shipped from Chicago on Friday afternoon and arrived here on Pan American the following Monday, along with two other very large and imposing looking cartons addressed to me. The Outboards had made it, too.

Although it was reasonably sure the diesel would be in operation by the time we reached Buck Island, Clarence, KP4DE, who was to accompany me, and I decided to take along a spare generator—just in case. A rather decrepit PE75 was on hand, so we added it to our list of equipment.

On the afternoon of the 6th of March we loaded Clarence's pickup with the gear and headed for the boatyard. The ARAWAK was on the marine railway having the new motors fitted, and new steering cable and controls installed, so we loaded her right there before placing her in the water. By the time we had finished with the loading, the bystanders were placing bets that she would sink as soon as she hit the water. Clarence and I figured later that we had close to 1500 pounds aboard in addition to the motors and normal gas load. We needn't have worried, though, for she eased into the water and off the ways as pretty as a picture and a few minutes later we were out for a trial run just to check the weight distribution.

Everything seemed seaworthy, so we tied her up for the night.



The ARAWAK really steps out.

Next morning we were on hand at sunrise, and exactly at 7:00 we left the dock for the first leg of the trip to Buck Island. The morning was glorious, the sea and wind very light, and the new motors performed just like the descriptive literature said they would.

Abut 30 minutes after leaving Christiansted harbor we sighted the first mountain peak on Tortola. The distance between the islands is about 45 miles and on a clear day there is no difficulty in sighting one from the other. Minute by minute other peaks came up out of the water as we approached Tortola and by 9:00 a.m. we were half way across. The ARAWAK is capable of making better than 25 mph in a smooth sea, but in open water and loaded as she was we didn't attempt any speed records, preferring to take a little longer and arrive safe and with all the gear still dry. At 11:00 we pulled into the harbor at Roadtown, the Capitol of The British Virgin Islands.

Our arrival created quite a sensation. Outboard motors are no rarity in Tortola, but most of them are of English make and average about 2-1½ hp. Seeing the 70hp concentrated on the stern of one fairly small boat was almost too much to believe.

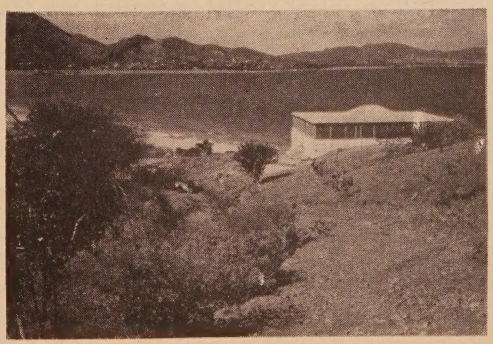
After clearing Customs and Immigration, we inquired as to the chance of getting gasoline. We had used about 20 gallons on the trip across and wanted to keep the tanks full. We were directed to a garage across the harbor where the owner agreed to sell us what we needed from a drum he kept for his own use. There are no filling stations as such on Tortola, and at the moment this one drum seemed to represent the entire supply until the next boat arrived from St. Thomas on Saturday. There are only a few motorized vehicles on Tortola. Most of the transportation is by donkey or donkey cart. It may be that gasoline at 47¢ per American gallon has a direct bearing on this situation.

We left the garage around 1:00 p.m. and began looking for Buck Island. We had a description of the place, but neither of us had ever seen it. About 5 miles from Roadtown we located it, though, without difficulty and were shortly thereafter tied up at Bill Bailey's dock staring almost straight overhead at his cabin perched above us. When we looked at our pile of equipment, and then at that hill we very nearly abandoned the idea of getting going. We climbed the road to the cabin, however, and were met by one of the sweetest sights in the world; a jeep parked under a large Tamarind tree in front of the cabin. We had expected to be met by the caretaker, but found the island to be completely without signs of life except for numerous goats.

The jeep finally came to life, and we eased it down the road to the dock. After much lugging and tugging we got the PE75 onto the dock and into the jeep, for inspection had showed the 5kva diesel to still be in its crate at the bottom of the hill under a storage shed.

Several trips later all the equipment was at the top of the hill and inside the cabin and by 3:00 p.m. we had the gear set up in the most

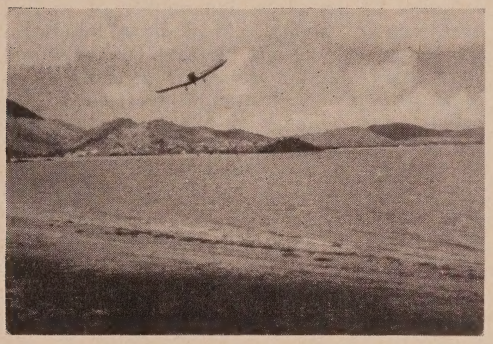
The operating QTH



logical operating position — the dining room table. Only remaining problem was the antenna. Buck Island isn't exactly blessed with trees, and those it has aren't the answer to a "Ham's" dream of a skyhook. The only chance was to tie the trap dipole to one eave of the house and the other end to a Turpentine Tree (not a Pine) about 150 feet almost due south and up the hill above us.

Dick, KV4AA, had agreed to leave a receiver on 7225 for us between 3:00 and 3:45 p.m., so he could report our safe arrival to our XYL's back in St. Croix. At 3:44 we were on the air, and Dick's voice came back like sweet music after all our work. Following this sked we shut down to tidy up the place and get ready for a full schedule of operating on the higher frequency bands. We had a W3DZZ 3-band trap rotary along and we planned to use it on the 10, 15 and 20 meter bands, but decided to defer installing it till next day, for we were pretty well beat by this time.

Shortly after 5:00 p.m. we opened up on 14,303 and made our first SSB contact with W2JXH. In a matter of minutes the band edge was boiling and we had all the contacts we could handle. G6LX was worked as our first European, followed by many others. By 10:00 p.m. we both had had it for the day, so we regretfully shut down with the band still calling us.



KV4BF makes a pass before dropping the crystals.



What are they looking at?

Next morning we made numerous VK/ZL contacts on 20 and after surveying the job presented in getting the beam up, decided against it since our reports seemed to indicate that the trap doublet was doing a fine job for us in all directions. Considering the fact it was not more than 10 feet off the ground, and sloping uphill to the south, I still can't understand it.

At noon we had a sked with Dick again on 7225 and received welcome news. The HT32 covers only a 500 kc segment of the 10 meter band without changing crystals, and the crystal normally furnished permits operation from 29,000 to 29,500 kc, and that's a heck of a spot for a DXpedition to be in. This fact had escaped us until the day before we left St. Croix, and meant we weren't going to have much luck on 10 and were going to be off 11 entirely unless we could get those extra crystals. A quick contact into Chicago with a call to Hallicrafters had assured us the crystals would be on the way that day, but could not reach us before we left. One of the boys in St. Croix had promised to get them over to Dick in St. Thomas, and Dick was going to get them to us some way. Dick's news was that Bill Greer, KV4BF was on the way at that moment in his Aircoupe and would drop the package containing the crystals to us in a few minutes. There is a 1500 foot airstrip on Buck Island, but it has a cross-wind and has a hill about 175 feet high directly at one end of it—not to mention the fact that it is graded out of the coral on the beach and has coral piled along both sides of it. I've been told that planes have landed there, and since there is no sign of wreckage, I guess they got away. Bill wasn't taking any chances, though, and so in a few minutes he was overhead and a minute or so later a small package tied to a streamer came floating down. The crystals made it safely, and we were able to move down to 28,490 and to the 11 meter band for many fine contest QSO's.

When we returned to the cabin and reported to Dick the safe arrival of the crystals we got a really big surprise. KV4BL was on the air from St. Croix with none other than Lloyd, W2CAA at the mike. He had decided to fly down and join Clarence and me, but due to a delayed departure from Idlewild hadn't made connections to St. Croix in time to join us for the trip over. After a hurried consultation among all of us, it was decided that Lloyd would charter a plane to St. Thomas that afternoon and take the early boat from St. Thomas to Cruz Bay, St. Johns the next morning. It is only about 15 miles from Roadtown to Cruz Bay, so Clarence and I would meet him there about 10:00 a.m. and bring him back to Buck Island.

Later that afternoon, Friday, and only about an hour and a half before the start of the last

half of the Fone DX Test the PE75 suddenly died in the middle of a QSO. We rushed out to investigate and found only a minor trouble—or so we thought. The wire to the sparkplug from the coil was disconnected. After 15 minutes of futile trying to get it started again we came to the conclusion that we were in trouble. Fortunately, we had Clarence's tool kit along and so undertook major surgery. Now the engine on a PE75 isn't a very complicated thing, but working by the light of a flashlight, with no spare parts on a slightly remote—remote that is from any source of supply for parts—island with the DX Test only minutes away and your sole source of power refusing to even so much as cough can be a very discouraging task. Clarence is a whiz with such things, however, and soon the oil which was fouling the breaker points was cleaned and an oil shield fashioned out of an extra sparkplug box to prevent a reoccurence. A leaky oil seal on the end of the crankshaft was the culprit, but nothing could be done in the field without a replacement.

At 0020 GMT we were on the air, only 20 minutes after the start of the test, and the PE75 settled down and behaved perfectly from that moment on until we shut down operations several days later. We improvised a gas tank from an empty oil drum so as not to have to shut down about every 3 hours to refill the PE75's tank and were really in business.

Saturday morning we left about 8:00 a.m. for Roadtown, then lost quite a little time waiting to be cleared to leave for the trip over to the American Virgin Island of St. Johns. The Customs Inspector was out to breakfast and there was nothing to do but wait until his return. The 15 mile run was made to Cruz Bay in just 35 minutes, though, and we arrived only a few minutes after Lloyd had gotten in. He had recruited a jeep taxi so we visited a filling station and purchased enough gas to take care of all our requirements both for the ARAWAK and the PE75 for the balance of our stay.

On the return trip to Roadtown Lloyd was at the helm, complete with sailor's cap and dungarees. He and I had brought the ARAWAK over from San Juan two years earlier, at which time he had made the trip in a sports jacket and slacks and a classy straw hat. This time he was all equipped for sea duty as befits the old sea dog he claims to be. The ARAWAK was handling like a dream and in about 40 minuutes we were tied up in Roadtown again.

Customs cleared, I returned to the boat to find my crew deserted, but having a fair insight into the psychology of a sailor I visited the nearest pub and found them swapping yarns over a couple of mugs of fine old Dutch beer. Two beers and several yarns later we got underway, this time for East End, Tortola, to pick up the Buck Island Caretaker whom we had promised a ride in the ARAWAK. This East End venture was almost fatal to our plans for we discovered a small shed with several youngsters engaged in weaving the famous Tortola straw hats, and following this, one of the youngsters brought his donkey over for our inspection. Lloyd, being a deep water sailor, naturally had to try out the latest in land transportation, so our return to Buck Island was a little delayed.

After our return, and a hastily prepared meal, we were back on the air with Lloyd at the key. Our fone operation had gone CW for the time being. We had originally planned to operate fone only during the 48 hour period of the contest, but it had become apparent soon after our arrival that we were going to have to spend a large part of the time on CW also. There may be some doubt about Lloyd's ability as a rider of Tortola donkeys, but anyone who heard him at the key from VP2VG can't question his operating ability for the contacts really piled up.



The dining room table?

Clarence and I had operated primarily on 15 and 20 fone on Friday night. 40 and 75 were extremely noisy and only a few contacts had resulted. On Saturday night we concentrated on the two lower frequencies, however, and managed a fair number of contacts on both. Sunday we concentrated on 10 and 11 as long as there was any business, and business was good most of the time. Operation was on both SSB and AM fone on all bands and the HT32 gave results that were almost unbelievable for so low, comparatively speaking, power and an antenna installed in a far from ideal location.

Conditions on the higher frequencies were quite good and 14 mc CW never gave out. One incident on Sunday night will serve to illustrate. It was about midnight and Lloyd had been working for several hours. He prepared to take a coffee break and took the fones off so Clarence and I could listen to the frequency. It was jammed solid with stations calling VP2VG. He made a short transmission announcing a coffee break and asking for a QRX. 15 minutes later the frequency was completely

quiet when we returned to the operating position. Lloyd signed "VP2VG" just once and the cone practically jumped out of the speaker when he stood by. I don't know how many of you were standing by, but Lloyd was there hours later still combing through the pile-up.

Tuesday morning we broke camp. We surely hated to leave so soon, but all three of us have to work for a living, and our time was up so far as vacation was concerned. The caretaker and two of his boys were over to help us lower the antenna, pack the gear, and load it into the boat, and shortly after 9:00 a.m. we were on the way to Roadtown.

Clearance obtained from the proper authorities, I returned to the ARAWAK and found my sailors deserted again. This time the pub was empty, but a crowd near the end of the pier parted to reveal Lloyd back at his donkey riding lessons. I'll have to give him credit for perseverance. Anyone who can sit for hours working station after station in those CW pile-ups has got what it takes to ride a donkey, though, I'm sure. You've got to be real stubborn o stick to either.

We had an uneventful trip back to St. Croix, making the crossing in just about 3 hours.

For the record, we chalked up 1927 contacts from Buck Island. They were divided about evenly between CW and AM/SSB. Total operating time was just about 65 hours of which about 25 were devoted to the fone contest with W/VE. 53 countries in all continents were QSO'd. WAC was made a number of times and all states were worked. We missed W7 on 75 but managed all districts on the other bands and worked all VE Districts as well, though not on all bands

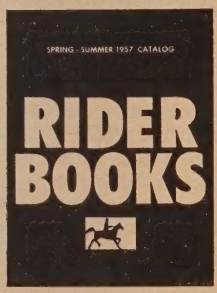
Just a word about the operating conditions. On CW we tried to get the fellows to call off frequency, but finally gave up as hopeless. We could have managed many more contacts with off-frequency operation, and the weaker DX stations would have stood a much better chance. Another thing I've noticed in checking the logs since our return is that many of the boys with the high power worked us on several different occasions on the same band in a matter of an hour or so. This was a needless duplication and only served to deprive some of the lower powered boys of a chance for a contact and contributed to the overall QRM, which was heavy enough without this. We logged EVERY contact, and duplicate contacts for insurance were needless.

By the time you read this QSL's will have been sent direct to every station that enclosed a stamped return envelope, or return postage, and to those cards received without return postage—by way of the respective Bureaus.

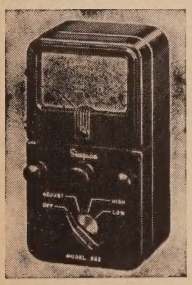
We had hoped to qualify British Virgin Islands for separate country status for DXCC credit; however, I have just received word from West Hartford that they will not go along with us on that, so for DXCC it's still a part of the LEEWARD Islands, but for WAZ they join Ruandi Urandi and Sicily as departures from the DXCC count. I am at a loss to explain this, since they are under separate administration as shown by a letter from the Administrator, Mr. Alsebrook. That's the way it is, though, and we can take comfort in the fact that the British Virgin Islands are still in the rare category, no matter what country you count them as. ■

Rider Catalog

John Rider W2RID (how did he manage that?) publishes scads of darned good books on radio and electronics. Throwing caution to the winds he has just printed up for FREE distribution a 32 page catalog which lists 'em all. Sure, you want one of these FREE catalogs, don't you. Circle L on page 127 for FREE catalog.

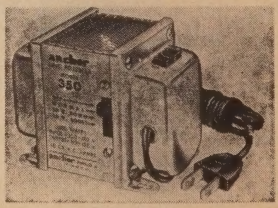


New Products



Low Ohm Meter

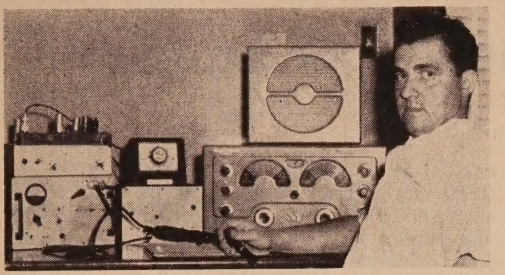
The Simpson Electric Company has a special instrument for people who want to read low values of resistance, say between 0.1 and 25 ohms. If you find that you fall in this classification you'd better circle J on page 127 so Simpson can tell you all the reasons why their gadget ($24.95) is for you. Just a hint: relay and switch contacts, wiring connections, motors, generators, transformers, all require low ohmic checking.



Line Voltage Adjuster

Anchor Products Co. has a gadget you might dig, though they didn't give us the $$ details. This is a 300 watt line transformer which is designed primarily for TV sets, but looks like a good deal for transmitter filaments, etc. The four position switch gives you "Off," "Normal," "10 volts up" and "10 volts down." You just circle little old number A on page 127 and we'll get Anchor busy with info for you.

➤ Arlo Mease (KN9HIH), high two meter scorer in the Illinois section. 72 contacts in 18 sections. Pretty good from the novice band, eh?





VHF Contest Results

➤ Joe Burke (K6IBY/3) 50 mc winner for the Pennsylvania section. Joe managed 90 contacts in 29 sections.

CALIFORNIA

Call	Contacts	Counties	Score	Band
W6TZR/6	119	238	5,236	50 mc
W6SUE	109	16	3,488	50 mc
W6BAZ	50	15	1,500	50 mc
W6NZV/6	67	11	1,474	50 mc
W6ASH	124	21	5,208	144 mc
W6TZR/6	69	138	2,760	144 mc
K6AOM	54	13	1,404	144 mc
K6HYX/M	21	10	420	144 mc

COLORADO

WØRWD	12	4	96	50 mc
KØCLJ	10	4	80	50 mc
WØRWD	4	2	16	144 mc

CONNECTICUT

W1LGE	74	38	5,624	50 mc
K2RLW/1	13	11	286	50 mc
W1JHD/1	147	45	13,230	144 mc
KN1BAD/1	90	33	5,940	144 mc
W1ZTT	95	30	5,700	144 mc
W1UIZ	43	23	1,978	144 mc
WN1KLK	56	15	1,680	144 mc
K1AFR	28	12	672	144 mc
W1FPF	14	5	140	144 mc
W1LGE	2	1	2	220 mc

DELAWARE

WN3JCT	8	7	112	144 mc

FLORIDA

W4LTU	15	3	90	144 mc

ILLINOIS

K9HMB	100	19	3,800	50 mc
W9ROS	72	20	2,880	50 mc
K9BJD	41	8	656	50 mc
K9EWV	23	7	322	50 mc
K9AOG	18	5	180	50 mc
KN9HIH	72	18	2,592	144 mc
W9ZVV	69	18	2,484	144 mc
W9VNW	70	15	2,100	144 mc
KN9EEC	63	12	1,512	144 mc
K9DPG	59	11	1,298	144 mc
KN9ESB	26	11	286	144 mc
K8AJF	18	7	252	144 mc
K9HTE	5	5	50	144 mc
KN9HFI	7	3	42	144 mc

INDIANA

W9HLY	65	35	4,550	50 mc
K9EFU	29	20	1,160	50 mc
K9COK	26	12	624	144 mc

IOWA

WØSMJ	22	10	440	50 mc
WØEMQ	17	8	272	144 mc

MAINE

W1TAM	40	16	1,280	50 mc

MARYLAND

W3EAW	52	22	2,288	50 mc
W3YQD	53	16	1,696	50 mc
W3DVN	47	14	1,316	50 mc
W3KLA	6	3	36	50 mc
W3KLA	88	40	7,040	144 mc
W3NSR	10	6	120	144 mc
W3YQD	3	2	12	220 mc

MASSACHUSETTS

W1HOY	171	51	17,442	50 mc
W1VDE	126	43	10,836	50 mc
W1AQE	96	26	4,992	50 mc
W1NBN/1	15	30	1,590	50 mc
W1DBH	61	11	1,342	50 mc
W1MEG	32	13	832	50 mc
W1LUW	37	2	814	50 mc
W1FQD	37	10	740	50 mc
W1GLD	30	9	540	50 mc
W1BU	125	45	11,000	144 mc
KN1AIC/1	102	27	5,508	144 mc
WN1LMZ	67	10	1,340	144 mc
W1NBN/1	26	8	416	144 mc
KN1BNB	14	7	194	144 mc
W1MEG	16	4	128	144 mc

MICHIGAN

W8BKT	108	50	10,800	50 mc
W8ZCJ	40	19	1,520	50 mc
W8EKH	36	24	1,428	50 mc
K8ACC	30	22	1,320	50 mc
W8JXU	45	11	990	50 mc
W8ESZ	27	16	864	50 mc
K8CFY	41	8	656	50 mc
W8LMA	35	9	630	50 mc
K8ABW	14	8	224	50 mc
W8ARR	8	2	32	50 mc
W8URO	94	42	7,896	144 mc
W8PT	51	23	2,346	144 mc
W8ARR	47	15	1,410	144 mc
KN8BOU	50	14	1,400	144 mc
KN8DYR	30	12	700	144 mc
KN8BJM	33	9	594	144 mc
W8JXU	31	8	496	144 mc
W8CRY	17	11	374	144 mc

MISSOURI

KØDOK	47	9	846	50 mc
KØDOK	18	9	324	144 mc

NEBRASKA

WØWRT	8	2	32	50 mc
WØWRT	11	4	88	144 mc
WØDIK	8	3	48	144 mc

NEW HAMPSHIRE

W1MH1/1	118	25	5,900	50 mc
W1IQD	10	9	180	50 mc
W1MH1/1	84	31	5,208	144 mc

NEW JERSEY

K2GLQ/2	84	38	6,384	50 mc
W2ONV	203	50	20,300	144 mc
K2KIB	71	32	4,544	144 mc
W2PWX	65	31	4,030	144 mc
W3HYO	65	30	3,900	144 mc
K2DCF	44	30	2,640	144 mc
KN2UXX	39	14	1,092	144 mc
W2HDT	35	13	910	144 mc
KN2ZHT	16	9	288	144 mc
W2DZA	12	8	192	220 mc

NEW YORK

K2MXT	119	72	7,616	50 mc
K2OIL	92	24	4,406	50 mc
K2VIX	76	22	3,344	50 mc
W2JTE	58	28	3,248	50 mc
K2KRC	46	23	2,116	50 mc
W2YLM	37	20	1,480	50 mc
K2VAW	44	15	1,320	50 mc
K2AZT	29	10	580	50 mc
W2SOK	16	9	288	50 mc
W2JFZ	17	6	204	50 mc
K2OTP	14	6	168	50 mc
K2QVC	7	3	42	50 mc
K2JLR	100	29	5,800	144 mc
W2LXE	77	25	3,850	144 mc
KN2YPF	55	23	2,530	144 mc
KN2VDR	64	19	2,432	144 mc
K2UOY	47	14	1,316	144 mc
W2SOK	37	17	1,258	144 mc
W2NSD	30	17	1,020	144 mc
K2MYS	36	13	936	144 mc
W2GFK/2	27	17	918	144 mc
K2ODL	28	11	616	144 mc
KN2ZCO	15	8	240	144 mc
KN2VXP	22	4	176	144 mc
W2PST	13	4	104	144 mc
KN2ZAT	8	3	48	144 mc
W2AOC	6	5	60	220 mc
W2GFK/2	7	4	56	220 mc

OHIO

W8HXT	114	60	13,680	50 mc
W8LPD	109	41	8,978	50 mc
W8MVN	112	34	7,616	50 mc
W8RKL	88	27	4,752	50 mc
K8BYP	64	35	4,480	50 mc
K8DKE	63	16	2,016	50 mc
K8AOH	46	21	1,932	50 mc
K8TEK	42	12	1,008	50 mc
W8MCS	37	11	814	50 mc
W8LOF	60	31	3,720	144 mc
W8WEN	49	26	2,548	144 mc
W8KDJ	44	21	1,848	144 mc
W8TPL	45	20	1,800	144 mc
W8SFG	26	17	984	144 mc
KN8BWS	25	9	450	144 mc
W8NRM	1	1	2	10,000 mc
W8NRM	1	1	2	1,215 mc

ONTARIO

VE3DSU	16	8	256	50 mc
VE3AIB	65	21	2,730	144 mc
VE3BQN	65	21	2,730	144 mc
VE3DNE	49	19	1,862	144 mc
VE3DUU	49	17	1,666	144 mc
VE3DSU	33	18	1,188	144 mc
VE3AEZ	34	12	816	144 mc
VE3GD	25	8	400	144 mc

OREGON

W7FVN	43	15	1,290	50 mc
W7HBH	17	6	204	50 mc

PENNSYLVANIA

K6IBY/3	90	29	5,220	50 mc
W3HQA/3	63	26	3,276	50 mc
W3FKI	46	16	1,472	50 mc
W3EBH	46	13	1,196	50 mc
W3TDF	103	39	8,034	144 mc
W3OLV	52	27	2,808	144 mc
W3KWH	15	12	360	144 mc
W3BUC	16	7	224	144 mc
W3CHC/3	12	6	144	144 mc

RHODE ISLAND

W1WTR	47	18	1,692	50 mc
W1TXL	32	14	896	50 mc
W1CPC	38	11	836	50 mc
W1FIG	18	10	360	50 mc

SOUTH CAROLINA

W4NWB	9	6	108	50 mc

TENNESSEE

W4TDW	35	14	980	50 mc

TEXAS

K5DCQ	33	4	264	50 mc
W5FEG	26	4	208	50 mc
K5AON	18	4	144	50 mc
K5CHF	18	4	144	50 mc
K5BDL	16	3	96	50 mc
W5GHL	16	1	32	144 mc

UTAH

W7QDJ	4	3	24	50 mc

VERMONT

W1WID	127	45	11,430	50 mc
W1WNJ/1	23	10	460	144 mc
W1MMN	10	6	120	144 mc

VIRGINIA

W4THL	20	10	400	50 mc
W4AAI/4	11	7	154	50 mc
W4JCJ	26	16	842	144 mc

WASHINGTON, D.C.

W3GCO	52	17	1,768	50 mc
W3DHQ/8	33	17	1,122	50 mc
W3GNQ	37	13	962	144 mc
W3WAF	12	4	96	144 mc

WEST VIRGINIA

W3KDZ/8	55	20	2,120	50 mc
K8AXU	13	10	260	144 mc

WISCONSIN

W9JCI/9	72	31	4,464	50 mc
W9WYE	9	8	106	50 mc
W9TQ	40	17	1,360	144 mc

[turn to page 95]

East to Zanzibar—The VQ1JO Expedition

Mal Geddes, ZE3JO
Box 2462
Salisbury, So. Rhodesia

Some time ago, my doctor told me that it was necessary for me to undergo an operation, and that afterwards a sea trip would be essential. I agreed with the latter, but not the former! As I had for some years toyed with the idea of Ham operating in some exotic country, the XYL and myself considered three places which might be possible in a holiday of say six weeks:—The Seychelles Island, Mauritius and Zanzibar. Because of the question of cash, availability of boat passages, etc., we decided on Zanzibar. To those of you who might consider a similar DXpedition, I would suggest that it be given some considerable thought, as I found that it was not merely a question of getting a transmitter and receiver into some remote spot, hooking up the old antenna and commencing operations.

I set the ball rolling first by writing to Frank Featherstone (VQ4RF), who, you may remember, operated the first ham station from Zanzibar in 1951 (VQ1RF), asking him for details of local conditions on the island. Having received his reply I then wrote to the Postmaster at Zanzibar, requesting the necessary amateur license (which was actually granted by the Public Works Department, and due to my short time on the island was given without charge). I was granted the desired call-sign of VQ1JO, and was authorized an input of 150 watts on 14mc (cw).

The Rig

Having completed the major part of the arrangements, I then looked for a suitable portable rig. I was lucky enough to obtain one in a short time from Gerry Wall (ZE2KV) of Salisbury who had a B2 Mark III British Transmitter/Receiver giving 20 watts on 14mc cw. Here, I might add, I rather slipped up when I was offered on loan a 25 watt SB transmitter, which I turned down on the grounds of it being unsuitable for my requirements. I was also under the impression that I would have to pay rather a lot of Customs Duty. I now wish I had accepted the offer, although I will say that the B2 gave me very good results under shocking conditions and with an inferior antenna.

For those of you who are not conversant with the B2, a few details are perhaps necessary. The TX consists of two stages—a EL32 crystal oscillator, and a 6L6 power amplifier/frequency doubler. Output can be had on 80, 40 and 20 meters. The receiver is a four tube, seven stage superhet, with no r.f. stage, built primarily for reception of cw. It works well but has no band-spread. The transmitter appears to work well on any length of wire over the 100 foot mark, and is cased in a waterproof steel box about 12x12-inches (which contains the receiver also). A similar box 8x8-inches contains the power supply, which works on practically any a.c. voltage.

Having obtained the license, the hotel booking, boat passages, etc., the one difficulty now seemed to be Import and Export Licenses. I found that these were not required, although to cover myself I did obtain a letter from the Rhodesian Authorities to that effect.

Finally the date for our departure arrived and my wife and I left Salisbury for the 374 mile train journey to Beira in Portuguese East Africa. 24 hours later we arrived and were met at the station by ZE3JJ, CR7DQ and CR7LU (Ivan, Jaime and Lucia.) The gear, which had been placed in the back of the train by the Portuguese Customs, was then taken direct to the boat at the docks and we sailed for Zanzibar on the 10th of August. The boat trip was uneventful, (with a stop at the island of Mozambique, where we managed to take photographs) and after two days we finally arrived at our destination.

Antennas

Upon viewing the hotel room I was not impressed by the antenna possibilities. The room was on the top floor, about 60 feet off the ground. I hooked up a length of wire about 100 feet long, and with the aid of one of the "locals", tied it to a Paw-Paw tree 12 feet from ground. Due to "domestic difficulties" I was unable to commence actual operations until 11:30 a.m. GMT (VQ1 Time is GMT—3 hrs.). When I signed VQ1JO for the first time I was answered by about a dozen stations. I picked the best signal which was W5BNO and received an RST 579, which I thought reasonable considering the location. Continuing for another couple of hours, and again for an hour in the evening I knocked off about 60 stations, which seemed quite good. Here I might add a few lines regarding the awful pile-up on my frequency. Despite requests to QSY either up or down in frequency, no one seemed to take much notice, so it was a case

of "pressing on regardless," and picking the best Q5 signal. Another thing which was most annoying was the continual calling of certain DX hounds whilst I was QSO; this lost me several contacts, as I was often unable to confirm even a report of call-sign.

For the first five days conditions were reasonable and I was quietly getting lots of contacts, then they deteriorated into what I now consider to be the worst ten days that I have ever experienced on the 20 meter band since I became a ham in 1935. Even the VQ1 call had no effect! However, up to the time that I had to QRT to catch the boat back to Beira via Dar-es-Salaam on the 30th, I had about 350 contacts in 45 countries. For the purposes of the record, the following were first contacts; W5BNO, CR7LU, ZD6BX, ZS6WJ, VS6CO, KH6MC, I5REX, VQ4DO, CX2CO, G3JKF, OH5PT, HB9QU, VQ2RG, ON4UT, OK1KTI, LA1CB, UR5UB, UA3DA, JA1CJ, F3YR, LU7AS, DL7BA, YU1HU SM7MS, PAØHP, OA8SS, KR6SC, ZE1JA, VU2HF, LZ1KBD, HZ1HZ, 4X4CJ, PY4AO, OE5JK, FB8BX, 4S7LJ, VS1GX, CR6AL, VQ5GC, ZD9AE, YO8CF, AC5PN, DU1RTI, an I1-ZFD. The first in the W Districts, being: W2PRN, 3NOH, 4TO, 5BNO, 6VSS, 7ASG, 8EWS and W9HUZ, with no W1-WØ contacts.

A short comparison between Zanzibar and Southern Rhodesia as far the "B2" rig is concerned might be of interest. A few weeks before I left ZE-land I was using the B2 very often from my own home location to enable me to find out its capabilities and to become au fait with the very sharp and critical receiver tuning. With a "V" beam used as a long wire I was able to obtain consistent RST589 and 599 from the West Coast of America, and also quite good reports throughout the world. I might add that conditions on the 20 meter band were really good. On Zanzibar with only an inferior antenna of no more than 100 feet, and certainly not at an altitude of that in Rhodesia (5250 ft.), I was, in ghastly conditions (in more ways than one), able to obtain reasonable reports from all around the world. Upon my return to the home QTH I have again managed to contact numerous W's, but have noticed that they too mentioned the poor conditions during August. With a better antenna and with better conditions I should easily have reached to 1000 contact mark.

It was unfortunate that having four evenings to spend in Dar-es-Salaam, I was unable to operate from there with the VQ3JO call.

History

A short history concerning the island of Zanzibar might be of interest to those of you who have not been in this part of Africa. The Zanzibar Protectorate comprises the islands of Zanzibar and Pemba, and the islets within their territorial waters. Zanzibar itself is the second largest island on the East African coast, and is 53 miles long and 24 miles broad. It is 23 miles off the African coast. The present Sultan is H.H. Seyyid Khalifa bih Harub, C. C. M. G., G. B. E., who acceded in 1911. The population comprises Europeans (500), Arabs, Indians and Africans, with a total population of approx. 270,000. The main revenue of the islands is obtained from cloves and coconuts which are found in profusion all over the islands. I had heard that one could smell the cloves coming from the islands miles away at sea, and I found this to be true. All the roads are tarred and there are many cars of all makes and sizes, together with the older types of travel such as mules, ox carts and donkeys. The swimming and fishing are excellent, and although the weather was warm, with nothing to do but "hamming," I found that I was able to have a good time.

In conclusion I would like to thank ZE2KV for the loan of his excellent transmitter and receiver, to VQ4RF for the help he gave me in commencing operations on the island, and to my XYL who never said a word when I fired up the gear. (After 17 years of ham radio she has just about decided that its not a bad hobby after all!) Also a word of thanks to ZE6JL for the loan of crystals.

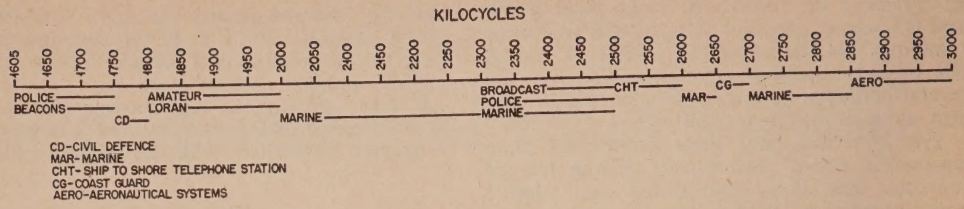
By the time you read this all VQ1JQ QSL's will have been sent off direct to all operators of stations worked, so if you have not received one yet, drop me a line c/o Box 2462, Salisbury, S. Rhodesia. ■

New Product

Booklet

That Guy Harrison digs up something interesting every now and then. Like for instance this Time Conversion Simplifier. If you have any problems with what time it is in Bankok, or like that, better let Harrison talk you into one of these Simplifiers. QTH: 225 Greenwich Street, N.Y. 7, N.Y.





SWL'ing and the Forgotten Band

C. M. Stanbury II
Box 218, Crystal Beach
Ontario, Canada

In the early days of radio, DXers and stations alike were limited to the long waves and the present day Broadcast Band. Then as knowledge of radio propagation increased and equipment improved, there was a rapid expansion into the higher frequencies. The first band to be dubbed short wave was that area of the radio spectrum between 1600 and 3000 kc. But the upward movement did not stop there. It continued until the present short wave bands were reached.

At this point, DXing became divided into two categories, Short Wave and Broadcast. The division between them was a range of frequencies between 1600 and 3000 kc. SWLs didn't tune that low and BCers couldn't go that high. Thus came the forgotten band.

What is it?

The band is an exciting blend of Broadcast and Short Wave. Signal strengths and static are similiar to BC. QRM is less as most stations do not operate continually as do BC stations. Its variety of stations include the uncensored voice of the mariner, police dispatchers with their occasionally dramatic messages, the crisp voice of the AERO operator, the coded words of military and the ever identifying beacon, and a small number of Broadcast stations.

Frequency Layout

The band chart gives the general allocation of frequencies for the various services. A few notes regarding the chart are necessary at this point. First, those frequencies shown as *Marine* are used by all marine services. When frequencies are allocated to only one marine service, for example the Coast Guard, that service is named. Secondly, nearly all legitimate Broadcast stations on this band are located in the Tropics. Major exceptions to this are two stations in South Korea and one in North Korea. These 3 operate outside the frequencies shown for BC stations. Most beacons are also in the Tropics.

In other parts of the World, the layout of the frequencies is somewhat different. One of the major deviations occurs in the 160 meter amateur band (1800-2000 kc). In many countries, marine stations operate here instead of amateurs.

Further, there are many individual cases where stations operate on frequencies other than those shown in the chart. For example, 1630 is a marine frequency on the West coast of Canada. A point to point telephone station near Miami, Florida operates on approximately 1695 kc. To list all these exceptions is far beyond the scope of this article.

Despite the above qualifications, the chart will provide a good starting point for the DXer making his first sortee onto the band.

Logs

Listings of Utility stations (AERO, Marine, etc.) are not easy to come by. The following sources should put you in pretty good shape:

Radio Facility Charts are issued by the U.S. Air force for every part of the World except the Iron Curtain countries and the continental United States. They are issued either monthly or bimonthly and are available on a yearly subscription basis only. Listings include Aeradios and Beacons. The following is a summary of areas, number of issues per year and prices.

Area	Published	Price Per Year
North Atlantic and East Canada	Bi-monthly	$3.50
Caribbean and South America	Bi-monthly	$3.50
West Canada and Alaska	Monthly	$7.00
Europe	Monthly	$7.00
Pacific	Monthly	$7.00

All subscriptions should go to USAF Aeronautical Chart and Information Center, St. Louis, Mo.

MERCHANT VESSELS OF THE UNITED STATES lists all American merchant vessels (including commercial fishing boats) and yachts. The price and date of the latest edition can be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. Listings include call letters, Names and addresses of owners. Monthly supplements are available without charge.

REGISTRY OF PUBLIC SAFETY SYSTEMS is available for $2.00 from Communications Engineering Book Co., Monterey, Mass. Listed are all American police, fire departments etc. This publication is revised every June 1st.

INTERNATIONAL TELECOMMUNICATIONS UNION publishes lists of nearly every kind of Radio Station. Their greatest degree of accuracy is reached in the European-North African area. A price list can be obtained by writing to the General Secretariat, ITU, Palais Wilson, Berne, Switzerland.

DX Possibilities

The DX achievable on this band will vary with the different types of stations. The potentials of each will be summarized in the next few paragraphs.

Almost all the police stations you log will be in the United States or Canada. They provide and excellent source of domestic DX. Most will verify by letter, especially if you are a thousand or more miles from them.

Beacons provide a limited source of good Latin American DX. Some get out surprisingly well. For example, two 50 watters, CTG-Cartagena, Colombia-1610 kc and RAB-Rabinal, Guatemala-1613 kc are heard regularly in the U.S. It is often wise to report to the Superintendent of Communications at the Headquarters of the company that operates the beacons. Many DXers will have difficulty finding verifiable material. The following are suggested: Length of time it takes to transmit the identifier, length of silence between each XMSN of the identifier and the approximate modulation frequency.

Civil Defense stations are somewhat similiar to those of the police except they are much harder to identify and find addresses for. There is also some QRM from a radiolocation service operating in the Gulf of Mexico.

The 160 meter amateur band would be a great DX challenge if it were not for Loran. To Mariners and Airmen, Loran is a valuable navigation aid but to DXers, it is pure noise. It makes any real DX on 160 Meters very difficult. Addresses for most amateurs can be found in the radio Amateur Call Book Magazine.

Marine stations are only a fair source of DX. One reason for this is the increased QRM. Marine stations interfere with each other more than any other type of Utility. Probably the two best frequencies are 2182 the international calling and distress channel, and 2009 one of the frequencies used to work KOU a coast station at San Pedro, California. Tuna boats can be heard from as far south as the Galapagos Islands. Another detracting factor is that most ships will not verify unless you send them a prepared verification form for them to fill in, sign and mail back to you. Only a fair number of marine telephone and other coast stations will verify by letter. When reporting to marine stations, *do not ever* give details of the actual conversations. Give station worked, position etc.

Aero Channels Chart

Kc	Used in
2854	Europe
2868	North Atlantic
2889	Western South America
2910	Eastern South America
2945	North Atlantic, South Pacific
2952	Central America
2966	Caribbean, West Africa, West Pacific
2973	Cuba, U.S.A.-Alaska flights
2980	Venezuela
2987	North Atlantic, North Pacific

There are 120 meter broadcast stations in 8 countries of the World and 3 of these countries are in the Western Hemisphere. Reporting and verifying them is the same as any other broadcast station.

The aeronautical services represent the best source of DX on this band. The *Aero Channels Chart* shows the major allocations of frequencies throughout the world in this portion of the radio spectrum. Aeradios can be logged in, and aircraft logged over many countries with the aid of this chart. Most aeradios will verify by letter. When reporting aircraft, send reports to the district headquarters of the airline, ie the district in which you heard the aircraft. Airlines are better verifiers than the average broadcast station. However, if you are going to be sending a number of reports to the same office, it would be wise to include prepared verification forms after the first couple reports.

Harmonics

Broadcast Band harmonics are a surprisingly good source of DX. One DXer has verified harmonics from 5 countries plus the U.S. and Canada. Ordinarily domestic broadcast are better verifiers than those in Latin America. Such is not the case with harmonics due to the strict regulations the FCC and the Canadian Department of Transport has regarding them. In this connection, it is not advisable to list your loggings of Domestic harmonics in club publications and other short wave columns. ■

IGY, the Ionosphere and Amateur Radio

Frederic H. Dickson, K2HJU
65 Heights Terrace,
Fair Haven, New Jersey

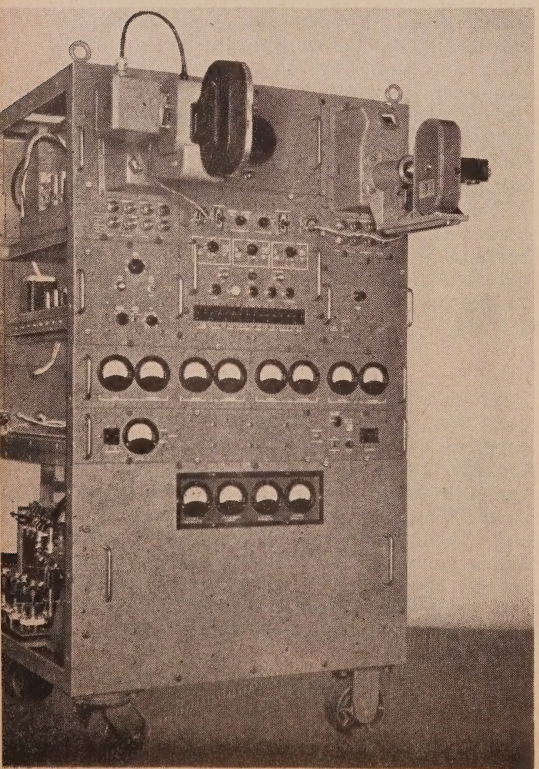
The international cooperative research concerning the geophysics of our earth is not new, only the title and vastness of the effort to be expended is new. Some 75 years ago (1882-83) scientists of several countries interested in the geophysics of polar regions studied the geographical distribution of aurora and magnetic storms during a period named the "International Polar Year". Some 50 years later (1923-33) another concentrated study was made in the Arctic, which included exploration of the ionosphere and has become known as the "Second International Polar Year". As this last study was made during a period of sunspot minimum it was recommended that the interval between these international scientific efforts be reduced to 25 years which would coincide with a period of maximum solar activity.

The present planning commenced as the "Third International Polar Year" but quickly assumed the name of "The International Geophysical Year" due to the vastly increased emphasis and a maximum effort to give as complete a world-wide geophysical picture as possible. In the 75 years since the first Polar Year our field of interest in radio and the physics of the earth and atmosphere, has grown from the theoretical possibility of wireless, to our present day use of the radio frequency spectrum. During this period amateur radio has progressed from the days of hoping to be heard when the key was pressed, to pushing back the radio horizons by exploiting the usage of new types of equipment and modes of propagation. It is expected that the IGY program will push forward the frontiers of radio at a much more rapid rate than has been possible up to this time. Thus, much of the data to be collected during IGY, when analyzed, should produce results that will be of interest to amateur radio.

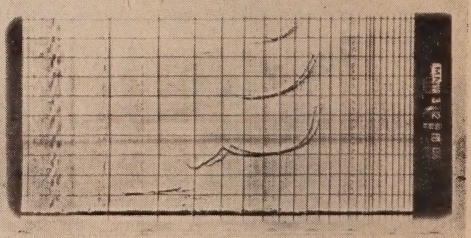
The IGY programs (Berkner, QST, July, 1956) encompass observations by approximately 40 nations in eleven areas of geophysics which includes meteorology, geomagnetism, the aurora, the air glow, the ionosphere, geodesy, cosmic rays, glaciology and climatology, oceanography, gravity and seismology. Each of these fields is a scientific story in itself. This article will only cover the ionospheric area with which amateur operators are most closely concerned in the everyday operation of their stations.

Vertical incidence soundings. Since 1925 when Breit and Tuve measured the height of the ionosphere, many observations have been made and these data have been analyzed and applied so that today forecasts can be made concerning the behavior of the ionosphere and its effect on radio communication. Even today many questions remain concerning the behavior of the ionosphere in many areas of the world. Thus during IGY scientists of many nations have joined together to record data, the standards of which will be such that many scientific reductions can be made. To the amateur this

During the International Geophysical Year more than 100 ionospheric recorders, similar to the C-4 model shown below, will be probing the ionosphere throughout the world. These recorders automatically transmit pulses vertically towards the ionosphere and measure the time required for the pulses to reach the ionized regions and return.



A typical automatic photographic display of ionized layer height vs. frequency as produced by ionospheric recorders. From displays of this sort it is possible to determine the height of the layers, the degree of ionization, and other characterictics of the ionosphere.



means that more accurate predictions of usable frequencies can be made, as well as improvements in forecasting the short-term effects of radio disturbances. There will be approximately 150 ionosphere recorders in operation during IGY, some of which will be located in such remote regions as the interior of Antarctica, including one at the South Pole, ice islands in the Arctic Ocean, Greenland and Northern Canada. The remainder will be distributed along the 75-80° W, 10° E and 140° E longitude chains and along the equator. The program also includes a cooperative project consisting of a group of ionosondes in a closely spaced chain across the geomagnetic equator in South America.

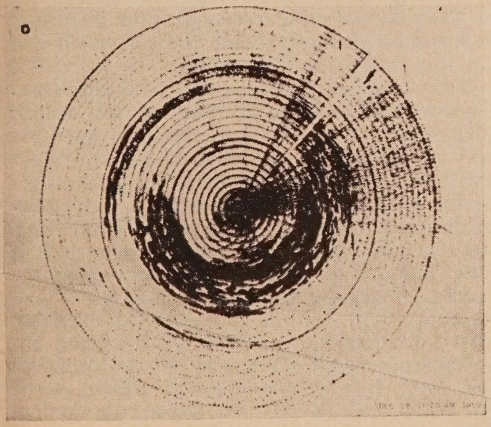
Fixed Frequency Back Scatter. A network of back-scatter sounders (Villard, QST, March 1952) operating on approximately 12, 18 and 30 mc, will be set up at locations which are so selected that most of North America and part of Central and South America will be under surveillance. These recorders are similar in many respects to radar, except that they indicate the time required for a high frequency radio signal to travel obliquely to the ionosphere, thence to a point of reflection, which is usually the ground, and return to the point of origination. The recorded data will provide information concerning sporadic E and its movements with time, meteoric ionization trails, certain types of aurora and will also provide information on regular ionospheric layers, particularly for areas not readily accessible to direct vertical incidence sounding.

Sweep-frequency Back Scatter. This particular type of back scatter instrumentation presents a graphic picture of the ionospheric layers as the synchronized transmitter and receiver sweeps through the frequency range of approximately 2-25 mc in several minutes. This measurement technique has provided an insight into the reasons for the usefulness of frequencies somewhat above the so-called MUF when using modest power on a radio circuit. The particular path to be studied is located in eastern North America just south of the auroral zone. Considerable knowledge should be gained concerning movements of the auroral zone and its effects on radio communications.

Oblique-Incidence Forward Scatter. Forward scatter is generally descriptive of the mechanism by which weak signals are returned to earth in a forward direction by the ionosphere, when the frequency being used exceeds the MUF of the path. This IGY project is: 1) an extension of the previously reported ionospheric forward scatter transmission (Moynahan QST, March, 1956) when using frequencies around 30-50 mc. 2) the study of forward scatter in the lower ionospheric layers, at and on, each side of the geo-magnetic equator. One transmitter is planned for Antofagasta, Chile, another at Arequipa, Peru. Each of the transmitters will deliver about 3 kw on approximately 50 mc to a high gain antenna pointed in a northerly direction. There should be times when these signals can be received in Central and North America.

Naturally Occurring Terrestrial Radio Noise. Since one of the limiting conditions of com-

A typical radar scope presentation of back-scattered radiation. The radial lines are distance markers, and the dark areas mark the ground-reflection points. The back-scatter method of probing the ionosphere instantaneously determines the skip distance for a particular frequency, or the maximum usable frequency for a particular distance.



A typical giant 25-foot diameter steerable paraboloid radio telescope of the type to be used in many areas of the world during the IGY for detecting radio energy originating from the solar system, stars and distant galaxies.



munications is the signal-to-noise ratio, it is necessary to have sufficient data so that reliable predictions of radio noise can be made. For the first time in radio history a sizeable effort will be made to measure the levels of atmospheric radio noise covering a representative sample of the earth's surface. Automatic equipment will be utilized to determine the noise power and the distribution of the amplitudes with time and frequency. The measurements will cover the frequency spectrum from 15 kc to 20 mc. Associated measurements will be made to determine the direction of arrival of the atmospheric radio noise as a function of frequency, time and geographical area.

Whistlers. One of the most recent advances in probing the outer atmosphere to distances of some 12,000 to 16,000 miles, is the recording of a special type of radio atmospheric signal, known as whistlers (due to its sound). Probing of the ionosphere in passed years has been mainly through the use of vertical and oblique incidence ionospheric sounders, which provided data concerning ionization of the atmosphere up to the F-layer. Whistlers are believed to result from the electro-magnetic radiation which originates from a lightning stroke. This radiation is then propagated from one hemisphere to the other, along lines of the earth's magnetic field. The radiation is propagated in such a way that the higher frequency contributions usually arrive at the receiver slightly before the lower frequency components and thereby usually creates a signal of descending frequency. Monitoring stations will be distributed from Canada to the Antarctic and New Zealand.

Sporadic E Reflection at Oblique Incidence. For many years, amateurs have observed and made use of the sporadic E layer for short-range communications in the 10 and 6 meter bands. Amateurs know by experience that signals over these paths vary greatly and the prediction is even more difficult, if not impossible to do on an accurate basis. Preliminary tests have indicated a difference in the reflection coefficient for sporadic E over similar length circuits in the U. S. and Japan. This project will be a study of this particular feature under rigidly controlled conditions.

Radio Star Scintillation and Ionospheric Drift. Radio stars, which are sources of electromagnetic radiation, will be monitored. By simultaneously monitoring the same radio star at three closely spaced locations, which are placed in the form of a triangle, it is possible to determine the direction and velocity of the ionospheric drift. The comparison of these irregularities in various geographical areas will provide additional data concerning the basic processes occurring in the upper atmosphere.

Absorption. A program has been developed to study absorption of radio signals due to the ionosphere. The radio operator recognizes that signal strengths vary substantially from hour to hour and this, in general, is due to their absorption in the ionosphere. Three approaches to this problem are to be investigated: first, calibration of vertical incidence ionospheric recorders so that the minimum frequency returned from the F_1 layer is indicative of the absorption; second, equipment similar to an ionosonde will be accurately calibrated so that a comparison of the amplitude of the main echo and that of the second or higher order echoes will indicate the amount of absorption; third, a measurement will be made of the attenuation of signals in the 20-30 mc band which originate from extra-terrestrial sources. The data obtained by transmitting signals from the earth and necessitating an ionospheric reflection is limited during times of ionospheric blackouts. Therefore, the third method of measurement should provide information during these times. The information thus obtained will provide a basis for more accurate computation of signal strengths expected from radio transmitting stations under varying conditions of the ionosphere.

Radio Amateur Observations. During the last solar maximum there was reported successful communications during night hours between South America and Mexico on a frequency of about 50 mc. This has led to an interesting question of attempting a scientific explanation of this phenomena since the regular layer F_2 MUF was considerably below 50 mc. Therefore, an IGY project was established with the Air Force Cambridge Research Center and the American Radio Relay League (ARRL) (Southworth, QST, September, 1956) to encourage amateur communications and monitoring on frequencies in the 50, 144 and 220 mc bands so as to provide a source of data which, after analysis, would possibly allow a scientific explanation of the phenomena. Also expected from this project is supplementary information concerning sporadic E propagation, auroral propagation and reflections, as well as trans-equatorial scatter data. The amateur radio fraternity has been recognized for its valuable scientific potential, and therefore, it has been given a specific project which will aid this international program.

The valuable contributions of radio amateurs to IGY are not confined to this official IGY-ARRL project. For example, one has only to monitor the higher frequency bands and observe the moral support being furnished in the form of message handling and phone patch traffic between men at isolated IGY stations and their loved ones at home. This latter service can, in many cases, mean the successful accomplishment of the mission of an entire IGY station and project. From the above discussion of various projects being undertaken during IGY, a great wealth of scientific data will be accumulated which, when analyzed, will benefit all radio communications. ■

C. Howard Bowers, W7UWR
1864 Lime Avenue
Long Beach 6, Calif.



"ICKEY"

of Corpus Christi, Texas

Many Amateurs have one of W5DQQ's cards on their wall, to which they may point with pride as a U.S. Navy group has voted "Ickey" the biggest morale builder they have in the Gulf area. Besides, he's just a good guy to know.

"Ickey's" voting name is Ernest W. Zrubeck, but to quote him, "I was tagged with the name of "Ickey" almost as soon as I saw the light of day and I've been "Ickey" ever since!" He lives with his parents in Corpus Christi, Texas.

Unfortunately, "Ickey" experienced a serious automobile accident during 1950 which, since that time, has confined him to his home and a wheel-chair—but don't get too concerned about that because, as he puts it, "When I realized what the score was, I took steps to build a life as full of service, excitement and gratitude, as I knew how!"

Ickey was a Junior in High School at the time of his accident and Ham Radio was an unknown quantity. However, friends suggested, among many other things, that he go in for SW radio and as a result W5DQQ is now gratefully up to his ears in traffic and fone patches. A fast fulfillment of his resolution for service and excitement.

During 1955, the U. S. Navy Patrol Squadron VP-45 recognized "Ickey's" service to them through his endless hours of fone patching between the Canal Zone and the Gulf and presented him with a gift in recognition of his service and good nature. Again in 1956, the same Navy unit saw fit to again recognize his service to them. On presentation of that second gift of appreciation, U. S. Navy Commander Pollard said, "We are humbly indebted to "Ickey" Zrubeck for his untiring and determined enthusiasm in giving us the best service available. He is one Corpus Christian we shall never forget and feel very honored to know such a fine gentleman!"

In addition to the gear shown, W5DQQ has a 15 meter three element Beam plus antennas for 40 and 75 meters. As his handicap prevents climbing antenna towers he gets plenty of assistance from local hams when changes are in order.

Ickey has worked some 105 dfferent Maritime Mobiles—in fact his station W5DQQ might be termed the Maritime Mobile 'clearing house' for Gulf traffic.

Another person of no less importance at W5DQQ is "Ickey's" attractive mother, who is V.P. in charge of QSL cards, schedules and commissary. Her interest in Ham Radio almost equals that of her ambitious Son, but up to the present moment she has not found time to study for a ticket. Radio minded people visit with "Ickey" when in the area and from the host of Maritime Mobile hams he has logged, some twenty have enjoyed the real hospitality of his home.

"Ickey's" father is a leading druggist in the Gulf region and encourages his son in his efforts toward making friends and rendering service as well as his activities on the MARS frequencies.

Our congratulations to Ernest "Ickey" Zrubeck and his spirit of achievement! ■

RULES FOR THE 1957

CQ WORLD WIDE DX CONTEST

I. CONTEST PERIOD:

Phone Section—0200 GMT October 26 to 0200 GMT October 28.
CW Section—0200 GMT November 30 to 0200 GMT December 2.

II. BANDS:

The contest activity will be in the 1.8, 3.5, 7., 14., 21., 27., and 28. mc amateur bands.

III. TYPE OF COMPETITION:

1. Phone Section—
   (a) Single operator. (b) Multi-operator.
2. CW Section—
   (a) Single Operator. (b) Multi-operator.
   (c) Novice operator.
3. Inter-club.

IV. EQUIPMENT:

There is no limit to the number of transmitters and receivers allowed, and competitors may use the maximum power permitted under the terms of their licenses.

V. SERIAL NUMBERS:

Phone stations will exchange serial numbers consisting of 4 numerals, the first two being the readability and strength report, and the last two being their own ZONE number. Phone stations in Zone 1 thru 9 will prefix their Zone number with zero. (01, etc.). CW stations will exchange serial numbers consisting of 5 numbers, the first three being the RST report, and the last two being their own ZONE number. Stations in Zone 1 thru 9 will prefix their Zone number with zero. (01, and etc.).

VI. POINTS:

Contacts between stations on different continents will count three points.
Contacts between stations on the same continent, but not in the same country, will count one point.
Contacts between stations in the same country for the purpose of obtaining a Zone and/or country multiplier, will be permitted but no QSO points will be allowed.
More than one contact between stations on each band will not be permitted.

VII. 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.

VIII. AWARDS:

Certificates will be awarded in each section as follows:
1. To the highest scoring station on each SINGLE BAND in the following areas:
   a. Each call area of the U.S.A.
   b. Each call area of Australia and Canada.
   c. All other countries.
2. To the stations having the highest combined total of ALL BANDS (or more than one band) in the following areas:
   a. Each call area of the U.S.A.
   b. Each call area of Australia and Canada.
   c. All other countries.

IX. SPECIAL AWARDS:

1. A cup will be awarded to the highest scoring Single Operator, All Band, Phone Station in the world.
2. A cup will be awarded to the highest scoring Single Operator, All Band, CW Station in the world.
3. A plaque will be awarded to the affiliated DX Club submitting the highest aggregate score of the scores submitted by its members.
   (a) For a Club to enter, an officer of the club must submit a list of its members participating and their scores.
   (b) This list may include scores of Single opr. and Multi-operator stations; both Phone and CW.
   (c) Stations that are members of a competing club must therefore indicate this fact on their report forms.
4. At the request of the donors, last year's winners are not eligible for the 1957 Phone and CW cup award. In other words the cups cannot be won more than once by the same station. This however does not hold true for the plaque award.
5. Also such special or additional awards as the DX Committee shall choose to make. In countries or sections where the returns justify second and even third place certificates may be awarded.

X. SCORING:

The score for each Single Band is the sum of the Zone and Country multiplier for that band, multiplied by the total contact points on that band.
2. The total All Band score is the sum of the Zone and Country multipliers of all bands, multiplied by the contact points on all bands.
3. Everyone who sends in a log for a single band is eligible for a Single Band award

All Band Entry [X] Phone [ ] Station Call Letters W1WY

Single Band Entry [ ] CW [X] Number of Operators 1

CQ WORLD-WIDE DX CONTEST

Band	QSO'S	Zone Multipliers		Country Multipliers		Points		Score	Band
1.8 MC	2	2	÷	2	x	1	=	4	1.8
3.5 MC	10	5	÷	4	x	18	=	162	3.5
7 MC	15	6	÷	10	x	33	=	538	7
14 MC	18	7	÷	13	x	45	=	900	14
21 MC	20	10	÷	12	x	60	=	1320	21
27 MC	5	3	÷	3	x	5	=	30	27
28 MC	30	12	÷	18	x	80	=	2400	28
TOTAL	100	45	÷	62	x	242	=	25,894	All Bands

INSTRUCTIONS: To determine All Band score, total each column with the heavy lines. Single band stations are permitted to operate on more than one band. However, indicate and total ONLY the band you wish judged.

Transmitter Description and Power_____

Sample score sheet

only. If more than one single band log is submitted, indicate which band is to be judged.
4. Those who submit logs for two or more bands will be judged for the All Band award.
5. No station is eligible for more than one award.
6. Contestants must show a minimum of 8 hours of operating time to be eligible for an award. If a contestant operates All Band and wishes to be judged for a specific Single Band, he must show a minimum of 8 hours on that band.

XI. ZONES and CONTINENTS:

To check your own Zone number and continent for scoring purposes, refer to the ARRL or CQ list as well as the WAZ map. For continental boundaries the same as used for WAC will be recognized. Should any question arise as to the positive location of any station, the official definition will be final.

XII. OPERATING SUGGESTIONS:

1. Foreign amateurs; remember, scores are based on the greatest number of Countries and Zones as well as stations worked. Therefore do not concentrate on working only U.S. stations. This is a world-wide competition.
2. Foreign amateurs; It is recommended that you give the call letters of the station you are working at the end of each transmission, instead of "BK" as this would prevent much QRM of stations piling on and calling you.
3. Overseas phone operators should indicate which end of the band they are tuning or which portion of the phone band (American or foreign) they intend to cover. This is extremely important on 21. and 28. mc.
4. CW stations would greatly reduce QRM and speed up contacts by working stations OFF their own frequency. Likewise, U.S. stations should avoid calling "that rare one" on his own frequency.

XIII. RULE CHANGES:

No changes from last year. See modification in Rule IX. ¶4 and 5 re: awards. Also note definition of 8 hour minimum in Rule X. ¶6.

XIV. LOG INSTRUCTIONS:

1. In keeping log, fill in Zone number and Country ONLY FIRST TIME it is contacted on each band.
2. Use a separate sheet for each band.
3. Keep all times in GMT.
4. All contestants are expected to compute their scores. Logs should be checked for contact duplications and proper point credit

WORLD-WIDE DX CONTEST LOG

CALL W2JB COUNTRY U.S.A. PHONE ☐ CW ☒

LOG FOR 14. MC. BAND (Use separate log for each band.)

CALL LETTERS OF OTHER OPERATORS - - - NR. OPERATORS 1

DATE (GMT)	TIME (GMT)	STATION	SERIAL NUMBERS SENT	SERIAL NUMBERS RECEIVED	FILL IN ONLY WHEN QSO IS A MULTIPLIER: WAR ZONE NR.	NAME OF COUNTRY	POINTS (1 or 3)
Nov. 30	0210	W2BO	56905	55905	5	U.S.A.	-
"	15	XE1A	59905	58906	6	Mexico	1
"	20	W6YY	59905	57903	3		-
"	25	CX2CO	58905	58913	13	Uruguay	3
"	0310	KV4AA	59905	59908	8	Virgin Is.	1
"	15	KH6IJ	57905	56931	31	Hawaii	3
"	20	CE3AG	57905	57912	12	Chile	3
"	1200	W8JIN	56905	55904	4		-
"	05	VE4RO	55905	55904		Canada	1
"	15	4S7MR	55905	55922	22	Ceylon	3
"	30	VS6AE	55905	44924	24	Hong Kong	3
"	2200	GW3ZV	59905	57914	14	Wales	3
"	10	F9MS	57905	56914		France	3
"	15	DL7AA	57905	56914		Germany	3
"	20	DJ1BZ	57905	56914			3
Dec. 1	0110	4X4BX	56905	55920	20	Israel	3
"	0115	OK1MB	57905	56915	15	Czeck'vkia	3
TOTAL NUMBER ZONES, COUNTRIES, POINTS:					13	14	36

IMPORTANT NOTE: Fill in Zone number and country ONLY FIRST TIME it is contacted on each band.

before they are submitted.

5. Make sure name and address is clearly noted on each log.

6. Each contestant must sign the usual pledge. Note sample contest report form.

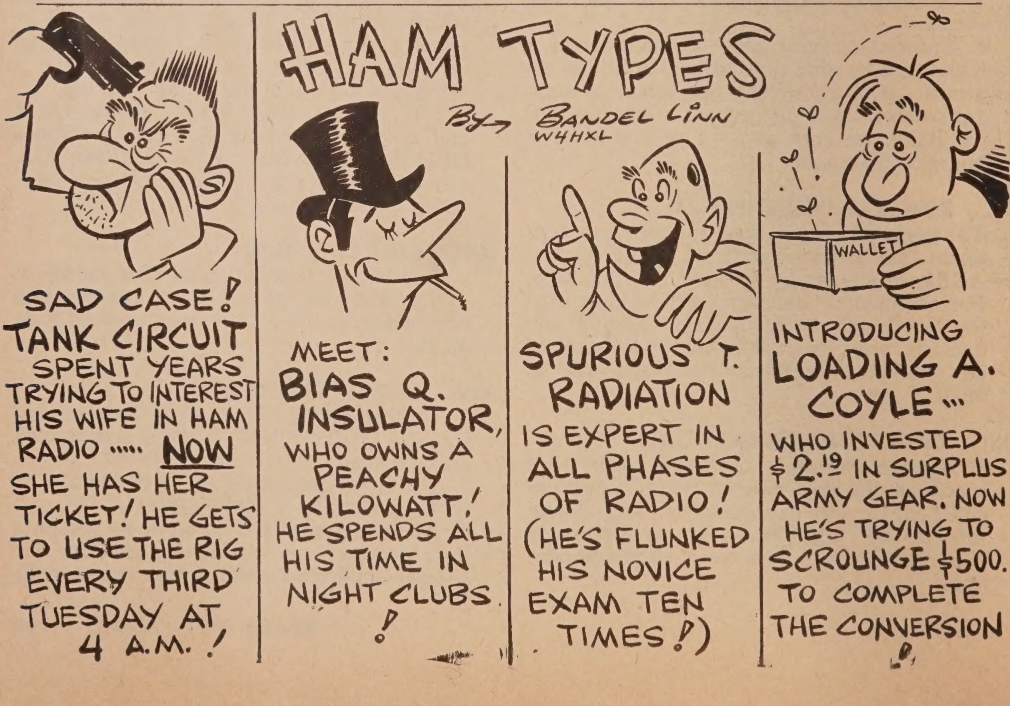
7. If official log forms are not available, it is hoped that the contestant will make a duplicate form as illustrated. The size is 8½″ x 11″ with 52 contacts to the page.

8. Copies of the Zone and Country list and log and report forms are available from CQ, address listed below. Send a self-addressed, stamped envelope, or in the case of overseas stations, IRC coupons. Make sure to include sufficient postage and state how many sheets are needed.

XV. DEADLINE:

All logs must be postmarked NO LATER than December 1, 1957 for the Phone Section and January 15, 1958 for the CW Section. Send all logs direct to:

CQ Magazine
300 West 43rd St.,
New York 36, N. Y.
Att: Contest Committee



TVI Letter

Here is a letter that is sent out by the amateurs in Santa Barbara, California to anyone who has TVI difficulty. Since other TVI committees may be able to use this idea and parts of the letter it is reproduced here.

Dear Friend:

There is so much misunderstanding regarding television interference caused by amateur radio stations that I would like to tell you our side of the story.

Santa Barbara has over 200 licensed radio amateurs operating on the many wavelengths assigned to them by the Federal Communications Commission. Many complaints are received that the amateur is out of his bands, or off his assigned wavelengths. This is not true.

What does happen is simply that the television receivers do not meet what the industry terms "good engineering practice" and therefore can not keep out the unwanted signals. These unwanted signals include the police, sheriff, taxi-cabs, fire department vehicles and doctors diathermy as well as amateurs. Interference is also caused by many TV receivers that were built a few years ago and make a pattern of diagonal lines across the screen of neighboring receivers. When interference is caused by an amateur station you can often here the voice and get the amateur's call letters. Be sure to write down the call letters and check to see on which TV channels the interference is noticed. Amateur interference should be reported to WOodland 5-8533 and ask for Lloyd Jones during regular office hours, or leave your name and phone number with the operator.

For many years the Federal Communications Commission (FCC); Radio Electronics and Television Manufacturers Association (RETMA); American Radio Relay League (ARRL); and other interested groups have pleaded with the television receiver manufacturers to include a "high pass filter" in their receivers. This is a device to aid the receiver to exclude unwanted signals. This high pass filter, when properly designed and installed, does stop television interference from many sources including amateur radio transmitters. However, television receiver manufacturers generally do not include a high pass filter on their receivers.

The fault does not necessarily lie with the amateur but usually with your receiver. A good analogy is that you bought an automobile without windows or a windshield. The automobile will get you there but not altogether satisfactorily insofar as keeping out unwanted rain or wind.

So it is with your TV receiver; it will receive the desired TV channel and at the same time let the interfering signal be received. However, it is possible to keep the unwanted signal from getting into your TV receiver by installing a high pass filter on the inside of your receiver. This must be done by a qualified service man.

The Santa Barbara Amateur Radio Club has a Television Interference Committee. The man who investigates *amateur* interference is a professional electronics engineer and has been checking interference for several years. This thankless job requires that he spend much of his otherwise free time checking the interference complaints.

The club has also taken steps to alleviate this problem by writing to all the receiver manufacturers asking that the manufacturer pay the full cost of having a high pass filter installed when the interference is found to be caused by an amateur transmitter that is operating properly. Otherwise the receiver owner must pay a service man to install the high pass filter and this usually costs from ten to fifteen dollars.

Today, nearly all amateurs own expensive manufactured transmitters and receivers. 95% of all interference complaints about amateurs that have been investigated show that the trouble is the TV receiver not being able to keep out unwanted signals. The amateurs want you to enjoy your TV programs and will help you when called upon to do so. The amateur is instructed to cooperate with the complainant, and the TV service man, in order to determine the effectiveness of the filter.

The degree that an amateur transmitter might cause interference to a particular receiver in some instances depends on many things such as the condition of the receiver, condition and height of the antenna, condition of the lead-in and connections. These can easily be analyzed by a good service man.

Amateurs rely to a great extent upon the TV service man to give appropriate advice to the TV viewing public as concerns the condition of their entire installation. Service men thru out the country render valuable advice to their customers by including measures on how to eliminate amateur interference.

Respectfully,
Lloyd Jones, President,
Santa Barbara Amateur Radio Club.

messing with . . .

Maritime Mobile

C. L. Skelding, VE2ABZ

"There is nothing—absolutely nothing—half so much worth doing as simply messing about in boats," says Kenneth Grahame, an English author. I would add a personal qualification . . . messing about with amateur radio in boats. This I feel makes the messing really deluxe.

It started when I ceased being a competitive sail boat owner and bought a motor cruiser. The boat is a thirty foot raised-deck cruiser powered by a 115 hp motor. About five minutes after first going aboard to take over I had decided that all it required to complete the picture was some radio gear of the ham variety.

People associate masts, spars, and rigging of all sorts with a boat. One doesn't attract as much attention with a twenty foot vertical (complete with loading coils and top hats the size of cart-wheels) while under way on the Ottawa River as one would going up the main drag in their Jazzmobile with the same rig. It can be said then, that a boat functions admirably as a platform from which to try out as many antenna ideas as your imagination or pocket book runs to. Also, boat installations seem to have a high XYL tolerance rating.

Most "marinas" (similiar to a motel, but for boats) worthy of the name have 117 volts ac power plugs laid on right at dockside. However, as we don't want to remain tied up at the dock for the entire season we must decide what sort of primary power system we are going to use aboard. The voltage is usually settled first and then the rest usually falls into line. There are a few choices. Twelve and twenty-four volt systems are the most popular for a boat the size of ours.

There are two things that should be common to all boats: (1) a master wiring diagram maintained up to date; (2) the use of adequate wire size to carry the current used. Both of these may seem obvious but you would be surprised at the number of boats that never have had a wiring diagram made!

My boat was completely wired (professionally) with two separate 12 volt systems. One was for the engine ignition and navigation light circuits, and the other for the radio and accommodation lights. The batteries are the ordinary lead-acid type. With reasonable care (which means using chemically pure distilled water) I should get good service from them for several years. The nickel-iron or NIFE battery was considered, but it turned out to cost far too much for the high current capacity that I needed. However, the NIFE is practically indestructible—taking dead shorts and high charging currents in stride.

Our lighting batteries were charged by means of a 1 kw water-cooled charging engine—commonly known as a donkey engine. The engine batteries were charged from the main engine driven generator. I used the past tense because there have been some changes made. We made a modification allowing us to charge the lighting and radio batteries from the main engine while running independently of the donkey engine. Now we are able to swing the generator over to charge from the main engine (see fig. 1) while cruising or swing it the other way to charge from the donkey engine when stopped. While underway the main engine drives two generators if desired—its own and the auxiliary. A subsidiary advantage has been that we are able to use the generator shaft as a counter shaft with which we drive a rather high capacity bilge pump . . . again using either of two prime movers mentioned.

With this set up it is possible to arrive aboard and find all batteries dead (I should live so long) and, by means of the manual pull starting cord, start the generator and charge either set of batteries as well as pump out the bilge at the same time. The system is very flexible and has provided all the electrical power that we have ever required. A boat has to be a self-contained unit. A power boat that won't start is just one step away from becoming a vital statistic.

To build or buy? There is so much radio gear available these days for mobile operation (generally for automobiles, but readily adaptable to maritime use) that a choice between the various commercial units is difficult. Price is usually the deciding factor.

The placement of the radio equipment in the vessel is a rather important angle. Naturally *our* ham is going to want to be on the air while underway and this is quite all right by itself. However, if you happen to be combined helmsman and radio man, it would be well to make sure that the two activities can be conducted concurrently without jeopardizing the safety of the ship and all aboard. A lot depends on where you are going to cruise and how many hands you have on board to help

run the ship. On the inland waterways one must always operate with one eye on the chart and the other on the route. Buoys have to be kept in their proper places if we are to avoid running aground. Running aground is not always disastrous . . . but always is a nuisance. And usually expensive.

Of course, hams' heaven is reached when you drop anchor in some quiet bay with all the machinery shut down. Then we are really free from man-made electrical noise. Man, it's heavenly.

Now we come to the subject of electrolysis in boats. There are two kinds: (1) natural electrolysis; (2) assisted electrolysis. Recalling your elementary physics . . . when two dissimilar metals are placed in water, current will flow between them with the amount of current depending upon the conductivity of the water, the types of metals and their proximity. Because the water here is far from pure and contains enough foreign matter to make it into a dandy electrolyte, plenty of current flows. The fact that our two pieces of metal happen to be attached to the bottom of our cruiser is tough luck.

Just to prove to myself that this state of affairs exists, I connected a 0 to 100 microampere meter between the rudder control rod and the propeller drive shaft. The current flowing between them was 25 microamperes! This is natural electrolysis at work.

Accidentally place a potential difference between these two pieces of metal—from the battery for example—and see what would happen. This becomes assisted electrolysis and it is quite likely that a current of several amperes would flow. Since the amount of metal dissolved is proportionate to the amount of current, great damage would likely be the result. It is absolutely imperative that battery polarity be observed when connecting *any* electrical gear on a boat.

An underwater look at the propeller tells a story by itself. If the propeller has light green or emerald colored dots all over it, better check the wiring. These marks show that the zinc is actually being eaten away and corrosion is probably well advanced.

An easy way of checking for cross grounding without getting all wet requires a volt-ohm milliammeter. Turn off all loads and disconnect one lead from the battery. Insert the VOM set on a high current scale. Should you read more than 100 ma. or so, find out where that current is leaking from . . . because it is a definitely unsafe condition. It is almost always possible to change the wiring of the input circuits of most electrical devices to make them conform to the polarity of the battery installation.

I eliminated the remaining underwater current leakage after observing battery polarity on each piece of electrical gear on the boat by bonding all the underwater fittings together. Leakage currents would far rather flow along our nice copper braid than take the messy route under the water. Number 10 wire or the braid equivalent is ample. The most important things to connect are the rudders (through their connecting rods), the propellers, (through their drive shafts), and the copper ground plate. Whatever else is connected in the circuit depends upon the accessibility of the fittings involved. The three items mentioned above are a must, though. This whole lot is then connected to the engine ground which of course is the radio ground as well.

There's a mechanical problem involved in grounding the rotating drive shafts if they have a flexible non-conductor coupling between shaft and engine. We used an ordinary automobile generator brush fastened to a piece of phosphor bronze strip (see fig. 2) and this was secured in position so that the brush was in firm contact with the shaft making use of the spring action of the bronze strip. The anchored end of the strip was then used to make a terminal to connect into the ground system.

The ground plate—an important item—is usually made of copper sheet 16 to 20 gauge in thickness and fastened to the keel or the underwater side of the hull and then connected to the electrical system by means of a brass bolt brazed or soldered to the plate and passing through the hull. Most installations have about 10 square feet on an average. Some bolts have none. They rely on the engine for a ground return and this is just not enough capacity. Of course a steel-hulled boat doesn't need this ground system; they have plenty of capacity to ground built in.

I started out with 12 square feet of ordinary copper window screen fastened to the keel.

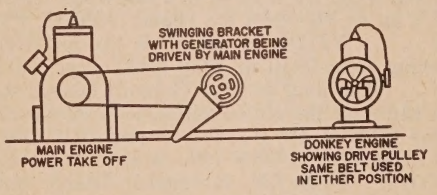


Fig 1.

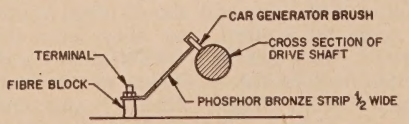


Fig 2.

This worked out quite well and has a couple of advantages over sheet copper. First, it costs a fraction of the corresponding area in sheet copper. Second, it is possible to inspect the condition of the wood in the keel without removing the plate. It seems to be fairly durable in fresh water. Ours has been on for four years and going strong. I wouldn't know about its lasting qualities in salt water.

As an experiment I fastened about 50 square feet of copper screen on the underside of the cabin floor and made the connection to the transmitter through a spdt switch so that the operation of the external ground could be compared with that of the internal. I can't see much difference. I guess this follows the theory fairly well because we are trying to get the largest possible capacity to ground with a wooden-hulled vessel and the fact that it is not in the water should make little difference as far as rf is concerned. Besides, there is a lot more room for copper screening on the underside of the cabin floor than on the sides of the keel.

The part of marine mobiling I find most interesting is the part having to do with trying out shortened antennas. Highest Q coils possible are taken for granted these days for use with loaded whip antennas. There is not much I can add to that for marine work. In fact, if one is only going to work one band, a piece of king-sized Barker Williamson or Air Dux coil stock mounted about half way up a fifteen foot vertical element and topped with a one-foot diameter top hat will do a worthwhile job of getting out. Of course the thing has to be made resonant and there is no substitute for the Antennascope and GDO in this department.

It's when you come to multi-band operation that the fun starts. Right now I have in use an antenna consisting of a tapered top section with a maximum diameter ½" by twelve feet long and a five foot bottom section of 1" diameter aluminum tubing. Separating the two is a Plexiglas housing about 10" long which houses plug-in coils. I found the housing very beneficial when operating in rain which would otherwise upset the loading without the cover. I eliminated the top-hat despite the increased efficiency which it is supposed to give because of the difficulty of keeping it in one piece when travelling in wooded canal cuts and under low bridges. The straight rod drags by neatly. I have left a few top-hats lying around the waterways here and there.

That's about all there is to it. Once you have the cruiser the rest is easy. I don't think this kind of boating is a hobby . . . it is more a way of life. ■

DX Last Minute Items

Roger, W8IUA, reports contact with Fletchers Ice Island. The call sign was KG1DT and Bob, W7YJP, at the controls. KG1DT was using a BC-610 at the time but may have a KWS-1 by now. This ice island, 200 miles south of the north pole and 500 miles west of Greenland is five miles long and four miles wide. It consists of a 105 to 160 foot thickness of fresh water ice floating in a salt water ocean. QSL's go to Fletchers Ice Island, APO23, PM, N.Y. . . . YJ1DL is again on the air every morning from 0930 to 1030 GMT near 14015 CW . . . The long awaited Comoro Islands station came on the air in mid-June with the call letters FB8CD. He is active around 1930 GMT and heard on 14086 (We are told he has VFO) . . . FB8XX, Kerguelen Island, continues off-and-on activity, 14039, 1300/1400 GMT. We are told that Pierre, old op of FB8XX, will return there in 1958. Present op is named Louis . . . John, KL7BNJ, is one of the weather men at the South Pole station for the next year. He has a Tapetone six meter converter with him and should appear on 14 Mc. with the Collins gear they have down there . . . Joe, ZD4BF, QRT's at the end of July but will return to Ghana at the end of January, 1958. Hugh, ZD4CF, also QRT's about end of July and visits USA and Canada. He will return in four months. To hold the fort (in Ghana) with SSB will be John, ZD4BQ, who will have a 10B and probably 811A final. He is also quite active on CW . . From W1MUE and other sources we are informed that F8FC has received permission from the Republic of Andorra to operate there during July. The call used will be PX1FC and operators will be F8FC, F8JD and ON4AU. They were due to be on from one to two weeks starting July 6th. PX1FC ran 150 watts and most operation was planned for 14 and 21 Mc. CW. Hope you got 'em . . . We regret to report the passing of Don Kurtz, PJ2AJ, who succumbed to a heart attack on May 29th . . . W2IWC reports the possibility of Jules, KP4AIO ex-VP9BM, being on from Navassa Islands during the last two weeks of July . . . KG6IG, Bonin Islands, often skeds his father, W6JLV, on 14340 . . . W7FNK/KP6 was heard from Palmyra in June . . . ZK2AD informed K2OEA that he had received his card and ZK2AD card was on its way . . . Danny Weil, VR1B etc., is now paying an extended visit to KV4AA and many form letters have been sent out to stations which he has contacted on his travels in an attempt to get the necessary funds to put him over the top and on his way again. We have, roughly, about half the amount necessary for the purchase of a new boat. To those who have not received letters we solicit your contributions towards YASME II. Among the exotic DX spots which are YASME II possibili-

ties are: Easter Island-CEØ, Kermakec Islands-ZL1, Tahiti-FO8, Wallis Island-FW8, Tokelau Islands-ZM7, Pitcairn Island-VR6, Tonga-VR5, Norfolk Island-VK9, Portuguese Timor-CR1Ø, Christmas Island-ZC3, Cocos-Keeling-ZC2/VK9, Andaman-Nicobar Islands-VU5, Goa-CR8, Laccadive Islands-VU4, Maldive Islands-VS9, Seychelles-VQ9, Chagos Islands-VQ8C, Amirante Islands-VQØ (?), Aldabra Island-VQ7, Zanzibar-VQ1, Comoro Island-FB8, St. Helena-ZD7, Ascension Island-ZD8, Fernando da Noronha-PYØ and possibly others as per demand. Plans are on the drawing board to issue a small "YASME SPONSOR" Certificate which will go to all contributors. Space will be alloted, thereon, to list all YASME contacts, with dates. Let's get this trip cracking fellers—Thanks—.

73, Dick, KV4AA



Oh Hell, you mean we got *that* much of a signal on channel 2.

Contest *[from page 20]*

3. **Serial numbers:**
CW stations will exchange serial numbers consisting of six numerals, the first three being the RST report and the others being the consecutive numbers of contact, starting with **001.**
Phone stations will exchange serial numbers consisting of five numerals, the first two being the RS report and the others being the consecutive numbers of contact, starting with 001.
4. **Contacts:**
(a) between stations in the same country shall count 0 points, but are allowed, for the purpose of obtaining multiplier.
(b) between stations of different countries, outside the American area, shall count 1 point.
(c) between stations of different countries in the American area (see WAA countries list) shall count 2 points.
(d) between stations in the American area and all other countries of the world shall count 3 points.
5. **Multipliers:**
Two types of multipliers will be used: (a) a multiplier of 1 for each American area country worked on each band; (b) a multiplier of 1 for each Brazilian call area (PY1 to PY9) worked on each band.
6. **Awards:**
1st and 2nd place certificates will be awarded for stations in each country and each Brazilian call area with:
(a) the highest scores on each SINGLE BAND, phone only or CW only.
(b) the highest combined scores on MULTIBAND (with a minimum of three bands worked), phone only or CW only.
7. **Scoring:**
The contest score for each SINGLE BAND is the sum of the American area countries and Brazilian call areas multipliers, multiplied by the contact points of that band.
The total MULTIBAND score is the sum of the total multipliers of all bands, multiplied by the total of contacts points of all bands.
A. Every one who sends in a log for a single band is eligible for a SINGLE BAND award only.
B. Those who submit logs for three or more bands will be eligible for the MULTI-BAND award, as well as the SINGLE BAND award.
8. **Logs:**
All logs must be postmarked no later than November 30th of each year. Please send logs to: LABRE Contest Commission.
Caixa Postal 2353
Rio de Janeiro — Brasil

W.I.A. VK/ZL

See July issue for rules and new scoring system.

CQ W.W. DX

See page 54 for rules and sample log forms.

Two corrections in the listings of the 1956 results. OA5H listed as 8th in the Top Ten Single Operator phone was multi-operator and should therefore have been second in that group.

OE4JK also 8th in the Top Ten Single Operator CW was listed as CE5JK by typographical error.

There were other minor errors and omissions over which we had no control but all winners will receive their certificates, so don't worry fellows.

73, Frank, W1WY

PROPAGATION

FORECAST

Based upon the reoccurrence tendency of ionospheric disturbances, the violent solar eruptions that occurred during late June will most likely reoccur to adversely affect short-wave radio propagation conditions during the periods August 18-20 and 23-25.

George Jacobs, W3ASK
607 Beacon Road
Silver Spring, Md.

Sunspot Number

The Swiss Federal Solar Observatory at Zurich reports that the monthly relative sunspot number for May, 1957, was 164. This results in a 12-month running smoothed sunspot number of 158.2 centered on November, 1956.

This month's CQ propagation forecast is based upon a predicted smoothed sunspot number of 152 centered on August, 1957.

The following is a general picture of propagation conditions expected for each high frequency amateur band during August. For specific times of band openings for a particular DX circuit, refer to the *CQ Propagation Charts* appearing on the opposite page.

6 Meters:

The Perseids meter shower which began around July 20th, will reach a peak in mid-August.

This should result in considerable meteor enhancement of 6-meter signals during the late evening and through the mid-morning hours. Openings of the meteor-scatter type may also occur on the 2-meter band during this period.

Sporadic-E occurrence remains high during August, and occasional short-skip openings between distances of 1000 to 1400 miles are expected.

Towards the end of the month, and more often during September, some F2 layer openings to South America are likely to occur during the late afternoon hours.

10 Meters:

The band is still in its seasonal slump but is starting to pick up a bit as fall approaches. DX openings to South America are expected to be good, but to other areas of the world openings will be rather infrequent. Peak conditions should occur during the late afternoon hours. Short-skip propagation, between distances of 500 and 1400 miles, should be possible on at least half the days of the month.

15 Meters:

Fifteen meters remains the best DX band during the daylight and early evening hours when good propagation conditions are forecast to almost all areas of the world. Signal levels will peak during the late afternoon and early evening hours, and on many occasions intensities will be exceptionally strong. Short-skip openings, between distances of about 300 and 2400 miles should occur on several days, peaking between noon and midnight.

20 Meters:

Twenty meters continues to be the optimum amateur band during the evening hours. Good propagation conditions during this period are forecast to almost all areas of the world. As a result of seasonally higher ionospheric absorption daytime openings will be limited to distances between about 250 and 2200 miles.

40 Meters:

The highest values of ionospheric absorption and static levels occur during August. This will limit daytime propagation on forty meters to one hop openings usually not exceeding 500 miles. As darkness approaches, ionospheric absorption decreases, and signal levels and skip increase. During the hours of darkness, some DX openings are likely to occur, but the band will be quite noisy.

80 Meters:

Eighty-meter propagation conditions are expected to be generally poor during August. During the

ALL TIMES IN EST

Eastern USA To:	10/11 Meters	15 Meters	20 Meters	40/80 Meters
Western Europe	7A-1P (1) 1P-5P (2) 5P-7P (1)	6A-1P (2) 1P-3P (3) 3P-5P (4) 5P-9P (3)	6A-1P (1) 1P-3P (2) 3P-6P (4) 8P-6A (2)	6P-8P (2) 8P-2A (3) 9P-12M (1)*
Southern Europe & North Africa	7A-1P (1) 1P-6P (2) 6P-8P (1)	6A-1P (2) 1P-6P (4) 6P-10P (3)	6A-3P (1) 3P-5P (3) 5P-11P (4) 11P-6A (3)	6P-11P (2) 11P-3A (1) 9P-1A (1)*
Eastern Mediterranean	11A-6P (1)	7A-11A (1) 11A-1P (2) 1P-5P (3) 5P-9P (2)	1P-4P (1) 4P-11P (3) 11P-5A (2)	7P-11P (2) 8P-10P (1)*
Central & South Africa	6A-10A (1) 10A-3P (2) 3P-5P (3) 5P-7P (1)	11A-2P (1) 2P-4P (2) 4P-6P (4) 6P-9P (3) 9P-11P (1)	12N-3P (1) 3P-6P (2) 6P-10P (3) 10P-5A (2)	7P-12M (2) 8P-10P (1)*
South America	2P-4P (1)** 6A-1P (3) 1P-5P (4) 5P-7P (3) 7P-10P (2)	9A-3P (2) 3P-10P (4) 10P-6A (2) 6A-9A (3)	7A-5P (2) 5P-2A (4) 2A-7A (3)	7P-10P (2) 10P-6A (3) 9P-3A (1)*
Australasia	9A-12N (1) 5P-10P (1)	8A-11A (2) 11A-4P (1) 4P-6P (2) 6P-10P (3) 10P-12M (1)	8P-10P (2) 10P-3A (3) 3A-6A (3) 6A-8A (3) 8A-10A (2)	3A-7A (2) 3A-6A (1)*
Guam & Pacific	NIL	2P-4P (1) 4P-10P (2) 10P-11P (1)	8P-10P (1) 10P-2A (2) 2A-8A (1)	NIL
Japan, Okinawa & Far East	NIL	3P-5P (1) 5P-9P (2)	7P-9P (1) 9P-3A (2) 3A-5A (1) 5A-7A (2)	NIL
Malaya & South East Asia	NIL	2P-5P (1) 5P-9P (2) 9P-11P (1)	6A-9A (1) 8P-1A (1)	NIL
Philippine Is. & East Indies	NIL	3P-5P (1) 5P-9P (2)	6A-9A (1) 9A-2A (1)	NIL

ALL TIMES IN CST

Central USA To:	10/11 Meters	15 Meters	20 Meters	40/80 Meters
Western & Central Europe	12N-2P (1) 2P-4P (2) 4P-6P (1)	6A-11A (1) 11A-2P (2) 2P-5P (3) 5P-8P (2)	6A-1P (1) 1P-4P (2) 4P-8P (4) 8P-12M (3) 12M-6A (2)	6P-1A (2) 8P-12M (1)*
Southern Europe & North Africa	7A-12N (1) 12N-5P (2) 5P-7P (1)	7A-11A (1) 11A-2P (2) 2P-6P (4) 6P-8P (2)	4A-2P (1) 2P-4P (2) 4P-8P (4) 8P-4A (2)	6P-12M (2) 8P-11P (1)*
Central & South Africa	7A-10A (1) 10A-2P (2) 2P-4P (3) 4P-6P (1)	11A-1P (1) 1P-3P (2) 3P-5P (4) 5P-8P (3) 8P-10P (1)	12N-3P (1) 3P-7P (3) 7P-11P (2) 11P-4A (2)	7P-11P (2) 8P-10P (1)*
Central & South America	3P-5P (1)** 7A-2P (3) 2P-6P (4) 6P-10P (2)	6A-9A (3) 9A-2P (2) 2P-4P (3) 4P-11P (4) 11P-6A (2)	2A-8A (3) 8A-10A (2) 10A-2P (1) 2P-5P (3) 5P-2A (4)	7P-4A (3) 4A-7A (2) 8P-3A (1)*
Japan, Okinawa & Far East	5P-9P (1)	9A-2P (1) 2P-6P (2) 6P-9P (3) 9P-11P (1)	3A-6A (1) 6A-8A (2) 5P-7P (1) 7P-3A (2)	2A-6A (1)
Malaya & Southeast Asia	NIL	2P-7P (1) 7P-9P (2) 9P-10P (1)	6A-8A (1) 5P-9P (1)	NIL
Hawaii	10A-1P (1) 1P-5P (2) 5P-8P (3) 8P-10P (2)	9A-2P (2) 2P-5P (3) 5P-10P (4) 10P-1A (2)	1A-4A (3) 4A-7A (2) 7A-10A (3) 10A-5P (2) 5P-1A (4)	9P-11P (2) 11P-6A (3) 6A-8A (2) 11P-6A (2)*
Australasia	3P-5P (2) 5P-8P (3) 8P-10P (1)	7A-9A (2) 3P-7P (2) 7P-10P (3) 10P-1A (2)	8P-11P (2) 11P-3A (4) 3A-6A (2) 6A-8A (3) 8A-10A (1)	1A-7A (3) 2A-6A (2)*
McMurdo Sound Antarctica	12N-2P (1) 2P-5P (2) 5P-6P (1)	1P-3P (1) 3P-5P (2) 5P-7P (3) 7P-9P (2)	3P-5P (1) 5P-7P (2) 7P-10P (3) 10P-6A (2)	10P-6A (2) 11P-4A (1)*
Philippine Is. & East Indies	NIL	3P-5P (1) 5P-9P (2) 9P-10P (1)	6A-9A (1) 8P-12M (1)	NIL

ALL TIMES IN PST

Western USA To:	10/11 Meters	15 Meters	20 Meters	40/80 Meters
Europe & North Africa	3P-5P (1)	7A-9A (1) 9A-12N (2) 12N-5P (3) 5P-8P (1)	11A-1P (1) 1P-3P (2) 3P-10P (3) 10P-1A (2)	7P-11P (2) 8P-10P (1)*
Central & South Africa	1P-3P (1) 3P-6P (2)	7A-10A (1) 10A-2P (2) 2P-6P (3) 6P-12M (1)	11A-2P (1) 2P-6P (2) 6P-10P (3) 10P-12M (2)	6P-10P (2) 7P-9P (1)*
South America	10A-3P (1)** 6A-10A (2) 10A-4P (4) 4P-8P (2)	5A-7A (3) 7A-1P (2) 1P-6P (4) 6P-12M (3) 12M-5A (2)	5A-8A (3) 8A-12N (1) 12N-4P (2) 4P-12M (4) 12M-5A (3)	7P-9P (2) 9P-4A (3) 8P-2A (1)*
Guam & Pacific Islands	12N-4P (2) 4P-8P (3) 8P-10P (2)	7A-10A (2) 10A-12N (3) 12N-4P (2) 4P-8P (1) 8P-12M (2)	10P-12M (1) 12M-6A (2) 6A-8A (3) 8A-10A (2)	12M-6A (2) 1A-5A (1)*
Australasia	11A-5P (2) 5P-8P (4) 8P-12M (3)	10A-2P (2) 2P-8P (1) 8P-12M (4) 12M-3A (2)	8P-10P (2) 10P-3A (4) 3A-7A (2)	10P-6A (3) 12M-5A (2)*
Japan, Okinawa & Far East	8A-12N (1) 12N-7P (2) 7P-11P (3) 11P-12M (1)	7A-12N (3) 12N-8P (2) 8P-12M (4) 12M-7A (2)	6A-10A (3) 10A-12N (2) 12N-8P (1) 8P-6A (4)	12M-6A (2) 1A-5A (1)*
Philippine Islands & East Indies	8A-10A (1) 2P-6P (1) 6P-10P (2)	7A-10A (3) 10A-12N (1) 10P-12M (2)	1A-4A (2) 4A-8A (3) 8A-10A (2)	3A-6A (1)
Malaya & South East Asia	8A-11A (2) 6P-8P (1) 8P-10P (2)	7A-11A (3) 11A-1P (1) 11P-2A (1)	2A-4A (1) 4A-8A (3) 8A-10A (2)	3A-7A (1)
Hong Kong, Macao & Formosa	2P-6P (1) 6P-10P (2)	7A-10A (3) 10A-2P (2) 2P-8P (1) 8P-2A (2)	2A-7A (3) 7A-9A (2) 9A-11A (1)	2A-6A (2) 3A-5A (1)*

SYMBOLS FOR NUMBER OF DAYS CIRCUIT TO OPEN:

(1) 1-4 days (2) 5-11 days (3) 12-18 days (4) 19-26 days (5) over 26 days

** Indicates possible six-meter opening
* Indicates possible eighty-meter opening

Time Symbols: A - A.M. N - Noon
P - P.M. M - Midnight

The CQ Propagation Charts are based upon a CW power of 150 watts at radiation angles less than thirty degrees and are centered on the Eastern, Central and Western areas of the USA. They are valid through September 15, 1957. All forecasts are based upon ionospheric data published by the Central Radio Propagation Laboratory of the National Bureau of Standards, Boulder, Colorado.

daylight hours, high static levels and weak signals will limit openings to distances less than 200 miles or so. During the hours of darkness, skywave propagation up to approximately 1000 miles should be possible on most nights, and when static levels are exceptionally low, the skip may extend to distances up to 2000 miles and beyond.

160 Meters:

No skywave propagation during the hours of daylight. During the evening hours one-hop openings up to about 1000 miles should be possible, but static levels will be exceptionally high.

Amateur Radio Participation In the IGY

On July 1, 1957, began the International Geophysical Year—an unprecedented world-wide scientific effort to study the secrets of man's environments from the depths of the earth to outer space. This coordinated scientific effort will continue through December, 1958. Into those 18 months will be compressed a score or more years of normal research. Answers to a thousand questions are being sought. Is the climate of the earth changing? Where do cosmic rays come from and what is their nature? What causes the aurora? What is the relationship between sunspots and solar flares and long-range radio transmission? The answers to these and many other questions will provide not only new basic knowledge of the earth and the surrounding universe, but practical applications in many fields of human activity—from the raising of crops and transpolar air travel to better radio communications and navigation.

Thousands of scientific teams in nearly 60 countries have already begun coordinated IGY studies. But with the world as a laboratory, the cooperative effort of additional thousands of scientists, engineers and technicians will be required if it is to be completely successful.

Recognizing the scientific and technical potential of amateur radio, the assistance of radio amateurs in this country and throughout the world has been requested for several IGY projects, two of which are discussed in the following paragraphs.

Here is a stimulating challenge to amateur radio—a golden opportunity to participate actively in one of the outstanding scientific efforts of our time—and to contribute again, as, so often in the past, to the advancement of scientific knowledge. It will be a big show, and it may be that we shall never see another one quite like it.

IGY Propagation Project

Almost from the beginning of radio communications, radio amateurs have been pioneering radio propagation research. It was the radio amateur who first hurdled the 200-meter propagation barrier; who first used the high frequencies for long distance, world-wide communications, and who first extended VHF communications beyond the so-called "line of sight" limitation. Investigation of Sporadic-E, meteoric, auroral, backscatter and trans-equatorial propagation, all trace their origin, directly or indirectly, to the amateur bands.

Following the pattern of the now famous RASO Project[1] of the early 50's when amateur radio proved its ability in collecting scientific data, the Department of the Air Force, on behalf of the United States IGY effort, has granted a research contract to the *American Radio Relay League* for the purpose of collecting and studying information on some of the more interesting varieties of VHF wave propagation.

With the ARRL acting as project coordinator, radio amateurs in this country and throughout the world are being asked to report systematically on any unusual openings observed on the VHF amateur bands. A special ARRL project staff will sort and analyze the reports, and make them available for correlation with other propagation studies being conducted by IGY ionospheric research teams throughout the world.

The IGY-ARRL Propagation Research Project, operating on a pilot basis for six months prior to the official beginning of the IGY, has already come up with a wealth of information concerning sporadic-E, F-2, auroral, meteoric and scatter propagation in the VHF amateur bands. Nearly 1,000 observers have so far contributed reports from all parts of the world.

If you are equipped to operate or listen on any amateur band from 50 Mc up, you are urged to participate actively in this project. For registration forms, report forms, a free subscription to the monthly project bulletin, and other information, write directly to the:

IGY-ARRL Project Coordinator
Mason P. Southworth, W1VLH
530 Silas Deane Highway
Wethersfield, Connecticut

IGY Aurora Project

The aurora, while one of nature's most beautiful and spectacular phenomenon, plays havoc with shortwave radio communications. Acting like an electronic curtain, auroral displays prevent the propagation of high frequency radio waves to many parts of the world. Radio circuits that pass near to, or over, the polar regions are particularly affected.

As part of an intensive IGY program of auroral research, Cornell University is undertaking a widespread visual study of the aurora. From volunteer observers in the northern United States and Canada, the project hopes to better define the areas over which the aurora can be seen in North America, the frequency of occurrence of the aurora, as well as to study other visual characteristics that will later be correlated with radio propagation studies of the sort being conducted by the ARRL.

Participants in the project receive a comprehensive instruction manual for identifying

[1] Project RASO (Radio Amateur Scientific Observations), a VHF propagations research project based upon radio amateur observations, co-ordinated by CQ magazine and sponsored by the U.S. Air Force.

The results of Project RASO contributed significantly in advancing scientific knowledge concerning sporadic-E propagation, and it was during Project RASO that VHF trans-equatorial propagation was first observed.

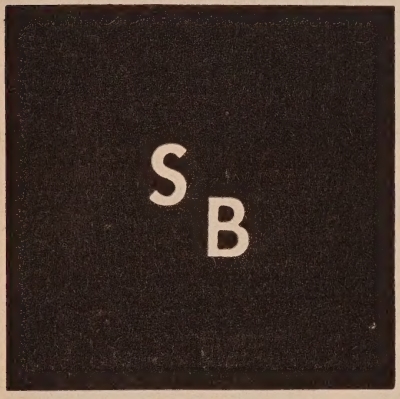
the various types and visual characteristics of the aurora, filters to distinguish the aurora from other light, an alidade for measuring the elevation of the aurora, and report forms and stamped return envelopes.

Additional observers are urgently needed, especially from the northwestern states and western Canada. If you have time to devote to scanning the northern sky and are interested in participating in this IGY project, registration forms and additional information can be obtained from:

Dr. C. W. Gartlein
Aurora Data Center
Rockefeller Hall
Cornell University
Ithaca, New York

Next month, a discussion of *Operation Moonwatch*, an opportunity for radio amateurs to participate in tracking the earth satellite as it hurtles through outer space.

73, George, W3ASK



Bob Adams, W3SW
919 McCeney Road,
Burnt Mills Hills,
Silver Springs, Md.

COUNTRIES WORKED
(Two-Way SB)

W2KR	84	W6UOU	69
K2DW	79	W2CFT	67
DL4SV	76	W2EWL	67
W3BZ	76	W2JXH	67
K2AAA	74	HR2WC	66
W3ZP	74	W5HHT	65
G3MY	74	W8JXM	64
G6IX	73	W6IAL	64
ZL3IA	73	W3HN	64
ZL3PJ	73	OH2OJ	63
ZS6KD	73	W1EQ	63
VE4NI	72	PAØIF	60
W4INL	72	CN8MM	60
K6GMA	70	F7AF	60
VE2GQ	69	W9GPI	60
VK3AEE	69	K2GMO	60

Mort, W2KR continues to find new countries to contact, and his 84 total is still high for the SB DXers. Conditions have been generally poor lately, and most of the gang are complaining of the unusually high temperatures prevailing in many countries throughout the world.

The Long Island gang held a farewell party for Danny, W2GG and myself on May 24th at the Hyde Park Inn, with Mort, W2KR acting as master of ceremonies. There were not too many tears shed at our parting, and in fact the boys seemed relieved to be losing two kilowatts from the top end of twenty. Danny will soon be a W-4 in Florida, and I have already moved to the Washington Area.

We have just been advised by ON4CC, that he and ON4QX will operate SB in LX-land again this year from the same QTH where they operated from last year. The call will be ON4CC/LX and the QTH will be near Wiltz in the "Battle of the Bulge" area of World War II. The DXepedition will be operating on 14,300 and 3795 on August 15, 16, 17 and 18.

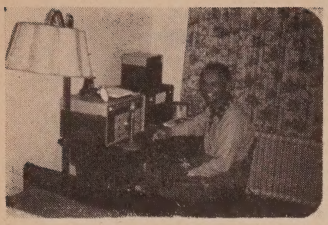
In an effort to stimulate SB interest throughout the world, Ted, W6UOU, of Henry Radio is sending a small compact SB rig to various stations where there is no SB activity in their country. We will publish a schedule of the times, places and call letters where the SB equipment will be operating, and having seen the tentative list of rare DX who will place the equipment in operation we are sure that it will be worth looking for. The 100 country goal will be realized very soon.

Sam, OH2OJ and his XYL OH2QJ will operate from Aland Island, for several weeks, with the call OH2OJ/OHØ, and this will count as a new country. Sam is expected to reach Aland Island on July 21.

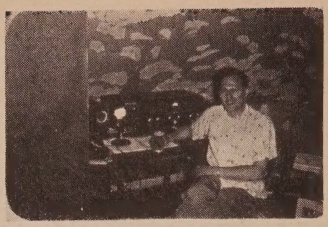
W3FII, Kiser, has installed a mobile rig in his car and will operate SB during a two week's trip to Florida. The increase in the number of SB mobile stations is tremendous.

The Collins KWM-1 is selling like hotcakes, and Hallicrafters have developed a transistorized, portable/mobile unit with all band coverage, separate VFOs for send receive, with 200 watts PEP in a small package. We understand that Eldico is developing a portable unit also, so there will be lots of mobile and portable activity on the bands.

Corny, YV5FL, the first SB station in South America is writing a SB column for his Venezuelan Radio Club's magazine. Good luck, Corny. YV5FL has worked 55 countries, in between flights as Captain on an airliner.



DL4MQ



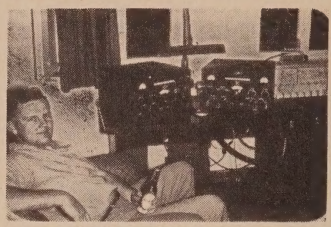
DL4WX



G8WZ



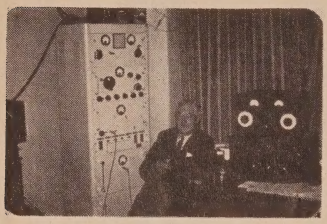
G3MY, G2HQ & G2MF



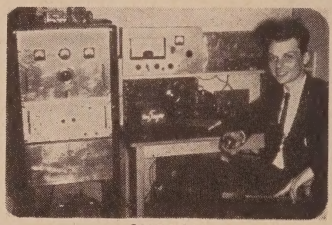
DL4YU



DL4EW



G2HQ



SM5AQW



SM5OH

Short Wave Magazine, whose SB Editor is Ron, G6LX has published a complete description of G2MA's efficient Linear. If enough interest is expressed in this item we will try to reproduce Ron's article.

Abe of KA2MA reports a solid QSO with K2LIM/M on 20 SB last month, with Gus in the Mobile only running 25 watts. KA2MA also reports working W6DRC crossband who was on forty on May 27 at seven AM PDST. Both KA2MA and KA2YA will have "V" beams for forty soon.

This next weekend will be Field Day, and reports indicate that most of the Clubs will be adding SB rigs to their other equipment.

During the Ninth National Amateur Convention to be held in Chicago August 30, 31 and September 1 this year it is planned to hold a Single Side Band Dinner. Many DX SB will be in attendance including BV1US and YV5FL. All of the prominent manufacturers are planning to exhibit their latest SB gear.

W9KOY reports that the SB Interstate Net handled 361 formal, 129 informal messages and 10 bulletins during May. There were an average of 38 stations participating in the relays. Everyone is welcomed to join in.

K2KAQ, Bob advises that ON4DM in Brussels is looking for contacts on 15 SB. The rig is a xtal filter using only the lower SB. Present power is 15 watts, but a new linear with two 6146's is under construction.

Charles, F7AF reports several more WAC round-tables were accomplished on 15 SB last month, without prior scheduling.

Eich, W9RUK, received world-wide publicity this month when he contacted Kurt Carlson on the Flying Enterprise II, and with the help of a Navy Doctor at Great Lakes was able to save the life of one of Kurt's seamen. The contacts were made on 15 SB while Kurt was off the West coast of Mexico.

KØGRL, General Curt Le May, who was recently named Air Force Vice Chief of Staff will move to the Washington area in July. "Butch," KØDWC, who is Vice Commander of the Strategic Air Command, will continue to operate from Offut AFB.

W4WH, Brig. General Bill Hamlin has been transferred to Heidelberg, and will soon be a DL4 on SB.

DL4SV, Jim is on leave from his assignment in Munich and is enjoying several months in the USA.

News this month is rather sketchy as I have been off the air for three weeks during my move to Silver Spring. We are again operating so hope to pick up some choice gossip. W3SW is now up to 16 countries after several days using a makeshift antenna. The beams will be up in a few weeks.

73, Bob, W3SW

RTTY

Byron H. Kretzman, W2JTP
16 Ridge Dr., High Hills,
Huntington Station, N. Y.

Amateur Radioteletype Channels

National, FSK 3620, 7140, 27,200, 29,160, 52,600 kc.
National, AFSK 27.2, 147.96, 144.138 mc.
Area Nets:

California	**147.85**	**Mc.**	**AFSK on AM**
Chicago, Ill.	**147.70**	**Mc.**	**AFSK on FM**
Detroit, Mich.	**147.30**	**Mc.**	**AFSK on FM**
Washington, D.C.	**147.96**	**Mc.**	**AFSK on AM**
	147.495	**Mc.**	**AFSK on AM**
New York City	**147.96**	**Mc.**	**AFSK on AM**
Livingston, N.J.	**146.30**	**Mc.**	**AFSK on AM**
Buffalo/Niagara	**147.50**	**Mc.**	**AFK on AM**
Boston, Mass.	**147.96**	**Mc.**	**AFSK on AM**
Seattle, Wash.	**147.00**	**Mc.**	**AFSK on AM**
Spokane, Wash.	**147.15**	**Mc.**	**AFSK on AM**

Transistors are here, leave us face it, so the more hardy of us are busy experimenting with them—busy learning how these peculiar animals (neither fowl nor tube) work.

Phil Catona, W2JAV of Hammonton, New Jersey, has built and has on the air a flea-powered transistorized radioteletype and cw transmitter. Operation so far has been on 40-meters, specifically 7139 kc. To the best of our knowledge, this is the *first* functional transistorized rig on RTTY.

Fig 1 shows the schematic diagram of the W2JAV "Little Flea" transmitter. (*Remember Phil's "Little Nemo" terminal unit?*) A 2N140 PNP transistor is used as the crystal oscillator and it is frequency-shifted by a diode. A common-base circuit is used. The power (?) amplifier is a 2N114, also a PNP transistor. This is connected in a common-emitter circuit, and the tank is the familiar pi-network. With the 7½-volt battery power, input to the final is 45 milliwatts. Power consumed by the whole transmitter is only 80 milliwatts.

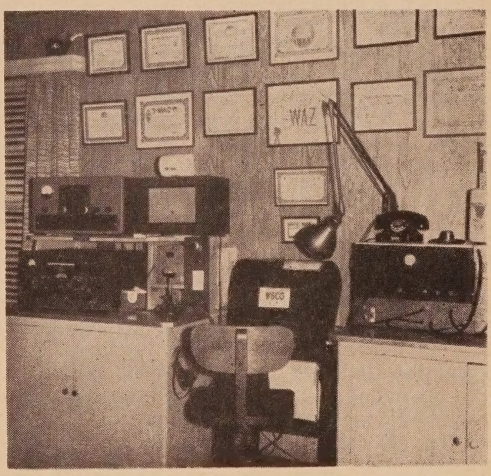
Phil has been having a ball with the "Little Flea." Besides working many cw and local RTTY stations, the first DX on RTTY was W2RUI and the best DX, as of May, was VE2ATC. The next step will be to try 20-meters.

2-Meter FSK

Last month your RTTY column reported on the 2-meter *fsk* preparations by W3PYW and W2SMX. This month we are happy to report general all-around success.

It began Friday night, May 31st. At 9 pm, EDT, the old Model 12 on 2-meter autostart began clanking away in the cellar. (It can be heard all over the house, unlike the 26.) Who was it but W2JAV, working W1VIY in Trumbull, Connecticut. W2JTP horned in right away when he learned that Phil and Charlie were getting ready to have W2JAV change over to fsk. This Phil did, and W1VIY reported perfect copy. Unfortunately, Charlie and myself were not prepared to transmit fsk ourselves.

The next evening, Saturday June 1st, Phil



W6CG, Temple City, California; Bud and Mary (K60WQ) Shultz are the operators. (Note the WAZ certificate) Transmitter: Johnson Valiant, with a 450-TL final to run up to 700 watts. The final is used only when the going gets rough. Usually the Valiant is sufficient for RTTY. Receiver: Collins 75A-4. Converter: W6AEE, with Gates filters. Machine: Model 26, equipped to use with a tape head. Antennas: W3DZZ beam for 10, 15, and 20 meters; W3DZZ long wire trap antenna for 40 and 80 meters.

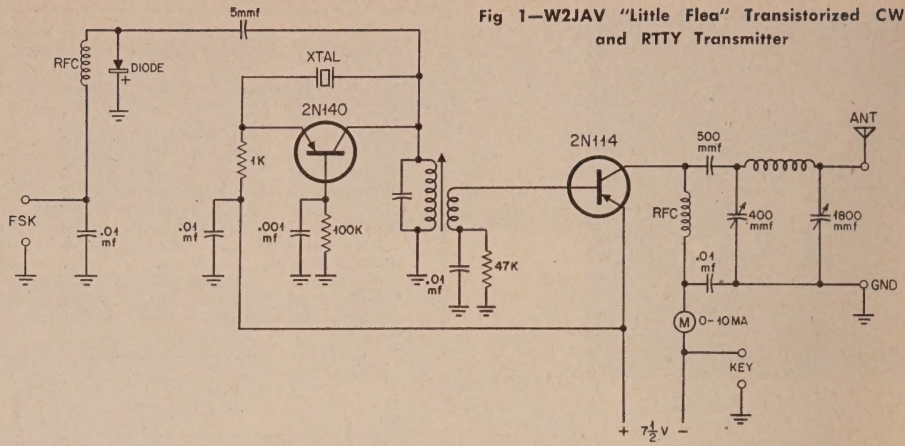


Fig 1—W2JAV "Little Flea" Transistorized CW and RTTY Transmitter

worked W3PYW using fsk both ways. Monday June 3rd, nearby W2SMX notified me that he had a sked with W3PYW for 9 pm that evening. Of course your RTTY Editor didn't hesitate. He *had* to go over to W2SMX to help punch the keyboard!

The QSO, which began on cw, lasted about an hour. 850-cycle shift was used on carriers about 144.3 and 144.9 mc. Frank, W3PYW, went up to 147.96 mc to look, unsucessfully, for W2JAV. Both Frankie and Johnnie were using a kilowatt input, feeding horizontally polarized beam antennas.

At times W3PYW's signal built up to an S-8. Occasionally it dipped down into the noise level. No trouble with QRM was experienced, in spite of the good band condition and the high-activity area in which we are located. Frequency stability, of course, is a little more difficult to obtain on 2-meters than it is on 80-meters; however, the stability obtained was quite practicable. If you stop to figure, this stability was better than one part in one million.

After the QSO, W2SMX and I discussed the contact. We reached a few conclusions, the first of which was that it would be very desirable to agree upon a specific, common, frequency in the 2-meter band for fsk operation. The high end, near 147.96 mc was thought undesirable because many beams, some transmitters, and some converters used with 75A receivers, do not efficiently and/or conveniently work at both ends of the band. Looking at the lower end of the band, it was thought a good idea to avoid the 144.0 to 144.1 Mc part which is reserved for cw by agreement rather than by regulation. (Besides, in any band opening these frequencies are jammed.)

Sooo—since we had been using successfully 144.9 mc, and since this was pretty far from the usual DX-chasers, and still not in the Novice portion, maybe 144.9 mc would be a good "national" frequency for 2-meter fsk. What do you fellows think? How about dropping me a line or two with your thoughts on this matter? (Maybe the picture is different in the west and midwest.)

Secondly, going to narrow shift, say 170 cycles, would permit the use of narrower filters in the receivers. Result: a few more db may be picked up. Every db extends the range in this kind of scatter work. Naturally, greater stability will be required, but this is a problem we feel sure we can lick, possibly with crystal ovens and a heterodyne exciter.

The Model 26

Dave Vanderhoek, W2VLL, adds some words of wisdom regarding the mechanical aspect of this machine: "Awhile ago I had some function disorders. The subsequent investigation showed that the alignment of the function prongs on the clutch was not in close enough agreement with the rotating stop arm atop the barrel-shaped decoder. When this was corrected, the alignment of the typewheel was then off such that the hammer was not striking the back of the letter pallets squarely, and that, too, had to be readjusted.

"I want to point out that this is often the cause of strange function disorders and that the adjustment is touchy; being held down by set-screws that can slip. While I was at it, I deduced what the various levels of clutch prongs were for. They are labled from 1 to 7A, starting from the bottom of the clutch and working up:

1. "STOP" (action lever usually missing)
2. "BELL"
3. "LINE FEED"
4. "LTRS" (down shift)
5. "FIGS" (up shift)
6. unknown, likely "CAR RET"
7. spacing ratchet bypass (Blocks out spacing functions)

7A. spacing ratchet bypass

For the benefit of those of you just becoming familiar with the Model 26, your RTTY

column gave quite a bit of information, mostly electrical, on this machine in the April 1956 issue of *CQ*, page 76.

Novice

Novice interest in RTTY is perking up. Besides KN9EVD, we hear from KN3JQC, KN4ONW/8, and KN5KLA. For those fellows just getting acquainted with RTTY and *CQ*, your monthly RTTY column carried last year a series entitled, "RTTY Principles & Practice." These began with the January 1956 issue and were devoted especially to the newcomer. If you can't latch on to back issues locally, they may be obtained directly from *CQ* for 50¢ each or buy an RTTY Handbook.

Across the Nation

W7FRK of Seattle, Washington, writes in to pass along a very good piece of advice for RTTY operating. Dom suggests that we adopt the army and commercial procedure of hitting *two* CAR RET, one LINE FEED, and a LTRS key when reaching the end of a line while transmitting.

Bruce Meyer, WØHZR of Bloomington, Minnesota, has come up with another fine contribution to RTTY. (His Tuning Indicator appeared in the May '56 issue of *CQ* on page 46) This time Bruce has developed an automatic carriage return and line feed for the Model 26 *Teletype* machine. The description of this much-needed device appears in the March '57 issue of *RTTY*, the bulletin of the RTTY Society of Southern California.

W2OKO of Union, New Jersey; W5GWJ of Alberquerque, New Mexico; W9FFW of Kokomo, Indiana; W4KXZ of Fort Pierce, Florida; WØFMD of Duluth, Minnesota; W4FG of Memphis, Tennessee; and W9PUP of Skokie, Illinois; are all getting ready to put their respective communities on the RTTY map.

W6CQK/2 of Summit, New Jersey, gave a talk and demonstration on RTTY before the Somerset Hills Radio Club in New Jersey. Jack displayed his Model 26, 14 TD, his dual-diversity converter, and his fsk heterodyne exciter (*CQ*, July, '57).

W6AFX is building a transistorized tuning fork standard (CQ, April & May '57). K6OWQ, XYL of W6CG, is looking for other YL/XYL RTTY contacts, but so far has been able to work only W6LFF.

Ray Morrison, W9GRW, 8029 Keeler Avenue, Skokie, Illinois, still has some "Ø" type pallets with keytop for the Model 26 for $1.35.

Comments

Letters *still* come in telling of unhappy dealings with a disreputable "society." Be very careful when you set out to buy a machine. Beware of anyone wanting money in advance. Don't plank out your hard-earned money unless you can actually *see* what you are getting *when* you are getting it. As a suggestion, take along an experienced, active, RTTYer. He will know if you are being sold a pile of junk or an operating machine. (See Wayne's editorial in the December '56 issue of *CQ*, on page 112.)

RTTY Handbook

At long last—it's here: An *RTTY Handbook*. Very little in the way of detailed information about radioteletype has been published up to now. The usual radio textbook has about one paragraph saying something about frequency-shift-keying, if mentioned at all.

Back in 1951, when Wayne Green, W2NSD, began publishing his "Amateur Radio Teletype" bulletin he also began collecting data for an *RTTY Handbook*. Later, his "Radio Teletype" columns in *CQ* brought forth many requests for dope on RTTY.

Shortly after I began the "RTTY" column in the August 1955 issue of *CQ*, the mail started to pour in: "Where can I read-up on RTTY?," was the most frequently asked question. All I could do was to refer them to back issues, kind of an unsatisfactory answer to the impatient fellow thirsting for knowledge. It soon became obvious that something would have to be done. The first thing I did was to make up a form letter listing all the articles in past periodicals that covered material of interest to the ham RTTYer. This list had to be revised many times due to the increasing popularity of this new and fascinating phase of amateur radio. In spite of the form letter, a good portion of my time seemed to be taken up in answering a continually increasing correspondence, answering questions from readers. Something *had* to be done.

Wayne and I got our heads together and we came to the obvious conclusion that the best solution to our problem, and the problems of the potential RTTYer, was to publish an *RTTY Handbook*. This, we decided, we would do.

So, our *RTTY Handbook* is now available. It contains everything from basic fundamentals to how you may easily modify popular "kit" transmitters to use this highly efficient mode of transmission. And, of course, it gives you the schematic diagrams and explains the functions of the particular machines in use today. Also described is automatic high speed (60 wpm) tape equipment, the answer to the traffic man's prayer.

Here is how you can get it: Send $3 (no stamps, please) to:

RTTY Handbook, c/o W2JTP
16 Ridge Drive,
Huntington Station, N. Y.

73, Byron, W2JTP



R. C. "Dick" Spenceley, KV4AA
Box 403, St. Thomas,
Virgin Islands.

DX last minute items will be found on page 60.

I will be on American Samoa SSB and CW beginning August 9 with new Collins KWM1. Ted Henry W6UOU.

Six new WAZ'ers, two of them phone, are the recipients of our heartiest congratulations. They are:

No. 348	W1DQH	DICK MAHLER	40-211
No. 349	W3AXT	SAM FRAIM	40-199
No. 350	G8TD	BILL DYSON	40-168
No. 351	W8PQQ	AL HIX	40-246 (PHONE)
No. 352	ZL2GX	JOCK WHITE	40-226 (PHONE)
No. 353	W8CDT	HERB HALEY	40-217



Vic Cumyow, VE7VC (left), and Fatty Fung, ex-VS6CG, are snapped in Vancouver, B. C. shortly after the latter's arrival from Hong Kong. He will take up permanent residence in Canada.

W1DQH is the fourth W1 WAZ while W3-AXT is the thirteenth W3. G8TD is the twenty-seventh G station to receive this award as W8-PQQ is W8 No. 15 (Phone WAZ No. 7) and ZL2GX is ZL No. 6 (Phone WAZ No. 8). W8CDT, now W6VBY, follows as the sixteenth W8 thanks to delayed QSL from AC4RF.

We also welcome the following newcomers to the HONOR ROLL:

W6YY	John	39-250	WØIUB	Tom	35-132
VE3DIF	Bob	39-161	W7UVH	Gene	35-105
W9EHW	Al	37-138	*PHONE ONLY*		
W8DLZ	Norm	36-165	W6YY	John	39-222
W2RA	Bob	36-149	K2CJN	Steve	35-165
W3SOH	Phil	35-166	W5ERY	Allen	35-142

NAVASSA ISLAND, W2HQL/KC4, W2IWC/KC4: Receiving permission to accompany the Coast Guard Cutter "WALNUT" on its June trip to service Navassa lighthouse. Joe, W2-HQL, and Fred, W2IWC, arrived there on June 7th after a three day trip from Miami. It was only possible to be on the air for about nine hours and during that time 307 contacts were made, 45 being on phone. First contacts ran as follows: W2HMJ, KV4AA, W5ABY, W8-FGX, W5LUU, W6ADP, W8EWS, W6NZW, W6OME, W4ML, W8GLK, W3ZAO, W6KSM, W6ZVQ, W5AFX, W6GFE, W2PRN, W5CE, W6MUR, W1CLX and W2HQL. "Firsts" in W districts, other than above were W7GXA, W9-DFV and WØGUS. DX included QSO's with KZ5, KP4, PJ2, SM, DL, ZE and VE. A series of incidents slowed operations somewhat and both boys were banged up getting on and off the island due to heavy swells. At the start the boat pulled away with W2 IWC plus antenna and subsequently broke down with a result that contacts over the first three hours were made using a drop cord for an antenna. More time was lost due to generator trouble plus low conditions. As evening drew nigh the pace was satisfactorily DX-pedited and 65 contacts were entered in the log for the last hour's effort. Our sincere thanks go to Joe and Fred for the toil they put into this jaunt and for a job well done! (Time on air: 1250 to 2350 GMT, June 7th). ALBANIA, ZA2ACB: Forewarned by DM2-ACB, who was active as DM5MM/MM aboard an East German training vessel some fourteen days, many were on hand to contact him when the ship visited the Albanian seaport of Durres between June 12 and 15th. Signing ZA2ACB, Heinz made many QSO's during this period. He was aware that it was necessary to operate ashore for country credit and, presumably, did so. QSL's should go to the DM bureau. See QTH's.

To those who missed ZA2ACB we have two other expeditions planned for ZA-land as follows: OK1MB advises that a Czech DX'pedition hopes to leave for Albania on August 4th. Twelve hams will go along and two trucks will

W7AMX, Art Bean, of Portland, Ore., is engineer at KGW. DX'ing since 1928, Art has led the 7th district call area for many years and presently has 261 confirmed. Receiving set-up consists of a home-brew front end feeding into a HQ129X at 540 Kcs and then into a BC453 Q5'er. Transmitter runs a 304TL in final into a 3 element beam 35 feet up.

(Photo courtesy WVDXC)



transport the equipment which includes 75A-3 and HRO-60 receivers and high power rigs for all band operation. No. 2: Brief word comes from HA5AM who advises that a Hungarian DX'pedition to ZA-land will take place in July or August. We believe these to be separate expeditions.

PITCAIRN ISLANDS, VR6TC: Thanks to the arrival of an HQ-120 receiver and after three months of phone operation Tom, VR6TC, came on CW on June 11th. His first five CW contacts were: W7MBW, W5BZT, W6YMD, W2AGW and K2GFQ. He runs 50 watts with a HEATHKIT DX-35 and may be found on 14019, xtl, between 0500 and 0800 GMT. He is a good op but tends to rag-chew on each contact which is not exactly popular with those standing by, layers deep. We understand that W6YMD is shipping him a beam which he may have by now. See QTH's.

ROUND-THE-WORLD TRIP: We are advised that W1GMP left Swampscott, Mass. about June 1st on board his Tahitian ketch "FIDDLERS GREEN" on a round-the-world voyage. Gear aboard consists of a NC-300 receiver and all-band GONSET transmitter. First port of call was Bermuda and plans call for a stop in KV4-land after which we may have more info.

RAFT "TAHITI-NUI," FO8AP/MM: We regret the end of the TAHITI-NUI trip. Here is a "quote" from TIME MAGAZINE: "In the dark of the night, as a devastating storm pounded Chile, killing 18, an ominous wireless message came out of the neighboring Pacific: winds up to 70 miles per hour and huge waves threatened to capsize the 14-by-40-ft. raft TAHITI-NUI, bound for Chile from Tahiti. The five man crew was out of water, sharks were all around. Naval headquarters flashed radio orders to the Chilean frigate BAQUEDANO, which was hove to off Valparaiso: proceed to the rescue. Three nights later, guided by flares and the raft's radio, the BAQUEDANO reached the TAHITI-NUI. By then the storm had died, and Eric de Bisschop, 66, the raft's white-haired, adventurous French captain, refused to leave it. Starting from Tahiti on November 8th, he had drifted nearly 5000 miles, and now, only 842 miles from Chile, he smelled success. He asked only to be towed to nearby Juan Fernandez Islands to make repairs. Under way, the cable parted; then a new storm arose. De Bisschop refused to give up his vessel until the cordage linking its 10-in.-thick bamboo timbers began to snap. Then he and his crew



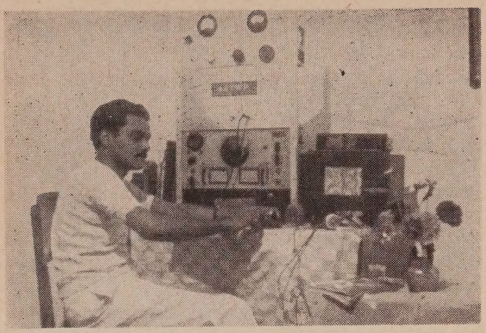
Bill Dyson, G8TD, of Nelson, Lancs., England, has just received WAZ No. 350. AR88D receiver is shown with Sound Mirror tape recorder above.

sadly boarded the BAQUEDANO, watched as the TAHITI-NUI drifted off, its Chilean and French flags whipping in the gale——Said De Bisschop: "I hope to rescue the TAHITI-NUI, repair her, and attempt the crossing again. But if impossible I shall build another and fulfill my task before I die."——Thus we can chalk up another accomplishment for ham radio through the efforts of FO8AP/MM, aboard the raft, who kept in constant communication with FO8AD and many others, throughout the voyage, with very low power.

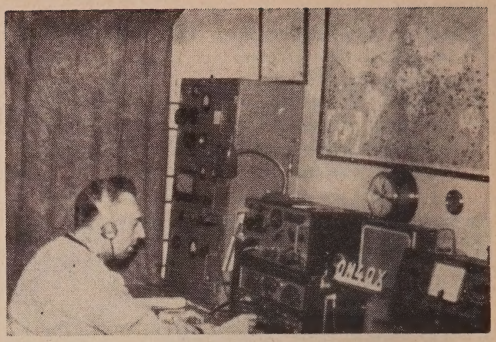
HOPEN ISLANDS (SPITZBERGEN): LA6U reports that an amateur will be active from this QTH starting in July '57.

DX Notes

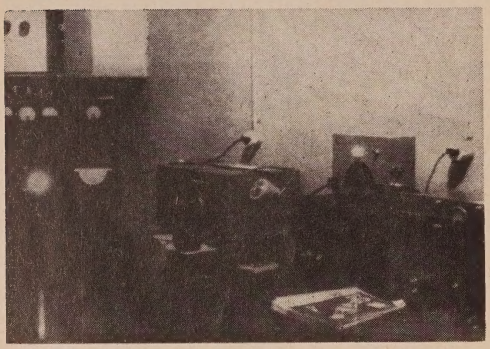
Louis, FB8XX, Kerguelen Islands, has been quite active on 14040, 1330/1500 GMT . . . VR3B, Fanning Island, goes QRT at end of August . . . HB1GJ/UR (Swiss Canton of URI) was due to have been active on June 15/16 . . . 9S4AX reports that Saar change-of-status is not a definite fact until 1960. 9S4 calls are still being used altho a change may be made to DL8 . . . Ray, FO8AQ, is a new



4S7WP, "Shanti" of Kolonnawa, Ceylon, runs 15 watts and has worked over 1050 W stations in 42 states. Needed to complete WAS are Utah, N. Mex., Mont., Nev., and No. Dak. (Photo courtesy W3VKD)



ON4QX, Bob Berge, Anvers, Belgium, runs 150 watts to an 814. Antenna is a 14 mc groundplane. Receiver is an SX-100. Bob has 165 countries to his credit and regrets that he cannot visit San Marino this year, as planned, due to pressure of work.



UA1KAI, City Club Station located in Leningrad, is quite well known on the DX bands. Transmitter is a BC-610 running 400 watts. Receivers consist of a HQ-129X and German Koln-E-52. Antenna is a half wave dipole.
(Photo courtesy Jerzy Chmielewski)



Needing no introduction is HB9X, near Zurich. Otto has worked 227 countries and is a recent recipient of WAZ No. 345.

one on Ile de Raiatea, F.O. He is active near 14100, cw, around 0800 GMT. QSL via Tahiti . . . KØDEX has received permission from the Governor of American Samoa, KS6, to operate there. No definite dates as yet . . . ZC5AL is active daily, 14040, 0900/1200 GMT. See QTH's . . . No indication has been received that W5LAK was active from CR8 between June 3rd and 17th following rumors that such operation would be tried . . . Contact with VQ9HAY, Seychelles, won't be easy. Operating time is limited and he has aversions to CW (8 WPM variety). Should he acquire a phone rig prospects would brighten. He skeds VQ4ERR each Sunday at 0400 GMT on 14312 with VQ4ERR being on AM . . . M1H is OK in San Marino and the only one active on cw there . . . KC4USA has been quite active on cw, 14010, 1100/1200 GMT thanks to the efforts of Carl Wyman, K2VAV. Carl used to sign NN7NIC in '28 and has been on with W6, HL and other calls. He skeds W3VKD and will be down there until January . . . Via W3LEZ we have the following on VP8 activity: VP8BY is active from the South Shetlands, VP8AQ and VP8BU are active from the Falkland Islands and VP8BK is active from South Georgia. Other VP8 are Antarctica and no activity stems from the South Sandwich group. All these are on 14 mc . . . W8GKB reports QSO with ZK2AD, on 7100, who says his name is Leo and QSL's should go to him on Niue Island, via New Zealand . . . VS1HB is working towards WAS and wants W's to listen for him at 1000 GMT/14020 kc . . . G2DHV/DJØAA received license as ON4IE/2, De Panne, Belgium. He operated from there for a short period in April working 11 countries on the four HF bands. QSO's included W1KXP, W2BXC, W2MPQ, W2PTI, W2PGU, K2QYB, W3VN, W4FZO, K8AUP, W8RGR and VE3DDM. See QTH's . . . More on M1H from W8OHV: Aure, M1H, runs PP 807's to a long wire antenna. Receiver is of the surplus variety and is in poor condition. M1H will QSL only after

receiving card from the station worked. QSO was made on cw near 21085 . . . Legitimacy of signals from one ZM7AC is questioned as W6 beam headings don't jibe. One W6 suggested that this might be the same as the station signing VU5AB and ZK2AB!!! . . .Another one is "ZM1BL" whose cards are being returned from Box 1595, Wellington, N.Z. as "unknown" . . . VK6MK advises, via W4ANE, that Les, VK1-RW/VK9AJ, has now returned to England but has left his equipment on Direction Island (Cocos-Keeling) and another has applied for a license to operate from there . . . Sergio, CEØAC, has been active from the new airport on Easter Island and was worked on June 16th, 14083, 0220 GMT. Signal was 588 and drifts down slightly. See QTH's . . . VK7KM/VK9 has been quite active near 14050, 1100/1200 GMT. He is in Lae, New Guinea. He will be there a month installing equipment for IGY . . . Had a real tough question the other day. Someone asked what zone is KC4USN in—! Anybody got a tape measure? . . . Zones 39, 29, 30, 32, 12, 13 and 38 meet at the geographical South Pole . . . Rundy, W3ZA, listening in Saigon, Viet-Nam, reports CR8BB on 14100 phone 1645/1700 GMT. Also ET3UCA is very active on 14135, phone, around 1500 GMT. On June 2nd W2BCR and K2OLS were logged on 21 SB and W2KR was heard previously. W3ZA had a visit from W2BR and extends an invitation to any hams passing through Saigon to give him a ring. His office is at 137 Rue Pasteur, Phone 22-0-22 . . . Stew, DI4AAP (W6GHM), advises that he is building a 500 watt DSB rig and will probably be on from LX-land (or HE-land) sometime in August/September . . . SWL-W5, Baughman, advises that, by now, KL7CBB, will be running 1 KW on phone 14200/14300 from Cape Lisburne, Alaska, they seek skeds and phone patches. See QTH's . . . VS9AI, Aden, is now on phone (plus cw) . . . Guy, FL8AB, goes QRT about November and returns to F8UD . . . Larry, SVØWP from March 20th (W3JTC), advises the SVØWE, SVØWO and SVØWB are on Rhodes while SVØWD is Crete. Other SVØ's are in Greece . . . Via VP7BN/VP5FH/W6HNX and North California DX'er we are advised that four of the boys at the missile range station, Sabana del la Mar, Dominican Rep. have finally succeeded in obtaining licenses as follows: Ray HI7LS, Geo. HI7-LMQ, Jim HI7TB and Jerry HI7CB (ex-VP5GB). They should have been heard from by now running a DX-100. We also activate a base on Ascension Island on approximately June 1st and hope to wrangle some ZD8 calls. Non-reciprocity complicates the situation but we have overcome it in VP7, VP5, HI and VP2 so far. A situation is also arising which may result in a lot of ham activity from Antigua, B.W.I. Also a station is under construction on Fernando da Noronha which will probably qualify as a new country (Ed—This is the one we are waiting for!) dependent on Brazilian licensing . . . Via West Gulf Bulletin and VK5-AB we learn that JZØPC has left and is headed for VE-land. JZØPB is also due to have left by now which leaves only Tony, JZØPA, active. Replacements, however, may take out calls . . . ZD4BQ, Ghana, advises that he will be on 14020 from 2230 GMT onwards . . . The boys were heard calling XW8AG, 14041, 1230 GMT . . . Eric, DM2ADL, writes: How come DM is not a separate country for DXCC? We have our own government, own money and own army. We don't like two separate German countries but it is a fact never-the-less. (He has a point there) . . .

Addresses

C3MH—(China) Via W6YY or W7PHO
CEØAC—(Easter Island) Via CE30K, Box 1234, Santiago, Chile.
EL5A—Cape Palmas, Liberia.
FF8AJ—Via W2AYJ.
FO8AQ—Ray, Ile de Raiatea, Via Tahiti.
FY7YF—Gaby Wong, 4 Becker, Cayenne, Fr. Guiana.
GC2RS—Ivymount, Mt. Durand, St. Peter, Port Guernsey, Channel Islands.
HH2Y—Box 428, Port-au-Prince, Haiti.
HI7CB—Jerry Buckholz, PAA/RCA, Sabana del la Mar, Dom. Rep. Via Patrick AFB, Fla.
HI7TB—Jim T. Burbage (same as above).
HI7LS—Ray L. Smith (same as above less RCA).
HI7LMQ—Geo. L. MacQuillan (same as above less RCA).
I5FL—Box 347, Mogadiscio, It. Somalia.
K6ICS—(New) Mike Gauthier, 15315 San Ardo Dr., La Mirada, Calif.
KG1DL—USA, EATF, APO 23, NYC., N.Y.
KL7CBB—711 AC&W Sqdn., APO 716, Seattle, Wash.
KV4BB/VP2VG—(Now W4CG) Box 1911, Fort Myers, Fla.
M1H—Aureliano Casseli, Box 80, Republic of San Marino.
OA7I—Ted Kaleved, Juliaca, Peru.
OQ5DO—Box 117, Luluabourg, Belgian Congo.
OQ5HP—Box 910, Stanleyville, Belgian Congo.
SM6CBC—(ex-SM1CBC) Einar Lundborg, Strandvagen 16, Lysekil, Sweden.
VE8PB—(Prince Patrick Is.) Via VE8 Bureau.
VP8BO—(Antarctica) Via G8FC.
VR6TC—Tom Christian, P.O. Box 1, Pitcairn Island, Via Balboa, C.Z.
W2HQL/KC4 and W2IWC/KC4—(Navassa Island)—Via W2HQL.
W3ZA/Saigon, Viet-Nam—L. M. Rundlett, 137 Rue Pasteur, Saigon (office).
W9KLD/KL7—Don Rockwell, 685 Rutledge, Kankakee, Ill.

Honor Roll Endorsements

(To June 15th, 1957)

ZL2GX	40-271	W6DBP	39-221	WØIUB	35-132
W8PQQ	40-271	K2GFQ	39-216	W7UVH	35-105
W2AGW	40-269	W2AYJ	39-194	PHONE	ONLY
W3JNN	40-267	W3MDO	39-177	W8PQQ	40-246
W7VY	40-265	VE3DIF	39-161	ZL2GX	40-226
W6GFE	40-264	KP4CC	38-222	W9RBI	39-243
W3EVW	40-260	WIRB	38-194	W8KML	39-224
W8KML	40-247	K2OEA	38-181	W6YY	39-222
G3DO	40-234	WIJDE	38-175	W3JNN	37-236
W6LN	40-230	W6ZZ	38-167	G3DO	37-209
W8CDT	40-217	WØPGI	37-164	W5JUF	36-206
W4CYY	40-215	W3UXX	37-152	W9RNX	36-205
WIDQH	40-211	W9EHW	37-138	GC6FQ	36-167
W3AXT	40-199	W9QNO	37-111	YV5AB	35-190
G8TD	40-168	W8DLZ	36-165	W4EEE	35-175
W9RBI	39-262	W2RA	36-149	K2CJN	35-165
W5JUF	39-256	W9DFV	36-115	W5ERY	35-142
W6YY	39-250	W3SOH	35-166	W6CHY	35-138

Last complete HONOR ROLL appeared in the May issue. Next complete HONOR ROLL will appear in the September issue.

WAZ Top Fifty

WIFH	275	W6SAI	265	WIGKK	257
W6AM	274	W7VY	265	G6ZO	256
W8PQQ	271	W6GFE	264	W5KUC	256
ZL2GX	271	W6SN	263	W9HUZ	256
W6AOA	270	W6CUQ	263	W7AMX	255
W6MX	270	W6VE	263	W7GUV	255
W6ENV	269	PY2CK	262	WØYXO	252
KV4AA	269	W6VFR	261	CE3AG	252
W2AGW	269	W9NDA	261	W8HGW	251
W6SYG	268	W6EBG	261	W8BRA	251
W3KT	267	W6ADP	260	W6NTR	251
W8JIN	267	W8BHW	260	VK2DI	250
W9VND	267	W3EVW	260	GM3DHD	250
W3JNN	267	W6MEK	259	W8NBK	249
W8KIA	266	W6TS	258	W6NNV	248
W6DZZ	265	W2BXA	258	KH6IJ	248
W3GHD	265	W6TI	258		

Other 250-Plus

W5ASG	39-269	W2WZ	39-255	W8UAS	39-251
WICLX	39-263	W5ADZ	39-254	W2QHH	39-251
W9RBI	39-262	WIBIH	39-254	W8JBI	39-250
W3EPV	39-256	W9LNM	39-252	W6YY	39-250
W5JUF	39-256				

WAZ and 200-Plus Phone

W8PQQ	40-246	CX2CO	39-222	W3JNN	37-236
PY2CK	40-241	W6YY	39-222	G3DO	37-209
VQ4ERR	40-241	XE1AC	39-217	W3KT	37-203
ZL2GX	40-226	W3LTU	39-206	WINWO	36-225
W6AM	40-221	W9NDA	38-225	WIMGW	36-223
G8IG	40-199	W8QJR	38-218	W4HA	36-214
ZL1HY	40-163	CE3AB	38-214	W5JUF	36-206
W6ITH	40-161	W2BXA	38-211	W5ASG	36-205
W9RBI	39-243	W3GHD	38-209	W9RNX	36-205
W6DI	39-233	W6KQY	38-207	CO2BL	35-210
W8KML	39-224				

ZA2ACB—Heinz, DM2ACB, Box 185, Schwerin, East Germany.
ZB1HMQ—U.S. Navy 240, FPO, N.Y.
ZC5AL—Doug O'Donnell, c/o Posts and Telegraphs, Jesselton, Br. No. Borneo.
ZD3A—Al Smart, c/o IAL, Yundum Airport, Bathurst, Gambia.
ZE7JN—Box 605, Gwelo, Southern Rhodesia.
Thanks to W4VPD, W1RB, K2GFQ, W3VZJ, W3LEZ, W6KG, K4DAS, W8OHV, North Calif. DX'er and West Gulf DX Bulletin.

BEIRA Certificate (Mozambique)

In celebration of the 50th anniversary of the town of Beira a certificate will be awarded to any licensed amateur submitting proof of contact, on phone or cw, with two stations in Beira during the month of August 1957. Contacts must be made on the following bands: 7, 14, 21 or 28 mc. The following stations are available for contact in Beira: CR7BN, CR7-CP, CR7CY, CR7DI, CR7DS, CR7DQ, CR7IT and CR7LU. They will be listening for "CQ/B" calls.

The Certificate will be signed by the Mayor of Beira. Confirmations should be sent to CR7BN, P.O. Box 875, Beira, Mozambique, Portuguese East Africa, accompanied by two IRC's, and should arrive not later than October 31st, 1957.

SWL's logging 20 Beira contacts during August are also entitled to a certificate. For neighboring hams: CR6, CR7, FB8, OQ5, VQ2, VQ3, VQ4, VQ5, ZE and ZS. Four contacts are necessary.

DX'ploits

Jock, ZL2GX, leads off this month with the addition of TI2CR for a 271 total . . . Al, W8PQQ, nabbed FW8AA for No. 271 on cw plus WAZ and 246 on phone to lead the A3 division . . . Howy, W2AGW, keyed with FW8AA and ZD4BX to reach 269 as Oscar, W3JNN, submits new list with a 267 label (236 A3) . . . Gene, W7VY, came up with CR5SP for 265 while Homer, W6GFE, upped to 264 with FW8AA and W2HQL/KC4 . . . Roger, W3EVW, hit 260 with ZD4BQ as Fred, W8KML, pushed his cw to 247 and phone to 224 with VS9AI, VS4JT, 3A2BF and MP4BCC . . . Doug, G3DO, moved to 234 cw and 209 phone with the addition of SVØWN, ZD4BV, FU8AD, 3W8AA and FK8AS while Thor, W6LN, hooked UM8KAA, ZS9Q and EA6AM for a 230 total . . . Ross, W9RBI, went to 262 (243 phone) with OHØAA, UM8KAA and VP2VG as John, W5JUF, sent new list with 256 cw and 206 phone . . . Bob, W6DBP, rose to 221 with FE8AH, HI8BE and UJ8KAA while Paul, K2GFQ, reached 216 thanks to VR6TC . . . Bob, W2AYJ, nipped AP2RH, KC4USV, FK8AL, FP8AP, UF6PB, VP2VG, FF8AJ, VP5BH and VS9AI for 194 as Ernie, W3MDO, ascended to 177 with W4OAZ/KS4, VQ5GC, IT1TAI, BV1US, KX6AF, UO5AA, UJ8AG, UAØKQB and VS9AI . . . Juan, KP4CC, keyed with UJ8AG for 222 as Pete, K2OEA, added suh as KG4AA, FL8AB, VP2VG, W4DQA/KS4, VP8BW, M1H, UF6AF, ZS7C, UO5KAA, ZS9P and UG6AG for 181 . . . Miles, W6ZZ, sent new list with 38-167 while Joe, WØPGI, goes to 164 with help from VP2VG, UQ2KAB, VP8CC, ZE5JA, ZB2J, FO8AQ, FQ8AF, VP5BH, ET2RH, ZC4CH and OH2AA/Ø . . . John, W3UXX, added FL8AB, VP5BL, YK1DF, VP5BH, PJ2ME and ZD4BQ for 152 plus WASM II, 599CW, BERTA and TORINA Diploma as Russ, W9QNO, ups to 111 with IT1TAI, VR3B, ZA1AA, UQ2KAA, UO5AA and HI7LMQ . . . Larry, W9DFV, keyed with HA5AL, FE8AH, YO2BU, W2HQL/KC4, TF2WBO and CP1CJ for 115 while

W9RNX comes through with up to date phone list giving him 205 on A3 . . . GC6FQ miked with VK9HO, MP4QAM, ZC6UNJ and HS1A to reach 167 as Mike, YV5AB, pushes phone total to 190 with such as ZS9G, UR2KAA, BV1US, CR8AB, UP2AS, FR7ZC, FL8AB, ZS7D and UC2KAB . . . Geo, W4EEE, ran his A3 total to 175 with CR4AS, ET3RL, KC6SP, OQØDZ and SP8CK as Gan, W6CHY, hit 138, on phone with VP8BU, VK9AJ, KC4USH and FK8AS . . . WØDVN's 100 watts pulled in 9S4AZ and CR6AI to reach 74 in one month's activity . . . VKØAB now has 86 countries . . . KV4AA was No. 98 for W4IFN . . . May/June activity at W6KG resulted in such as VR3G, GI3JUR, FK8AS, FO8AQ, UA1KAE, KG1DL, FB8XX and ZK1BG. All on 14 cw.

Here and There

We regret to report the passing of Ray Yard, W2DKF . . . KV4BQ QRT's on June 19th, vacations at home in Alaska, and returns to KP4-land . . . SM5KP and W3TMZ visited W6YMD . . . Gene, W7VY, visits Europe between July 22nd and October 1st . . . ZC5AL seeks Zones 7, 9 and 10 while 4S7WP needs N. Mex., Nev., N. Dak. and Utah for WAS . . . Best wishes to Chas, W2OHF, and Dorothea re recent nuptials . . . Apologies to George, W9BEK, for inadvertent listing in cw section as 36-111. Should be phone . . . KV4AA was happy to log visits from A1, K2BWQ and XYL. ex-PAØOA/CN2AN, Peter, also dropped in . . . Herb, HH2OT, says he arrived back in Haiti on April 29th and his fifty watter has worked a heap of stations which include QSO's for the Worked-All-Canada Award. The other morning he worked WAC at the expense of only two CQ's. Stations were: KL7BFW, KH6AIK/KG6, JA1VX, F8BS, LU9DAZ, VK3RG and CN8FD. HH2OT is on usually from 0600 to 0900 GMT . . .

THIS HEREBY CERTIFIES THAT

W 4 F Z O

IS A MEMBER IN GOOD STANDING OF

The "I-aint-got-no-QSL-card-from" KV4 club

This further certifies that on Jan. 12 19-57 at 1737 EST the aforementioned station held a SSB QSO with KV4BQ using a RME 4300 and a DB 23 as a receiver, and a 3 element beam as an ~~-Kilo-Fernia-~~ tenna, and a 4-250A final running 1000 Standard watts.

Won't you please help this poor individual by QSL-ing via W4-QSL Bureau or direct via

Tnx fer Qso.
Hpe BCNU agn soon.
Wud Appreciate ur
card. 73, Mike

MICHAEL H. GRAY
Box 71
Jackson, Georgia

"This One Worked"

Doc Altis, DL4HC (K6PNL), describes his DL activity thusly: First CQ was answered by ZB1CA, Gozo Island, Oct. 13th 1954. Last contact 100% phone QSO with W7EYR, Idaho, 28 Mc. Feb. 6th 1957. 134 Countries worked, 89 confirmed. WAS on 28 Mc. in 3 months. Gear Viking I, SX-100, Yagi beams on 10 and 15, Vee beam on 20. Doc should be heard from again around May 1st from Phoenix, Ariz.



Beira, Mozambique Certificate

1. As a contribution of Hams from Mozambique for the 50th anniversary of the Town of Beira, the L.R.E.M., official organ of the CR7's, will offer a certificate to Hams throughout the world if they contact no less than two Hams from Beira.
2. Contest will start Aug. 1 and finish Aug. 31.
3. Contacts must be made on Ham bands of 10, 15, 20 or 40 meters.
4. Beira Hams are: CR7BN, CR7CP, CR7CY, CR7DI, CR7DQ, CR7DS, CR7IT and CR7LU.
5. Interested Hams can use the call "CQ/B" for cw and "CQ Beira" for phone.
6. QSL cards must be addressed to: L.R.E.M. caixa Postal 875 Beira, and must reach Beira not after Oct. 31, accompanied by 2 IRC, or equivalent in Mozambique stamps or currency.
   a) QSL cards from Beira CR7's will be delivered to League delegate for checking logs and will be posted later directly with the certificate.
7. Certificates will also have the Municipality President's signature.

WVDXC W7 Special Achievement Award

This Certificate is available to any amateur station, other than W and VE, who can submit list showing ten or more two-way cw or phone contacts with different members of the Willamette Valley DX Club (WVDXC). QSL's need not be submitted but contacts should have been confirmed by QSL. All contacts should date AFTER January 1st, 1956.

Applicants must send their lists to W.V.D. X.C., P.O. Box 55, Portland, Oregon. WVDXC members are: W7's, AC, AGS, AMX, ASG, AOZ, DAA, DJY, DZL, ECI, ENW, FB, FMX, FZA, GBW, GHB, GJ, GXA, HIA, HKT, HQC, HXG, IQI, KVG, LVH, MVC, NKW, PB, QLE, QON, TMF, TML and UAB.



Our own George Jacobs, W3ASK, Propagation Editor of CQ suddenly found himself looking into my Minox.



Juan Lobo Y Lobo XE1A (XF1A) operating his KWS-1/75A4 SSB station in the CQ SSB Contest. Bill Auld W2DXD, well known RTTY'er, watches in amazement as Juan knocks off a few dozen contacts. Juan has a "pipe line" into almost every corner of the States and has probably won more DX contests than anyone else in the world. This combination of exceptional signal, exceptional operating ability and exceptional location make him hard to match.

Publicity

A letter from Buzz Sadler, W3ERJ, encloses a couple samples of the column that he is providing the local weekly paper. The column is full of chit-chat about the activities of local hams plus some details on what ham radio is and how to go about learning more about it. Buzz points out that many papers might be interested in such a column if you would only approach them with the idea. If you want to get in touch with Buzz about it his QTH is: 815 Holland Avenue, Wilkinsburg, Penna.

Homemade Crank-Up

One of the most frustrating things about rotary beams is getting at them for tuning and repairs. The advent of crank-up towers has



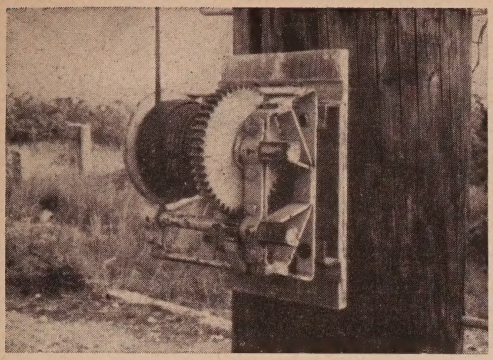
Lloyd Colvin W6KG (DL4ZC) talking over the problem of DX QSL'ing with Editor at the Fresno DX Convention. There certainly seems to be a need for some sort of organization to help DX stations get W/K QSL's.



High level conference at the January DX Convention in Fresno. Front row seated are OH2SF, VP2VB (Danny of the Yasme), W6HNX/VP5FH, W7KVU. Seated are W7SFA, W3DVC, W2NSD (who?), W9YFV, W6ITH/FS7RT/PJ2MC/etc, W6RRG/VP7NG, and W6KG/DL4ZC/etc/etc/etc etc/etc/etc/etc/etc/etc/etc . . .



Steve Biddle K6EWL, well started toward an all time high in countries worked. He is well over 200 already and is going strong. Steve is also quite active in the Southern California DX Club.



Close-up of the drum and ratchet.

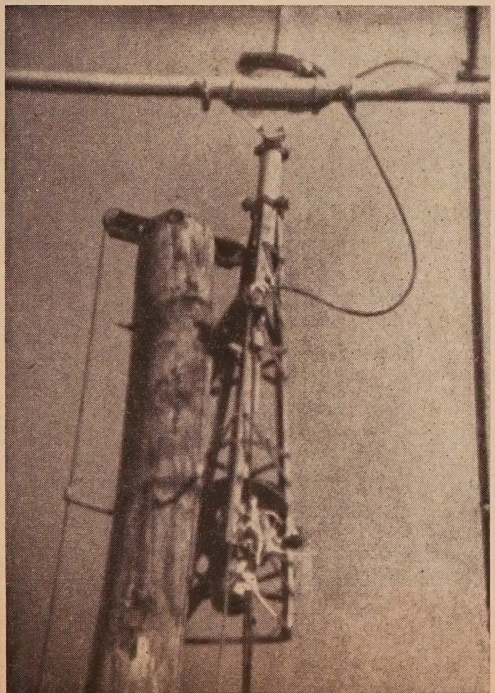


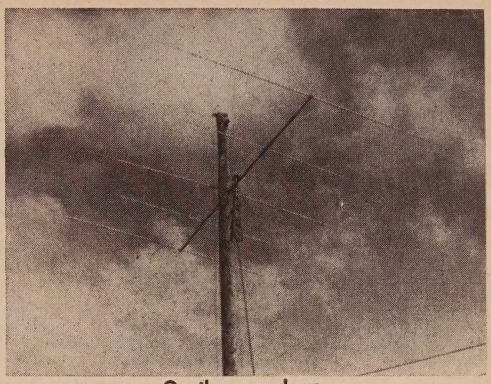
"It cranks down real easy" says Bill..

helped this to a degree, but what of the chap with a telephone pole mounted beam?

As you may be able to perceive from the photos Bill Thomas, KV4BB has solved this challenge. The drum and ratchet device was purchased from an auto supply company. From

Binocular view of the pole top showing pulleys, beam in place.





On the way down.

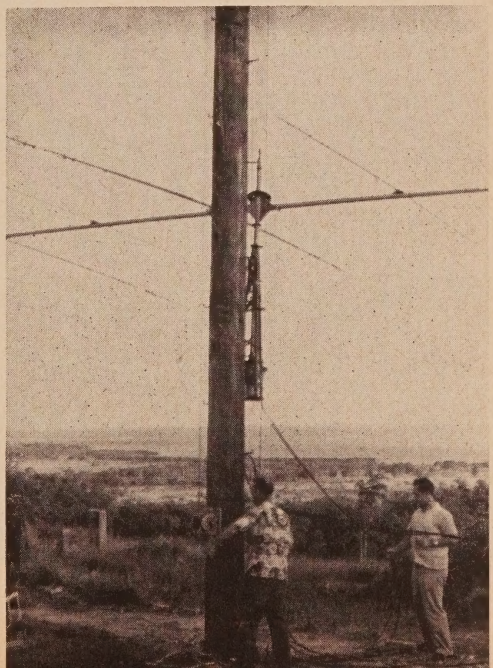
it a heavy wire runs over two pulleys on top of the pole to raise and lower the beam and rotator. The track it runs on is made from two heavy wires which are suspended from angle irons at the top and bottom of the pole.

It has survived the usual Caribbean hurricanes.

Miniature QSL's

When someone comes up with a new and original idea I like to give them credit. Well, W4UHV has done it. He is in business turning out "QSL Miniatures". As near as I can make out from the one made for me Bob takes a colored photograph of your QSL card, cuts out the print of it and seals it in plastic. This is then glued to a regular badge type pin arrangement. This is excellent for hamfests, club meetings, etc. You'll find out where to send back in the Classified section. They cost a buck.

KV4BB cranking down beam while K5DPR tends the coax.



VHF Contest

Sam Harris, W1FZJ
P. O. Box 2502, Medfield, Mass.

Hoopla!

Proclaiming to the entire environs of the world the forthcoming, stupendous, colossal and magnificently unique "CQ" world-wide, VHF contest.

WHO: All radio amateurs with VHF equipment anywhere, yup, *anywhere* in this wide, wide world.

WHEN: From 8:00 P.M. local standard time Saturday, August 24th, to 8:00 P.M. local standard time Sunday, August 25th.

WHY: To promote VHF operation throughout the world, and provide VHF'ers with a chance to see if their rigs still work.

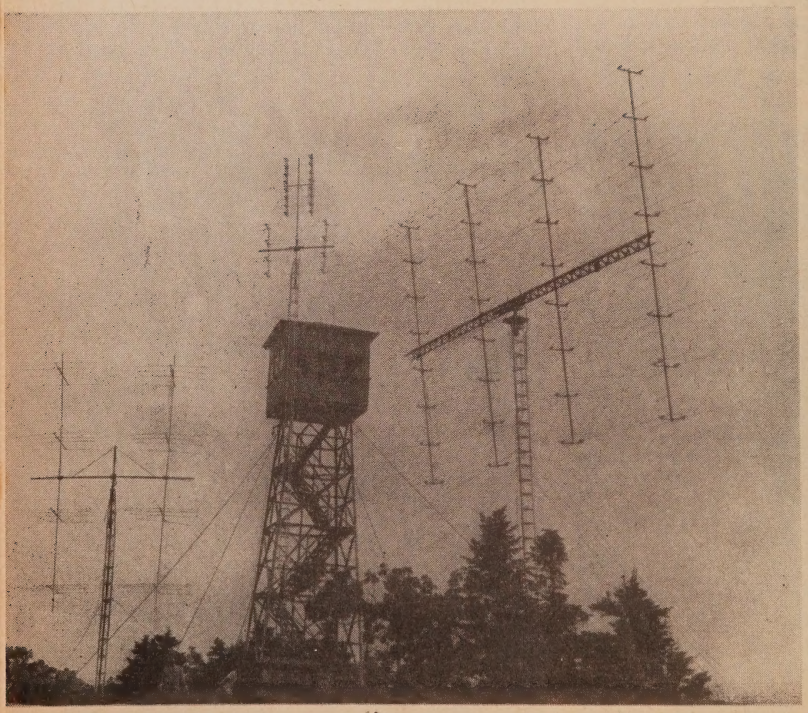
HOW: Just get on and call CQ—Contest, and hang on to your hat, but follow the———

RULES:

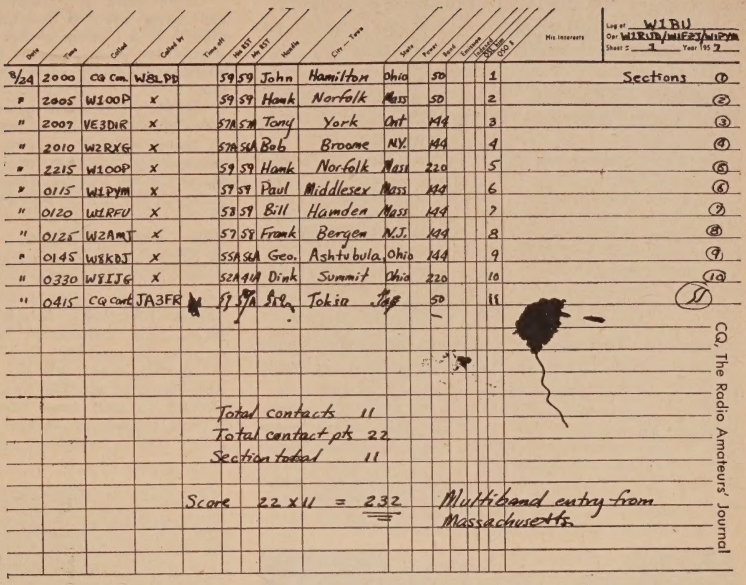
(A) **Single band operation:**

(1) Single band operation on any one of the VHF bands may be considered for award.

(2) Contest contacts on a single band must contain the following information exchange: Section and state (or country),



Portable 128 on two meters, 32 on six meters, 32 on 1.4 meters and 64 on 0.7 meters. W1HML/1 scores again.



Log at W1BU
Operators W1RUB/W1EFT/W1PYM
Sheet 1 Year '57

Date	Time	Called	Called by	Time off	Sent RST	Rec'd RST	Handle	City — Town	State	Power	Band	Location	144 Mc	220 Mc	420 Mc	His Interests
8/24	2000	CQ Cm.	W8LPD		59	59	John	Hamilton	Ohio	50						Sections ①
"	2005	W1OOP	X		59	59	Hank	Norfolk	Mass	50						②
"	2009	VE3DIR	X		57A	58A	Tony	York	Ont	144						③
"	2010	W2RXG	X		57A	58A	Bob	Broome	NY	144						④
"	2215	W1OOP	X		59	59	Hank	Norfolk	Mass	220						⑤
"	0115	W1PYM	X		57	59	Paul	Middlesex	Mass	144						⑥
"	0120	W1RFU	X		58	59	Bill	Hamden	Mass	144						⑦
"	0125	W2AMJ	X		57	58	Frank	Bergen	NJ	144						⑧
"	0145	W8KDJ	X		55A	56A	Geo.	Ashtabula	Ohio	144						⑨
"	0330	W8IJG	X		52A	41A	Dink	Summit	Ohio	220						⑩
"	0415	CQ Card	JA3FR		57	57A	Sig	Tokio	Jap	50						⑪

Total contacts 11
Total contact pts 22
Section total 11

Score 22 x 11 = 232

Multiband entry from Massachusetts.

CQ, The Radio Amateurs' Journal

Sample log for the VHF contest. Logs can be obtained from CQ Magazine, 300 West 43rd St., New York 36, New York. $1.00 per 100 (2 pads).

signal report, contact number, and handle. Also, two way acknowledgement must be made.

(3) Sections are as they were in previous contests. That is, a section in the U.S.A. or Canada is the county in which the station is located. In other countries, the equivalent political subdivision (ie, cantons in Switzerland, etc.) counts as a section.

(4) Scoring is as follows: each contact completed counts two points (uncompleted contacts count zero); the total number of sections worked times the contact point total gives your score. This means, if you have

200 contacts you have
400 contact points (200 x 2)

and if you have 55 sections your score will be 55 × 400 = 22,000 points total

(5) Awards will be made to the highest scoring stations on each VHF band in every state or province in the U.S.A. and Canada, and to the highest scoring stations on each VHF band in every country that reports are received from.

(B) **Multiband operation:**

(1) Multiband operation must consist of contacts made on *at least* three (3) VHF bands.

(2) Contacts must contain the same information as the single band rules specify.

(3) However, a given station may be worked once on each band and his section counts on each band on which he is worked.

(4) The total score consists of the number of contacts times two points per contact multiplied by the multiband section total. The multiband section total consists of the sum of the section multipliers for each band. For example:

Band	*Contacts*	*Contact Points*	*Sections*
6 Mtrs.	65	130	30
2 Mtrs.	35	70	25
1¼ Mtrs.	10	20	10
¾ Mtrs.	5	10	5
¼ Mtrs.	2	4	2
Totals		234	72

Total score would then be 234 × 72 = 16,848 points.

(5) Awards will be made to the highest scoring multiband station in every state, province, or country as before, and the Microwave Associates VHF Trophy will be awarded to the world's highest multiband score. (The trophy is presently held by OL' John, W8LPD).

(C) Logs should be sent in following the sample log form in the accompanying figure. Please, fellows, let's try and be uniform. It makes log checking so much more fun. Logs can be obtained by writing CQ Magazine, 300 West 43rd St., New York 36, New York.

(D) Logs should be postmarked no later than September 15th, 1957, in order to be counted in the results. Mail all logs to

Log Department
Microwave Associates, Inc.
Burlington, Massachusetts, U.S.A.

Mail all complaints to **Rhododendron Swamp VHF Society.** Attention **W1BU, P.O. Box 2502, Medfield, Massachusetts.**

Syracuse V.H.F. Round-Up

"This year's 'Round-Up' will be October 12th, same place, Martins' in Liverpool. This year we will take over the entire place, so there will be plenty of room for all."

Don't miss it. It's the biggest shindig of the year. You have my personal guarantee. It is absolutely guaranteed to provide you with an

opportunity to meet all and sundry VHF'ers. I'll be there and if enough of you write to Ed, I'll bet he'll come too. (Also, that is.)

Alameda, California News of Portable Operation comes from Jack Flagg (W6EXY) in California:

"Will be operating W6EXY/7 in Nevada on six meters from July 27th to August 9th, in the vicinity of Carson City, Reno, and Virginia City; also Mt. Rose, elevation 10,800 feet. I will be operating on weekends from fifty to fifty-one megacycles with a Gonset and two element beam. Will QSL and confirm all contacts from Nevada." *Good luck to you, Jack, hope you have some decent skip openings from those Nevada locations. All you boys who need Nevada had better keep your ears peeled.*

Memphis, Tennessee One of the dependable skip stations (here in New England), namely Lee (K4DJO) sends the following dope:

"Would like to put my two cents in about six meters. First of all we have the Tri-State Net, which meets each Sunday morning at 0800 on 50.1, Alabama, Mississippi, Arkansas and Tennessee check in. I keep a regular sked with W4AZC in Birmingham, Alabama, which is over two hundred miles and is amazing for six



Jeep and trailer loaded for bear. W1RUD at the controls. Pat lurking in the background.

meters in this vicinity. We have thirty-four stations on the early list.

"I am running around a hundred watts now with a four element beam which I crank up to 107 feet. Have worked forty-two states and have worked K4JXE, Ed, on single side band.

"W5GPH, Bob, at Hernando, Mississippi, will be back on the air in a short time with five hundred watts on six." *Good luck to the Tri-State-Net and all of the boys down your way, Lee. Almost checked into the net myself the other day when the band was open on Sunday morning. Anyway we worked several of the stations who were trying to check in, but were having tough sledding doing it.*

Oak Ridge, Tennessee From Bob Affel (W4TDW), we received a question or two.

"When you have a minute I would appreciate a sketch of the antenna that Helen (W1HOY) is using on six.

"I also wonder if you or some of the other W1 stations would be interested in some weekend skeds on two? I am hopeful of getting set up for some expeditions to Clingman's Dome (elevation 6600 feet) in the Smokies later this summer. Previous best dx from this location was W2RH (650 miles) in 1949." *Now you know, fellows, where to point your beam when you're looking for dx this summer. All of the boys will be looking for you I'm sure, Bob, and hope you'll get lots of skeds.*

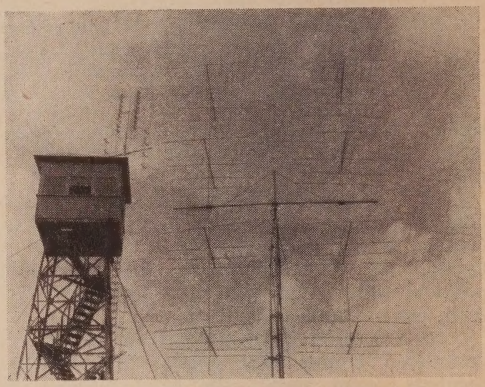
Bowling Green, Missouri Missouri comes forth (other than six meter skip) via Ed (WØLFE):

"VHF gang in Missouri and Illinois in a circle about 200 miles around Bowling Green, Missouri, are planning on a 'get-to-gether' here, Sunday, July 14th." *Afraid the letter was too late for advance notice Ed, but you'll undoubtedly have plenty from that territory at the "do."*

"It should increase activity and interest in this area; we are pushing two as hard as we can. We have about as many contacts on two as we do the other bands, as we are about eighty-five miles from St. Louis and it's thirty miles to the closest ham." *Keep pushing two meters, Ed, we're pushing right along with you.*

San Luis Obispo, California Jim Lorch (K6QZG) writes a nice, newsy letter:

"Thought you'd like to know that there are thirteen more stations on six meters through the efforts of Jack Coffelt (W6AGF) formerly W7BOU/6. It all started when Jack transferred here to California State Polytechnic. He couldn't find anyone to talk to on six with his mobile. I saw his car one day and left him a note. The result of all this was that the outfit he and I built worked so well (*and then the band opened up*) that it was copied by several members of the college ham club. (With modifications, naturally.) Now Jack has



32 elements on six meters consists of 8 Finco 4 element wide spaced beams. Half wave stacking between beams. (Good for 320 contacts in 29 sections on six.

lots of people to talk to! I like to think we dragged or lured a few people out of the seventy-five meter rut. I'm graduating so I can make remarks like this. *Wondered how you had the nerve.*

"We've had one north-south opening and several of us managed to work Washington and Oregon in spite of our lack of beams. Only one beam in the group. Also one opening to New Mexico, naturally my receiver was out of whack! *Natch.*

"We have no organized net but all of us have a 50.1 crystal for rag-chewing and a 50.4 crystal for C.D.

"All of the men are electronic engineering majors here at Cal Poly except me. I'm a mechanical engineering major.

"Stations on the air so far are W6AGF, K6's BYY, CHI, CHK, COY, CPF, GSJ, HPR, QZG, RMX, ZFP, ZOC, and ZOH.

"Two of these stations monitor 50.1 nearly all the time so anyone driving through San Luis Obispo should get a contact if they speak up." *We'll remember that, Jim, if and when we get that far from home.*

Cleburne, Texas M. R. Strayer needs help, how about some of you boys in his territory getting in touch?

"I'm very much interested in constructing the six meter converter by Amp (W2SHU) but not being too

familiar with the practice, I need help. Furthermore I want it for a fixed frequency of 37.180 mc. I plan to use a crystal of 35.680 mc, so I can tune to 1500 on my car receiver.

"My main problem is the coils, so if you would please give me the needed coil winding, wire size, and size of coil forms, etc." *O.K. fellas, the address is 416 Marango Street, Cleburne, Texas. No call included.*

Dresden, Ontario, Canada Jack Emerson, (VE3DSU) winner of the Ontario section "CQ VHF Contest" (Spring) sends us the following information:

"The rig on two meters is a 522 driving an 829 B. The rig on six meters is a 12AT7 2E26 running twenty watts.

"On two the receiver is a converter feeding into the HRO-7 and the antenna is a twenty-four element colinear array.

"On six the receiver is a converter from the handbook into the HRO-7 and the antenna is a four element yagi. TVI is quite bad on six, so I can't operate much there.

"The local radio club has thirty crystals for two meters and several new stations are already on in Chatham about fifteen miles south." *Thanks for the dope, Jack, the gang will be much interested.*

Hawaii We received a long letter from Ed, KH6NS, informing us of his activity on six meters during the latter part of March and all of April, and the first week in May. Looks very good to us. Among other things he worked LU2's, LU3's, LU4's, LU6's, LU7's, LU8's, LU9's and LU1's. *Wonder what happened to LU5?* Also worked CX1's, CX2's, CX5's. Aside from those contacts he also talked to CE2 and CE3s. Oh well, maybe we'll do it too. Ed also said the LU9MA informed him that the carrier on 49.350 is from Montevideo, Uruguay, and is on twenty-four hours a day.

Jacksonville, Florida Bob Murphy (no call included) emits with:

"The six meter band is dead here, now, (May 25th) but several of us plan to be up there within the next month or so. *Hope you made it sooner, Bob, 'cause the band has opened up a LOT.*

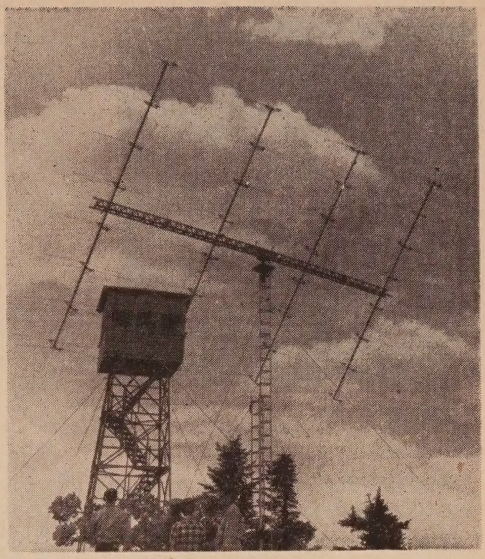
"We have a two tube converter now for six, but like the looks of the circuit W2SHU uses which you published in this month's issue of 'CQ'. Would you please send the layout which he offered if you have it? *'Twill be in the next issue, Bob, glad you're interested.*

Chattanooga, Tennessee Charlie Curle (W4TDZ) sends us bits and snatches of gossip concerning his territory.

"I'm not too much of a new hand on six and two (*excuse it please, Charlie*), been on two for six years and on six for two or three years. Both bands off and on. And I have Vermont confirmed too! *Smitty always QSL's.*

"When I arrived back here yesterday from my trip to the Radio Parts Show in Chicago, I was informed that the six meter band had been open continuously since I had left. (That's usual.) Run home, and what? The band is dead. *But of course!*

"W4IKK is waiting on the card for the 43rd state confirmation on six meters, Vermont. W4LNB has worked about forty states and is reworking the states he has worked before but doesn't have a card. (*From Vermont, I guess.*) W4TDZ is looking for trees. (*We've got 'em, but you have to come get them yourself, Charlie.*) W4ARI is finishing his new shack and should have his permanent set-up going shortly. W4UNS is building a new final using a pair of 4-65A for six and two.



128 element two meter beam atop Pack Manadonock mountain. In addition to rotating, it tilts.

"Met the editor of some obscure radio magazine while wandering through the elevators of the Conrad-Hilton in the wee hours of the morning. *Funny where and when you meet that man.* Week before I did subscribe. Now can I work W1HOY? (I'm the guy next to the bottom in that pileup.)" *Heard you, Charlie, you're not at the bottom at all. You're the guy next to the guy next to the guy, and getting louder all the time. Then the band closes down.*

Detroit, Michigan John Flinn (W9QQG) sends word of portable operation on the Great Lakes.

"Just a word to let you know that the S.S. South American will have a two meter station on board from mid-June until mid-September. The calls and operators will be Jim, WØUFH and myself, John, W9QQG. We will be sailing the Great Lakes and traveling weekly from Buffalo to Duluth.

"Will be feeding a communicator into a ground plane antenna. Please tell the gang to keep an ear open for us. QSL cards may be sent in care of the wireless department—S.S. South American, Foot of Bates Street, Detroit 26, Michigan." *Fine business, John, they'll all be looking.*

Tulsa, Oklahoma Les Schneider (W5IPY) gets to us sooner than the next guy with the following:

"This is to let you know that there is still six meter activity in the Tulsa area. There are about eighteen or twenty-six meter stations regularly and ten of us are mobile.

"There has been a small feud between 75 and six meters for some time. However, like a true southerner, 'The South shall rise again.' Six proved itself a hundred times over during the recent floods and tornados that have been plaguing this area. To quote W5ZBI, Phil Garver, 'The 75 meter boys strained for every word that went through.' This was due to QRM and QRN. Six meters was rock solid copy. Most of the mobiles were from six to thirty miles from Civil Defense Headquarters, W5NDE. They were running from two to twenty watts. C.D. had two Gonset Communicators, a forty foot pole and a vertical ground plane. 75 had a Viking Two wired to a Windom and most of the thirty to forty men in the field sported a 6146 or better.

[*Continued on page 116*]

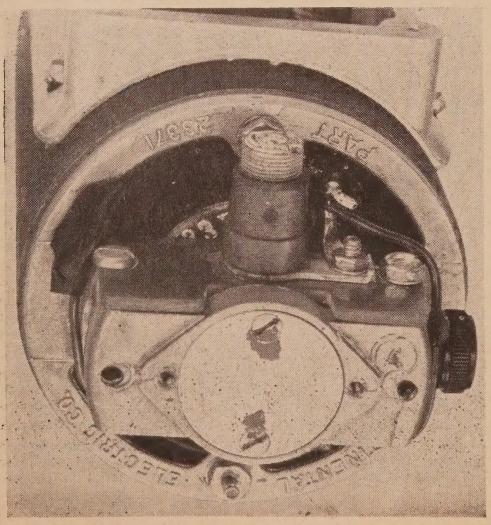
SURPLUS

Donald L. Stoner, W6TNS
P. O. Box 137
Ontario, California

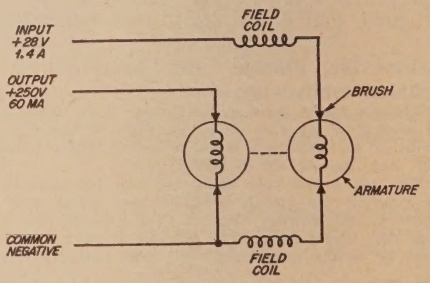
Full Dynamotor output with ½ the input voltage

With all due modesty, I must say that this conversion article will probably benefit more hams than all the others put together! It amounts to a very simple method of using 24 volt dynamotors on 12 volts and 12 volt dynamotors on 6 volt supplies. The cost of war surplus dynamotors varies inversely with the input voltage and 24 volt units are a "drug on the market," selling for next to nothing. Actually, the method of modifying the brushes is nothing new and was passed along to me by Ken Williams, W6MJU. In checking with Bud over at G. L. Electronics, I find that he was also aware of the modification trick. Maybe everyone knows about it, but I rather doubt it. Before we reveal the secret, let's run over a little dynamotor theory for the benefit of newcomers.

The business end of a DY-8 dynamotor showing the method of moving the brush 90° to increase the output voltage.



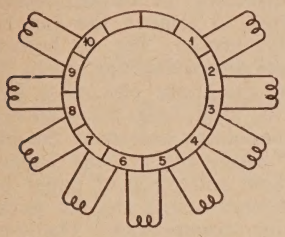
By definition, a dynamotor is a motor driven d-c generator which converts low voltage direct current to high voltage direct current. Unlike a motor generator, the low voltage and high voltage windings of the dynamotor are mounted on and around one shaft as an integral unit. (a la the CQ Mobile Handbook). If the output is a-c rather than d-c the unit is known as an inverter. In addition to the low and high voltage windings the dynamotor contains a field winding that is common to both armature windings. Fig 1 shows a typical dynamotor such as the war surplus DY-2 that



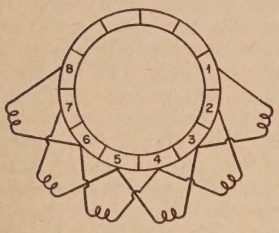
Schematic diagram of a typical dynamotor such as the DY-2

was used with the Command Set receivers. Since it uses 24 volts, it is useless to 99% of the hams. The problem therefore, is to make the dynamotor produce the same output voltage (roughly) with only 12 volts applied to the input. Without modifications, the DY-2 will produce about half voltage at full current with only 12 volts applied to the input. Obviously, 125 volts would not be enough to properly power a Command Set receiver. At first glance one might think that the field coils could be parallel connected to produce more input current and more output voltage. Unfortunately this is not the case. If the field coils are parallel, the primary current will increase and the field will increase. However,

this increased field will slow down the rotation of the dynamotor, and since the output voltage is a function of the speed of rotation, the output voltage remains essentially the same. All you get for your time and trouble is a loss in efficiency! Connecting both fields in parallel with the input results in the same losses, only worse. As long as the field coils for the "motoring" section are common to the "generating" section you've had it boy!



SIMPLEX LAP WINDING



MULTIPLEX LAP WINDING

Fig 2.

One Way To "Beat the Rap"

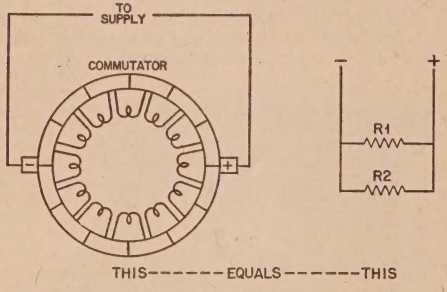
The CQ Mobile Handbook shows us the light. Most military dynamotors are wound in what is known as a *"Simplex lap winding"* as illustrated in fig. 2. In this type of winding a coil will start at commutator bar #1 and end up on bar #2. The next coil will start on bar #2 and end up on bar #3 and so on until the coils have gone all the way around the commutator and have returned to bar #1. This places two wires on each commutator bar, one above the other in the soldering slot. The brushes are applied to opposite sides of the commutator. The equivalent circuit amounts to a bunch of coils in series and each half connected in parallel. Current flows in the negative brush, splits, and flows evenly through both "halves" of the commutator.

Again stealing material from the Mobile Handbook we find that any dynamotor may be reconnected to operate on half of its original voltage by changing the commutator connections from the simplex winding to a multiplex winding as shown in fig. 2 also. If this is done, simplex lap dynamotors will deliver substantially the same output voltages on 12 volts that it was designed to do on 24 volts. This is the most effective method of converting a "wrong voltage" dynamotor, but it is a wee bit of a job and I'm lazy.

In effect the simplex-multiplex modifications increase the input current by decreasing the armature resistance. Sure this increases the field, but it increases the speed too and they equalize each other. The motor will run at just about the same speed that it did originally, and the armature resistance will be roughly half what it was originally.

The Easy Way

Examining the equivalent circuit of the armature, we find that we have two equal value resistors connected in parallel (fig. 3). For the purposes of explanation, let's assume R1 and R2 are each 1 ohm, and the supply is 24 volts. Since R1 and R2 are in parallel the resistance is .5 ohm and with 24 volts applied, 48 amps will flow in the armature. Now, assume that we apply 12 volts to the armature. Only 24 amps flow in the circuit, the dynamotor slows down and produces half output voltage. If we could reduce R1 or R2 and ignore the other resistance we can bring the armature current back up. Aha! you're way ahead of me or else you peeked at the photos. You simply move one of the brushes around on the commutator with respect to the other one! That was easy, now let's see what we did. If the brush is moved half way around toward the other brush R1 (let's say) is reduced to .5 ohms and R2 goes up to 1.5 ohms. By ohms law, we find the total resistance is .38 ohms. Connected across 12 volts, the dynamotor will now produce more than half voltage. In fact, with the brush moved 90° in *the direction of rotation* the dynamotor will produce .75 of the original output voltage (188 volts in the case of the DY-2). Naturally, the input current comes up in direct proportion to the decrease in the armature resistance (you just can't get something for nothing anymore!) By moving the brush to roughly 135° from its original position, you can obtain exactly the same output as before, but with half input voltage (and double input current). Now, what's wrong with this scheme? Strangely enough, the efficiency of the dynamotor (in-

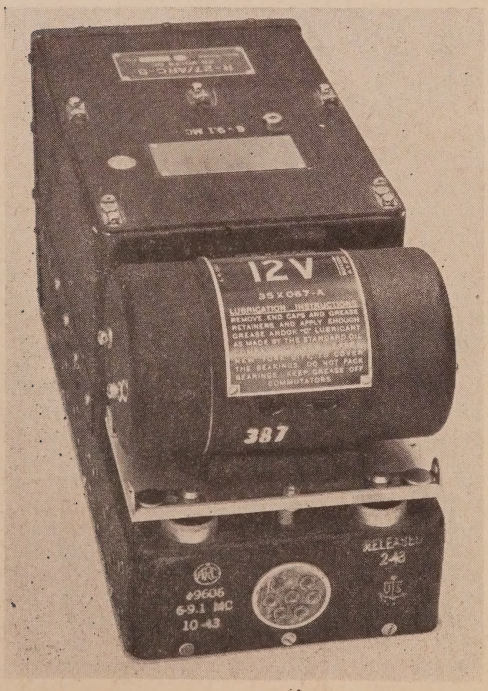


Equivalent circuit of the commutator

put watts versus output watts) does not change appreciably! However, if you examine fig. 3, you will find that more current flows in R1 than was originally intended while R2 literally loafs along. The more the brush is moved, the more R1 is overloaded. Generally, military dynamotors are 100% under-rated for intermittent service. In practice, moving the brush 90° will not harm the dynamotor under continuous conditions, and for amateur applications (intermittent operation) you can push it even further. You will reach a point of overload where the solder joints on the commutator will start "throwing solder." When you reach this point, *back off!* If you have several of one type, you might experiment to see how much you can get away with. When you move the brush, it is a good idea to check the efficiency of the dynamotor. This may be determined by placing a load on the output and checking the input and output watts (volts x current). The efficiency will usually run around 55 to 65%. If it is less you probably have excessive friction (brush tension, etc.) or shorted commutator segments. If it is higher than this, check your meters chum. You will probably find that the efficiency will "peak up" at the recommended load current, i.e. the efficiency will fall off above and below this current.

Fig 4 shows a DM-28 that was converted to operate from a 6 volt automobile battery. The original 12 volt tubes in the Command Set receiver were replaced with the 6 volt equivalents. With the dynamotor producing 190 volts, the performance of the receiver is more than satisfactory. (I am red faced to admit that I forgot to remove the end bells to show the 90° brush). Fig 5, however, shows one method of moving the brush. This is a close up of the input end of a DY-8 dynamotor that is used with the Command Set transmitter modulator known as the MD-7. The original brush holder was removed from the end frame and piece of paper base phenolic was mounted across the flat portion directly above the commutator. The brush holder was secured to this insulated plate and re-soldered to the original field wire. It is important to maintain the same brush pressure and make sure that the brush is parallel to the commutator segments. Do not be surprised if the output voltage is a little lower than calculated until the brush wears in, in this new position. You may notice that the brush holder that was moved has no cap on it. Frankly, the end bell wouldn't go on because of the extra thickness of the phenolic board so the spring clip was secured lightly with a drop of solder.

A DM-28 that was converted as described in the text, by moving the brush. Originally the dynamotor operated from 12 volts but was modified to power a Command set receiver rewired to 6 volts.



Surplus News

At the risk of stealing food from the mouths of the personnel in the CQ department, I must pass along a bargain to you. Columbia Electronics has a special going on BC-605 intercommunication amplifiers. Believe it or not, but they are selling them for 99 cents apiece, plus shipping. They have such a big pile of them that they could give them away and still make money! The BC-605 is the companion interphone to the BC-603 and BC-604 frequency modulated tank transmitter and receiver. This dandy interphone contains 2 1619 (instant heating 6L6's) a carbon mike to high impedance grid transformer, a plate to high or low impedance headphone transformer that should make a good 5 watt modulator transformer plus a host of other goodies. This is all wrapped up in an ugly olive drab cabinet that would house a terrific mobile rig. If interested, see The Columbia Electronics Ad in this issue.

Maybe if I let you in on my source of surplus bargains the volume of mail will drop somewhat. To be perfectly honest with you I receive a magazine appropriately titled West Coast Ham Ads which carries ads for almost every surplus dealer in Los Angeles. Since it is a highly competitive market, they usually have a special on something or other, each month. As an example that is where I got the dope on the GL-446's, at four for a buck.

WCHA has, in addition to the surplus goodies, many pages of interesting theory, news and best of all, losts of classified ads by hams who are practically giving their equipment away. Subscriptions to WCHA can be obtained by writing to West Coast Ham Ads, 10517 Haverly St., El Monte, California. The cost per year is $1.00.

Letters to the Editor

Dear Don: Could you please send me a parts list of the power for the AXT-2 transmitter or do you have a conversion article with drawings of the transmitter and power supply? I have a UHF receiver, Model RDZ, 10 channel crystal controlled with an a-c power supply. It has about 18 tubes and was made for the Navy to cover 200 to 400 mc. James R. Frale, P. O. Box 357, Braddock, Pa. *I did a conversion of the AXT-2 for West Coast Hams Ads some time ago, James. However, there were some bugs in it, so proceed with caution! The RDZ and its companion transmitter the TDZ are starting to show up on the surplus market at amazingly low cost. It operates as is on 220 mc and can be converted for 420 mc operation.*

Dear Don: I would like information on the TBY and DAK-3 to six or two meters. Also, I have a BC-654 so how about a conversion. How do you hook up the TV camera to the AXT-2 transmitter? Bruce C. Smith, K9CKW, 627 Evans Street, Platteville, Wis. *The TBY conversion is in the mill Bruce, and I am still trying to locate a BC-654 to do a conversion on. Regarding the AXT-2 dope, see the above letter.*

Dear OM: Recently I bought a BC-222. I was wondering if you can give the straight dope on this set or maybe tell me where to obtain some information. W1CWO, William Clay Jr., 487-70-28, SSC Bldg. 311, USNTC Great Lakes, Ill., 506/332 ET-"A" *Sorry, Bill, but the BC-222 is one of those items affectionately referred to in the trade as a "dog." It is a modulated oscillator and cannot be used on 10 meters. A conversion to include crystal control would be difficult because the same tubes are used for receiving and transmitting.*

Dear OM: I would like your opinion as to the feasibility of attaching the TV camera to a high powered telescope and viewing it on a TV screen. Roy LaBelle, KØEIC, Soo San, Rapid City, S. D. *Beats me Roy, I've never tried anuthing like that before.*

Dear Don: Please be advised the parts list for the RT-45/ARQ-1 is available by photostat from the Photo Duplication Service of Washington D.C. for $1.00. I would sincerely appreciate any information about this conversion especially for 6 meters. Russ, KN8ABF, 7066 Salem Road, Cincinnati 30, Ohio. *Thanks for the information Russ.*

Dear Don: I have purchased an SCR-522 transceiver. The only problem I have run into is the power. I have dynamotors, but they run off 28 volts in the plane. I would like to know what kind of power supply can be purchased or constructed to eliminate the 28 volt battery and dynamotor. Yours truly, Jimmy Wilson, KN5JQG/5, 2024 Turtle Creek Dr., Marshall, Texas. *You can obtain a conversion on the SCR-522 in the Surplus Conversion Manual, Volume 1 issued by Editors and Engineers, Santa Barbara, California Jimmy.*

Don: Yes! Pronto! TBY conversion, quick! Only portable rig at W9RHV. Summer pickni'n, too fat for baseball. Help! Larry Caldwell, W9RHV, 300 W. Bluff St., East Peoria, Ill. *I think this man wants a TBY conversion!*

Dear Don: I have aquired an ARC-4 2 meter transceiver. I understand the receiver can be made tunable and I would like information on how to convert the xmitter section for use on the Novice 145 to 147 section. 73 Max Hagland, WN3KLI (no address) *You can find a conversion on the ARC-4 in the November '54 issue of CQ Magazine, Max.*

Dear Don: I would like to get some dope on the RT-45/ARQ-1 along with Dave Baxter, W5KPZ of Tyler Texas. Dick Burggraf, W8PGP, 856 Orange St., Chillicothe, Ohio. *See The above letter Dick.*

Dear Don: I recently acquired a surplus radio receiver BC-AR-229 (12 Volts) made by Western Electric. It has two plug in coils. Ralph Peterson, 624 Haskins Avenue, Dayton 10, Ohio. *Sounds like a GF-11 to me Ralph, maybe some of the readers have converted one of these units.*

Dear Sir: I would like to know if a Navy CG-42AAG, Model ABA-1 is the same as a BC-645, Thanks, Jim Ladd, W8BJO, 592 Markle Avenue, Pontiac 16, Michigan. *As far as I know Jim, the ABA-1 is the Navy version of the Army BC-645.*

Gentlemen: I would like some information concerning the military field strength meter, test set #I-149 Victor M. Victoroff, M.D., 10528 Park Lane, Cleveland Ohio. *I don't have any information on this test set, doctor. I'll throw it up in the air and possibly one of the readers can help you.*

Dear Donald: Could you possibly help me in locating a set of coils for a BC-348R receiver. Particularly need the low band 200-5000 kc set as my receiver was modified at one time or another to receive broadcast by taking off turns. Several attempts at winding the oscillator coil back to normal use on this band have met with little success. Dave Berwick, VE8DB, Teslin, Yukon Territory, Canada. *How about it readers? Has anyone an old BC-348R that the coils could be pried out of?*

I have been receiving letters from several persons experimenting with amateur television and I am including some excerpts from the letters. Of particular interest was a letter from Carl Alsheimer, 111 Main Street, Waterville, N. Y. He writes:

I converted on the ATJ's two years ago for a-c operation. The unit works very well but I have had the misfortune of having a small section of the mosaic in the 1846 damaged. I am currently trying to obtain a new one at the lowest price possible. I constructed a top mounted monitor on my unit and have provided an r-f output on the power supply chassis. I am enclosing some pictures. Sincerely Yours, Carl. *Many thanks Carl and thanks for the excellent photos. They should be somewhere in the column.*

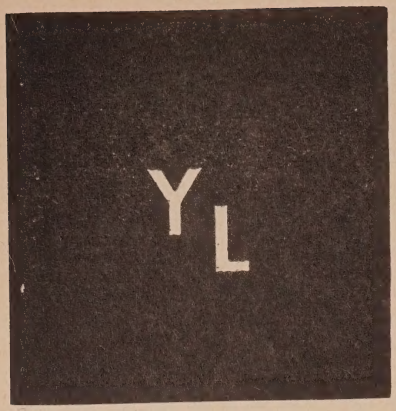
Dear Don: Read your article in CQ with much interest. We have a CRV-59AAA camera and there is some difference in the two. I wonder if you have any dope on it? The camera has a bias battery added and a 6H6 and 12 volt filaments instead of 24. The AAA series has an 829 r-f amplifier and a 6V6-6V6 oscillator amplifier transmitter built into it. Robert White, 116 Liberty Street, Morris, Illinois. *Sorry Bob, but I do not have any dope on the model AAA camera. In fact, I have never seen one. Possibly one of the readers can dig one up for you.*

Dear Don: I have had closed circuit TV for 3 months. My pictures are as good as those in your article (no bias folds at the top of the picture either– Hi). I have de-bugged a power supply for the AXT-2 and plan to be on the air soon. 73's Andrew, W1YAE. *Many thanks Andrew. Because of lack of space, I had to delete some lens modifications for close up work that Andrew included. However, we'll print them next month.*

Dear Don: Thanks to your seemingly complete article on the ATJ, I expect to have one operating closed circuit by the middle of June. However I also plan to put the BC-1212 on the air a little later on. Although I don't expect to have any trouble putting it on the 420 band, a follow-up article on the 1212 would be especially timely. Yours very truly, Dave Kiker, W5YSA, 715 Inwood Drive, Bryan, Texas. *Golly, Dave, I never heard of the BC-1212. Must be that it is the Army equivalent of the AXT-2 VHF transmitter.*

Dear Colleague: I read your "Surplus" section of CQ (April issue) with considerable enthusiasm. Bob Clark, W50IK and I are interested in associating ourselves with

[*Continued on page 114*]



Louisa B. Sando, W5RZJ
212 Sombrio Drive
Santa Fe, New Mexico

Young YLs

This column in the June issue of CQ was devoted to the younger YLs in the 7th call area. We continue now with others elsewhere around the country.

W3TTR, Eileen Jorganic, 18 years old of Pittsburgh, Penna., started with a Novice ticket when she was 12. Active on 10, 15, 20 and 40, she has completed her senior year in H.S. For photo and write-up, see CQ for April '56, p. 67.

W3UKJ, Mena Rose, 16 years old of Philadelphia, has been a Ham since she was 11. She is interested in 15 and 20-meter DX and net operation.

W3WML, Barbara Anders, 17 years old, has finished her senior year in H.S. and plans to go to Juniata College this fall. For two years she served as sec.-treas. of the Norristown High School Radio Club, W3CTG. Barbara got her Novice ticket at age 14 and her General in Aug. '54. She and her dad, W3FUS, share a DX-100, HRO-60, and ground plane antenna. She works 10 and 15 meters.

W3WML, Barbara Anders, age 17.



2nd International YLRL Convention

(With 9th National Amateur Radio Convention)
Aug. 30, 31 & Sept. 1, 1957
Palmer House, Chicago

Details of the program and nursery-playroom for the jr. ops appeared here last month. W9LOY, Cris, YLRL Convention chairman, urges YLs to register *before* the convention so they can plan a smoother program.

Pre-registration with banquet	$10.50
Pre-registration without banquet	6.50
Registration at door with banquet	12.00
Registration at door without banquet	8.00

The Grand Ballroom accommodates 1500 people for the banquet so get your registrations in early. If any group of YLs, such as clubs or nets, wish to sit together, their registration fees should be sent in jointly in groups of ten per table. If any YL planning to attend would like to be seated at a table with other YLs, send registration to **Marge Schum, K9EMP, 6223 N. McClellan, Chicago, Ill.**

K4AGM, Gwynn Collins, 18 years old of Pensacola, Fla., has completed her senior year in H.S. She was a straight A student, served as VP and also as secretary of the Pensacola H.S. Radio Club, and was art editor of the Pensy Hi Annual. She plans to study medicine in college. Other interests are swimming, skindiving, horseback riding, tennis, dancing and sport cars. She shares with her mother, W4AXF, Carrie, and her dad, W4MS-4RE, a B&W 5100-51SB, 10B multiphase exciter with 250THs in Class AB2, 75A4 receiver and 3-element beam.

K4DHA, Sarah Margaret Baker, 16 years old of White's Creek, Tenn. is the jr. YL of K4DIZ, Theda. It was Sarah's father, W4HHB, who got them interested. They started with Novice in May '55, followed by Technician's in July and General that November. Then a year to the day that they got their first licenses Sarah's dad joined the Silent Keys. Her mom operates a TV repair shop next door to their house. Their home rig is a DX-100 with SX-96 and a windom antenna. They usually work 75 or 10, both home rig and mobile. In the car they use an A-54H Elmac. Sarah has completed her junior year in H.S. and for the last three years has been a member of the Beta Club (an honor society). She also is a member of the Forensic Club and the Journalism Club and as a senior will be co-editor of the yearbook. K4DHA also serves as co-editor of the Nashville ARC's *Bandspread.* Other hobbies are playing an accordion and singing.

K4ETX, Anita Baker; K4GIA, Mary Baker, of East Point, Ga. Both are in school and hold General licenses, according to WN7DVH, Alice, Novice News gathered for *YL Harmonics.*

KN4LXL, Dolly Reynolds, of Messick, Va. is the 8-year old jr. YL of K4GKO, Rowena, and the granddaughter of KN4GUD, Ruthella.



KN5IAP, Paula Hardin, 11 years old.

Dolly, who will soon be in the fourth grade, has been working 80 cw.

KN5GFI, Beth Leak, is the 14-year old jr. YL of K5CRH, Marie, at Fort Worth, Tex.

KN5GXH, Suzanne Hanks, 14 years old of Shreveport, La., got her license just a year ago. She has been working 40 and 80 cw using an AT-1 transmitter, S-38D receiver and a long-wire antenna. K5BLC got her interested, but she says she's found it hard being the only YL in town. Suzanne enjoys all outdoor activities, especially camping in the summer.

KN5IAP, Paula Hardin, is the 11-year old jr. YL of W5VCA at Houston, Tex. Paula got her Novice ticket last Sept. and has been running 60 watts on 80 meters. School didn't allow much time for operating, but she has been studying for her General and no doubt will have it by the time this is in print.

W5ILO, Camille Storey; W5IOZ, Paula Bettis—These 12-year old YLs of McAlester, Okla. started with Novice tickets at the age of 10. For photo and write-up, see CQ for April '56, p. 66.

K6CQT, Louise "Ann" Brierley, 14 years old of Reedley, Calif., also began with a Nov-



K4AGM, Gwynn Collins, age 18.



K9DBD, Vicki Hess, age 17.

ice license at the age of 10. A write-up and picture of K6CQT appeared in CQ for July '55.

K6DPN, Lorraine Wiley, age 14 of Del Paso Heights, is one of an all-Ham family. Her mother is K6DPM, Rubie; father, W6GKW; brother, K6GPZ. Lorraine started with a Novice in Jan. '54 and got her General that Nov.

K4DHA, Sarah Margaret Baker, 16 years old.



She will be a sophomore in H.S. this year where she plays violin in the school orchestra. She also plays the piano and collects stamps. K6DPN is on 75 and 40 and shares with the rest of the family a Viking II, Viking VFO, SX-88, and a 70-ft. vertical antenna. Lorraine is "sunshine chairman" of the 3C's YL club.

KN6MTQ, Ann Deck, 10 years old of Palo Alto, became a Novice at the age of 8. A story and photo of Ann appeared in CQ for Jan. '56.

K6RQB, Jinny Kahle, 16 years old of Stockton, started with a Novice license in April '56 and got her General a year later. K6RQB can operate all bands but works mostly 40 and 10, sharing with her dad, K6TYQ, a Heathkit AT-1, an HRO-60 and a windom antenna. On phone she modulates the AT-1 with the amplifier from their Hi-Fi set. Jinny will shortly be



K6RQB, Jinny Kahle, 16 years old.

a junior in H.S. where she is a member of Thespians, drama club, and the Calif. Scholarship Federation. President of her church youth group, she also models for Culver of Calif. modeling school.

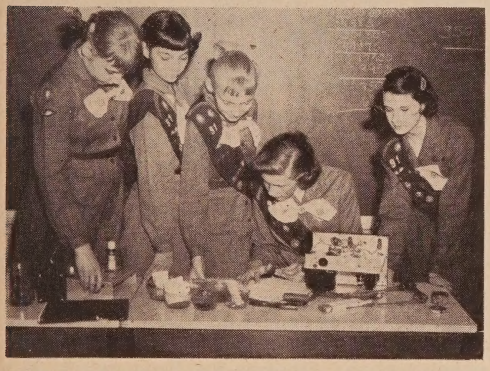
W7IGB, Barbara Snyder, Marlene McQueen, Vikki Veium, Joan Lawson, Rita Heindselman —These 12-year olds are another group of YLs that W7ULK, Rosella Hansen, has tutored in radio along with being their regular 6th grade teacher at Wilson School in Spokane, Wash. Barbara is W7IGB, and all the others have passed their exams for General but at this writing (two months after the exams) they had not yet received calls. Along with getting their licenses Barbara and Joan have put together their own Viking Adventurers, and Vikki and Rita have assembled Heathkit DX-35's with modulator. In her first couple of

months on the air W7IGB had made nearly 100 contacts. All Scouts, the girls feel that a merit badge for radio or electronics should be given to Girl Scouts as well as to the Boy Scouts.

W8HPP, Reta Bryan of Glouster, Ohio, graduated from high school a year ago and since has been working for the Forestry Service as a radio operator. She has served as NCS of the Ohio Fone Net.

K9DBD, Vicki Hess, 17 years old of Eau Claire, Wis., started with a Novice ticket in April '56 and dropped the "N" that Oct. Her uncle W9SLT, got her interested. K9DBD uses a Viking Ranger, S-20R receiver and an 80-meter doublet, operating 80 cw, 75 phone and 15 occasionally. Vicki is president of her local radio club, secretary of the Northern Wis. Radio Club and NCS for the Minn. Junior Net. She has completed H.S. and plans to attend college this fall to prepare for an engineering or teaching profession.

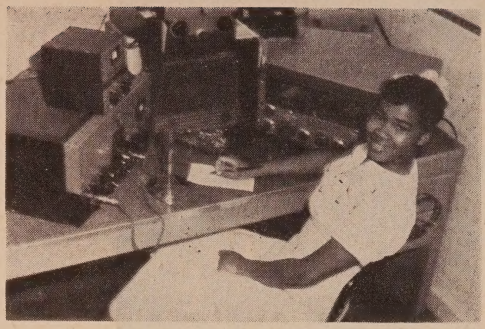
W9HIX, Martha Gunter, 18 years old of Alton, Ill., has completed her freshman year at Lindenwood College in St. Charles, Mo. Martha got a Novice ticket in June '54 while in H.S., and her General in Nov. '55. She served as VP of the school radio club,



These 12-year old YLs assembled their own rigs while studying for their General tickets in classes conducted by their 6th grade teacher, W7ULK, Rosella Hansen. L. to r., Marlene McQueen; Barbara Snyder, W7IGB; Vikki Veium; Joan Lawson; Rita Heindselman. All had passed their exams but at this writing, two months later, were still awaiting calls.

W9QNV. W9HIX consists of a Viking II, SX-100, 2-element 15-meter beam, dipole for 10 and long wire on 40, 80 and 20. 15 is her favorite for chasing DX. She also has WAC, WAS and RCC. Martha is especially fond of music and plays the flute, piccolo, piano and violin, having won several contests with the flute and piccolo.

WØVGE, Becky Jain, 17 years old of Colby, Kan., began with a Novice in June '54 at the



K6DPN, Lorraine Wiley, age 14.

age of 14. For a photo and write-up about Becky, see CQ for Jan. '56, p. 54.

To all of these young YLs, may you have many happy hours and friendships through your hobby. Let's hear from some more of you, especially the W1's and 2's.

Blue Ridge Net Picnic

W4HLF, Arlie, NCS, announces the annual net picnic will be held Aug. 18 at Big Meadow on Sky Line Drive, Va. For reservations at the Lodge or for cabins, write the Reservations Clerk, Virginia Skyline Co., Luray, Va. YLs are asked to bring an inexpensive gift to exchange.

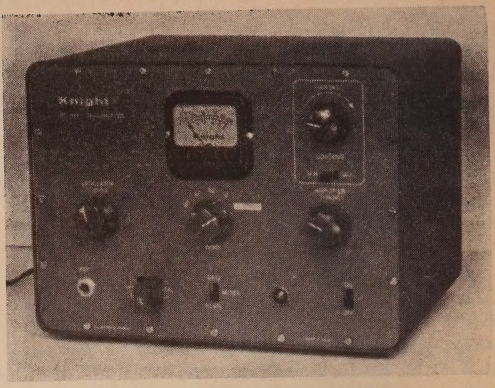
33, Louisa, W5RZJ

W9HIX, Martha Gunter, 18 years old.

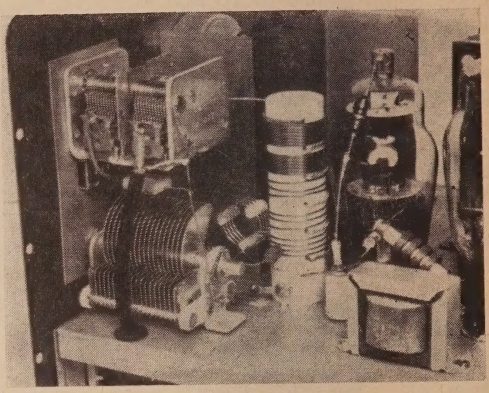


NOVICE

Donald L. Stoner, W6TNS
P. O. Box 137
Ontario, California



Knight 50 watter.



Interior view of modified transmitter.

With all this beautiful weather we're having in Southern California, I'm having trouble putting the column together. I took advantage of this antenna weather to put up a G4ZU beam, a la CQ, last week. It works much better than I expected and I have been coming on like Gang Busters on the 15 meter band. Better listen for me Tima, so that I can get on the list. To any of the readers interested in getting on the 15 meter Novice band, I sure recommend the G4ZU beam. You can always use the other two bands that it works on (10 and 20) when you obtain your general tickets.

So much for the "flowers that bloom in Spring, tra-la" bit, let's open the Novice Shack for business. I have received several requests for information on converting the Allied Radio (Knight) 50 watt transmitter to operate on the 6 meter technician band. Allied is always anxious to accommodate their customers and they promptly shipped me a rig to test the conversion with. Here's what I did to get it on the six meter band.

Converting the Knight 50 Watter to 6 Meters

This rig uses time tested and proven circuits and this made the job much easier. A 6AG7 is used as the crystal oscillator tube and the plate circuit is tuned to the crystal frequency on the lower ham bands. On 15 meters a 7 mc rock is used and the oscillator output is tuned to the third harmonic (21 mc). On 15 meters and all the lower frequency bands, the 807 final amplifier operates "straight through," and amplifies the oscillator signal to the 50 watt level. On 10 meters, however, the oscillator output is tuned to the second harmonic of a 7 mc rock (14 mc) and the final doubles to 28 mc. If we had another tube in the rig, it would be possible to drive the new tube with 25 mc energy, double to 50 mc and work straight through in the final amplifier. Since this would complicate the conversion I decided to drive the 807 with 25 mc energy and double in the final amplifier the same as was originally done on the 10 meter band.

Because of the switching arrangement in the Knight rig, it is necessary to change the 10 meter position to the 6 meter band. If you try to change a lower band to 6, it will foul up all the higher bands. To start the conversion, pull all the tubes to avoid damage and remove the shield that separates the two switch sections. Observe the front switch deck and rotate the switch between 10 and 15 meters. Notice that the "swinger" contacts the most *counterclockwise* terminal on 15. On 10 meters, however, there is no contact terminal. The next step is to solder a short wire to the 15 meter terminal and position it so that it contacts the swinger when the switch is in the 10 meter position. Position the wire so that not too much pressure is put on it. Actually, the wire should be placed so that the swinger will "wipe" the wire. This will avoid excessive wear of the silver plating. This completes the oscillator section, now replace the switch shield. Next, locate the 15K, 1 watt resistor (R3) between the 6AG7 and the 807 and replace it with a 150K, 1 watt carbon resistor. This will increase the drive to the final amplifier and is important as you will see later.

Locate the ground wire on pin 5 of the 807 that connects to the solder lug on the chassis. Remount this solder lug under the nut adjacent to pin 5 of the 807 and solder the lug directly to pin 5. This avoids any long wires that might cause instability. Install another solder lug under the nut adjacent to pin 2 of the 807 and connect a .005 mfd disc ceramic capacitor from pin 2 to the lug. Next, wind a coil ¾ inch in diameter with 4 turns of #22 wire. There should be a ⅛ inch spacing between turns. If you want to substitute a commercially manufactured coil, I used 4 turns of AirDux #608 coil stock for the 6 meter coil. Locate the most *counter clockwise* terminal of the rear deck of the band switch and solder one end of the coil to this point. Connect the other end to stator terminal of the *Amplifier Tuning* capacitor (see photo). That's all there is to the conversion, plug the tubes back in and let's fire up on six meters.

First results on 6 meters were very disappointing, but the trouble was quite basic. Doubling in the final as we are, means that the more drive we supply to the final, the more power we can get out of the final (up to a point, of course!). I discovered that the war surplus crystal that I was using was about as active as a caterpillar. Replacing the crystal with an 8.34 mc International crystal more than doubled the power output! So be sure you make your tests with a good rock (and don't get it in the VFO socket either!). Turn on the transmitter, switch the meter to the grid position. Depress the key and quickly tune the *Oscillator Tuning* knob for maximum grid current. If all goes "bully," this will occur with the oscillator knob at about 10 o'clock and the grid current will be roughly 2 ma. Place the loading switch in the *Max* position and set the loading knob to full counterclockwise. Again depress the key and turn the *Amplifier Tuning* for a dip with the meter switch in the plate position. The current will be 40 to 50 ma in the bottom of the dip. To test for power output, connect a small lamp across the antenna connector and increase the loading while readjusting the *Amplifier Tuning* until you hit 75 ma. This is roughly 35 watts input and I suggest that you keep it down to this level because the 807 will last longer.

There are several ways of getting more power out of the 807 on 6 meters. First, replace the straight wire between the loading capacitor and the antenna connector with a piece of RG-58 or 59/U coaxial cable. This wire is an appreciable part of a wavelength and does radiate some signal. Be sure to ground the braid at each end. Some of the 6 meter power is lost in the 807 plate parasitic choke. You can try taking off a few turns to raise the efficiency *but be very careful!* If you take off too many turns, the 807 will "go into business for itself" and you will have no control of the frequency that is emitted. Also, I noticed a resonant "hole" in the 807 plate choke, L5, at 47 mc. I replaced the choke experimentally, but the resonant frequency was far enough from 6 to avoid any trouble. Manufacturing tolerances such as they are, the choke in your rig might be closer to 6 meters. If the choke gets hot, try replacing it with an Ohmite Z-50 radio frequency choke and that will fix it. I have used the rig on 6 meters and it has created no TVI problem even with the antennas about 10 feet apart. However, in a fringe area it may be necessary to use a filter on the output of the Knight 50 watter to avoid Channel 2 interference.

Net News

Attention Texas Novices! KN5KNR and KN5KNQ are starting a net and plan on calling it the Texas Emergency Novice Net. KN5KNR will supply more information to anyone that writes Randy Bailey, P. O. Box 830, Huntsville, Texas.

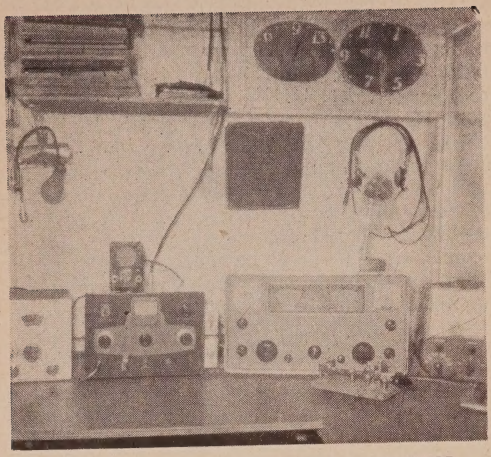
Another Texas Net is the North Texas Novice Net on the air 0700 CST, on 7180 kc every Sunday. Net control will be on 7176 to avoid QRM. Everybody is welcome. Write K5HTH so that he can put you on the mailing list. Ross, K5HTH, 3508 Austin, Amarillo, Texas.

John Edwards, 71 Armour Road, Mahwah, N. J., advises of another new net. Meetings are held every Tuesday night at 7:00 pm EDST on 7175 kc with a possible alternate frequency of about 7180 kc. There are 7 ops from 5 states at present and hopes are high for more soon.

News And Views

Indirectly, KN5HVW sends along the following idea. "How about a Trade Crystals Club? I think a lot of hams would like to exchange crystals at some time or another. Perhaps it would be a job for some radio club. Some means of checking incoming crystals would be necessary and care taken to send back a crystal of equal value. If some club wanted to raise some money they might make a small charge for the service. It should be on a no guarantee basis, but you would send in your crystal and tell what you want and then get as close as possible. In fact it might be well to hold their crystal a few days and if they are not happy with the trade they can get theirs back." Maybe KN5HVW's idea has merit if handled right. I can see lots of possibilities for a handicapped person to pick up some extra change by handling the crystals. What do you fellows think?

For Technicians only. The Dayton Amateur Radio Association, Inc., sends the following information from their publication *R-F Carrier* that will be of special interest to Technicians, on pepping up the International Crystals FCV-1 Six meter converter. "This printed cir-



The neat and effective station of Jerry, KN4ORP, 3401 Portland St., Portsmouth, Va. He has been on the air since April 24 and has confirmed 22 states. I don't know if it will show up in the reproduced photo but Snortin Mortin is setting on his Viking Adventurer and although there is VF-1 VFO (gasp) next to it, there is a crystal in the Viking socket (you're safe Jerry).

cuit gives broad band coverage of 50-54 mc with a sensitivity of about one microvolt. You can increase this to .2 microvolts on the low end of the band (50-51 mc) by using a high Q grid circuit on the 6AK5. To do this, remove the present coil and substitute one of #16 wire, about 6 turns, ¼ inch in diameter, tapped at two turns from the ground end for the antenna connection. This should be in parallel with a 20 mmf capacitor and then resonate the coil, by squeezing or stretching, to 50.5 mc. This coil should be mounted underneath the printed board so it will be further away from the plate of the tube. This simple change really makes this a hot lil' job."

Bill Rexroad, KØGDW, 2128 Green, Manhattan, Kansas, makes the following suggestion. "In the March '57 issue of CQ you had an article on a cw monitor (incidentally, I built Snortin' Morten and am using it with my rig). Instead of having a speaker on the output of Morten, one end of the secondary of the output transformer should be grounded and the other end then wired to the blank normally open contact on the Octopus, which will feed the audio to the phone jack. Thus, in the transmit position of the relay, the user may monitor his signal in his headphones. I hope this suggestion will be of some help to your readers."

Edward Marks, 3661 W. Ogden Blvd., Chicago 23, Ill., sends us the information on his $15.00 tower that he constructed for use at Bass Lake, Michigan. Unfortunately, things got a little crowded this month, so we'll postpone it until next time. However, I am including a couple of photos to whet your appetite.

Eddie Jones, KNØHQX, RFD #2, Salem Road, Excelsior Springs, Mo., runs a DX-35 and an AR-2. He has worked 13 states, 8 call areas and has had about 40 QSO's.



Help Wanted

Joe R. Schuessler, Box 664, Bixby, Oklahoma, is about ready to take the Novice test but needs some help.

Ronnie Howell, Red Ash, Virginia, needs help with the code and theory.

Dick Havican, K1ABS, 57 St. James Avenue, Chicopee Falls, Mass., offers to help any prospective Novice obtain his license.

Who's DX

We simply had to change the name of this section for now I am receiving reports on you fellows from Rundy, W3ZA/XV in Saigon, Indochina. Rundy writes "There doubtless are errors in my list due to high noise level and interference from European phone stations. However, every effort was made to get positive identification. Surprisingly, the best signals came from the 1st and 2nd districts and you will note only the 4th and Ø areas are missing." L. M. Rundlett, MSUG, Box 34, Navy 150, c/o FPO, San Francisco, Calif. Here are the lists that Rundy has sent to date: Calls heard in Saigon, Viet Nam on 21 mc May 1st to May 17, times are GMT. WN1YIS, KN6SXM, UUE, VKQ, YKW, WN7IVK, KN7IMZ. May 18th: KN6VHP, VKQ, YOD, WN7IAA. May 24th: KN6VKO. May 25th: KN6VNY. May 27th: KN1AIN/7, W4NPT, KN5IVA, KN6VSG, YYQ, WN7EML, FIB, HFC. May 28th: WN7EML, GMM. May 29th: WN3HQO, KN6YKZ. May 30th: KN6SXX, TFU, UJS, VRN. June 2nd: KN1ADQ, AOK, AWT, KN2UPD, VAC, VPR, YYH, ZSC, KN3AKO, JZR, KN5HKN, IAX, JEY, JOD, JSZ, KN6TLU, TPL, UBC, UJS, VNP, VPF, VRN, YSG, ZHO, WN7EQJ, FQD, CGX, GZT, HAL, HFC, IAA, IKK, INK, INP, ISM, KN8CLN, DWQ, KN9HQM. Congratulations, fellows. In case you are not aware of the location of Viet Nam, it is in the Southern end of Indo-China, and directly South of

communist China. Believe you me, it's a long haul from the States and everyone on the list deserves a stout pat on the back.

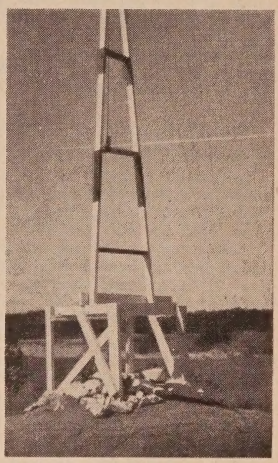
We also have Tima Popovic's list of calls heard in Yugoslavia. Just so the fellows operating on 7 mc wouldn't feel slighted, Tima included some of the calls that he was able to pull in on 40 meters. Also, it seems that you fellows have showered him with mail for he says in his letter that he and his postman are not on very good terms. *Special Press Time Notice: Tima has just written requesting that no more letters be sent to him. We have no explanation but will have more details available next month. So please hold up those letters and cards until further notice.* Calls heard



Jean Paul Gagnon, 293 Baldwin Street, Waterbury 6, Conn., finally got the "N" out of the call KN1-AGW. He is running 26 watts to a Heath AT-1 and the receiver is a National NC-98. Jean says that his WAS is 42 and DXCC is four in seven months of operation.

on the 21 mc band from May 2nd to May 14th roughly between the hours of 1800 and 2400 GMT: KN1AGL, AOS, AQI, AYM, AYQ, NXB, WN1NYS, NYX, KN2UCA, UTC, VHV, VOZ, YBI, YQD, YVJ, YYG, ZHH, ZUH, WN3IBD, JEE, JQL, KJN, KNX, MHZ, MUU, WP4AHM, AIU, KN4DMR, JOS, KQU, KYC, LEL, LNE, LQU, MDU, MEO, MGP, MPC, MUM, OUZ, KN5HLW, JFQ, JIZ, KN6VUN, WN7EBO, KN8CCG, CLE, COA, CQY, CSL, CTS, DHU, EJL, KTF, KN9EIM, GVE, GZA, GZS, KNØHOB. On the 7 mc band from May 2 to May 14 roughly between the hours of 0000 and 0500 GMT. KN1ACM, AJB, APQ, AQI, AYQ, AZB, AZD, BCP, BDR, BNG, FXH, KSY, WN1LNS, LXH, OQB, OQG, DCM, KN2JZT, OZD, TBG, UEU, UPT, UWX, VIC, VJC, VRA, VUP, VUV, VVF, VXT, YBG, YGI, YLQ, YMB, YQK, YVP, ZAD, ZAE, ZDA, ZDB, ZHY, ZIA, ZIC, ZKA, ZNR, ZOU, KN3AEJ, WN3AHN, AST, HEV, HLL, IGW, ISD, IXI, JJI, JQS, JXB/4, JYV, KAZ, LAX, LEM, LQW, MKW/3, WP4AIR, KN4ECM, ISY, KAV, KIC, KWL, KWU, LEL, LEW, LHC, LIX, LJD, LXO, MJM, MLV, MMA, MON, MQL, MSO, MUP, MVG, OAD, OAN, OHT, OLO, OUP, OWP, OZW, PAO, KN5JZP, JZY, KN6YDX, KN8DSG, DZM, EEW, EDK, KN9HJO, MTV. That's it for this month, 73's de YU1FR (YU1RS-357).

One late flash before we dig into the stack of letters. During the month of September, 1957, the Air Force ROTC Amateur Radio Club of the University of Puerto Rico and the Colegio San Jose Amateur Radio Club will sponsor a WORKED TEN PUERTO RICO NOVICES COMPETITION. On September 8th, 15th, 22nd and 29th from 1300 hours (1 pm) to 2400 hours (12 midnight) AST (Atlantic Standard Time) we will insure that there will be at least 10 Puerto Rican Novices operating on the 15 meter band continually. To date, approximately 15 local Novices have agreed to participate and the total number participating will probably rise to over 20. We will juggle our crystals so as to have a PR Novice located about every 10 kcs across the entire Novice portion of the 15 meter band but our greatest concentration will be below 21175 as we try to stay away from the foreign phone boys. Any station working ten PR Novices during these times should send a



A close up of Ed Marks' tower. The guys connect to upper half of the mast only, and are secured to three "dead men" about 60 feet from the mast, in three directions.

duplicate copy of his log to the Air Force ROTC Amateur Radio Club, University of Puerto Rico, Rio Piedras, Puerto Rico and in turn we will send to him a WORKED TEN PUERTO RICAN NOVICES CERTIFICATE.

Letters to the Editor

There is a real slug of letters to dig through this month so let's start with this one from Wilson Van Skivir, Box 374, Gordon, Nebraska. He writes:

I read the Novice Column each month. I have taken my Novice test about 7 weeks ago, but I have not received my call yet. However, my XYL has her ticket KNØHYP about 4 months now. She has worked 40 states on 80 meters. Our transmitter is a DX-100 and the receiver is an SX-100 with a 125 foot long wire. I would like to find a diagram for a BC-645A so I can put the unit in the automobile. 73's es BCNU on the Air, Van.

Jim Naylon, KN9HQW, forgot to include his address. Anyway he has some kind words.

Dear Don: First, thanks for a very fb Novice Shack. Next, the gang hr in Polo has a local net which meets every Sunday nite at 6:00 pm on 3710. KN9GEQ is

net control. My ticket is 6 weeks old. I have worked 26 states and also VE5KV es WP4AJS/KP4. I would like to find the QTH of these two DX stations. The rig is a DX-20, the rcvr. is an NC-88 and a "Q" Multiplier. The antennas are a 40 meter ½ wave and a V antenna on 15 meters. 15 is a good band for DX (*You're telling me*). I would like to sked 7's, 5's es 1's. I QSL 100% (I wish everybody did). 73's, Jim.

More kind words were received from Frank C. Pierce, KN1BZL, 189 North St., New Bedford, Mass. He passes this along:

Dear Don: Wanting to let you know that I think ur doing a swell job with the Novice column (*blush*). I have been reading the column fer about 6 months since I first began SWLing. I just received my Novice license. I am 42 years old and got on the air last Sunday, May 26th. I worked 80 and 40 meters and during this first week of operation I have had 15 QSO's in 8 states, Michigan being the furthest. Yhr rig is a Globe Scout 66 running 65 watts. The receiver is an H-140-X. The antenna at present is a long wire, into an antenna coupler. This antenna is in the attic but I hope to put up an outdoor antenna in the near future. Keep up the good work, Don, your column is the first thing that I read when I get my CQ. 73's, Don, hope to work U sometime, Frank. *Many thanks, Frank. The first thing I read when I get my copy of CQ is the evening papers (my wife grabs CQ, and reads Scratchi), then when I get it, I turn directly to Scratchi also. Finally, I get to read the column.*

Randy Bailey, KN5KNR, P. O. Box 830, Huntsville, Texas, would like skeds.

Dear Don: I am 13 years old and I haven't had my license very long. I am on 7175, 7166 and 7183. I have two 15 meter crystals and an 80 meter crystal. I hope I can hook up with you and your readers. I would like to have a sked with some of the Yankee states (HI) I find it hard to have a QSO with them. My transmitter is a DX-35 and my receiver is an XX S-53A. I would like to hear from some Novices that work on 15 meters. I need some good DX catches to decorate the shack with. I would like to arrange skeds. Your truly, Randy.

Dave Batcho, KN2VDR, Manville, N. J., wants the hams that helped him get his ticket know that he appreciates it.

Dear Don: After much struggling with my code, theory receiver, transmitter, antennas, etc. (*what's left?*) I am finally on the air. I wish to express my thanks to K2OFI, KN2OER, K2JTD, K2JTB, W2RZI and W2MHJ for helping me get on the air. I have been on for about 14 weeks and in that time I have had 64 QSO's with 22 states. Best DX is VE2, 3, 4 and F9, all on 40 meters. My rig is a DX-35 and an S-38C receiver. I have separate antennas for each band, a long wire on 80 and dipoles on the other bands. I am interested in getting a good Novice traffic net started in New Jersey. If anyone is interested please contact me. 73's and very best of luck, Dave.

Bob Kapsch, 236 Bender Avenue, Roselle Park, N. J., is probably a brand new ham by now. His letter reads like this:

Dear Don: It has been four weeks since I have taken my Novice exam and since I haven't received any u-hav-failed notice from the FCC, I think I will receive my license any day. I plan on buying a DX-35 and an SX-99. I would also like to get on 2 meters and make my first phone contact. I have sent away for your new Novice and Technician Handbook (Radio Publications Inc.). Sincerely yours, Bob. *I hope you have the time of your life with your new Novice ticket, Bob. You won't have any trouble getting on 2 meter for there are complete construction plans on a two meter rig in The Novice and Technician Handbook.*

A "local," Mike Zane, KN6URI, 429 Riverside Avenue (forgot city) writes:

Dear Don: I haven't seen any letters from the K6 boys lately, so here's the report. The rig is a DX-35 and an S-38D plus a 40 meter dipole antenna. I have worked 9 states with 7 confirmed. I am expecting a Q5'er in the mail so that ought to help a little. 15 meters sure is a good band when it is open. (*What's this "when it's open" business? You should be able to receive some signals 24 hours a day on 15 meters. More on this next month*). Here's hoping we can get together sometime, 73's for now, Mike. *Maybe we'll have an "eyeball QSO" someday, Mike.*

Dear Don: Just thought I'd drop you a line to tell you how much we enjoy "Novice" here at KN2YTK, as a matter of fact all of CQ is fb. (*ur durn tooten, boy!*). The rig here is an S-85 listening and a new DX-35 flooding the air ways with 65 watts. We used to have an Adventurer. The bird trap is a doublet. We operate only on 15 meters. Our best DX is England, and Calif. and Wash. on the West Coast. We have worked 12 states but only 5 have QSL'ed. To end this mail rag-chew, I would like to sked anyone on 15 for any reason. So vy 73 es keep up the fb job. Urs truly, Ric Einhorn, 12 Glen Eagles Drive, Larchmont, New York.

Dear Don: I am a beginner in the art of Amateur Radio. I have not received my Novice ticket yet, but I am working on my code and theory very hard. If you have any information on these subjects I would appreciate it, or any information on how to get it. I am especially interested in any plans or articles on two and six meter receivers and transmitters, mobile and fixed, which I could build. I am especially interested in converting surplus equipment. Thanking you for your help, I remain, sincerely yours, Oris Seilstad, 707 7th Street, DeRidder, Louisiana. *Sounds like you are a good prospect for a copy of The Novice and Technician Handbook, Oris, it has everything that you are interested in.*

Bill Stout, KNØISD, 2403 Walnut Street, Cedar Falls, Iowa, wants his QTH right at the top of his letter so his DX contacts will QSL. So be it.

Dear Don: My rig is an AT-1 and an S-20R. I have a dipole made out of bell wire for 40 meters and a home-made 15 meter beam. It is a one element and quite cheap to build. If anyone knows of a real cheap antenna coupler for my AT-1, I would like to obtain the plans. Do you know if there are any places in each call area where we can send cards to, without knowing the address, and they will send them on to the ham? This would help to get some QSL's from those DX contacts that don't get the QTH. I am sure that there are other hams that would like to know if there are places like that. I am 15 years old and would try to get my signal to any part of the country that needs Iowa for a new state. Well, better say 73 for now. Bill. *Take note, men, you can send a QSL to the QSL bureaus with a complete QTH. Naturally, they cannot afford to send them on, rather you should send them a self addressed, stamped envelope and they will insert all the QSL's and mail them to you. Why don't you try it and see what goodies you get?*

Dear Don: I look forward every month to reading your column. I think you are doing a fb job of it (*tnx*). My rig is a home brew xmtr running 15 watts to a 135 ft. zepp antenna end fed with 32 ft of 300 ohm twin lead. My receiver is an S-38D. Two months on the air with this combination I worked 100 stations in 9 states. Everyone of these contacts were made on the 80 meter band. I tried getting on 40 but no success as yet. It may be my antenna. I would like to have some information on a good 40 meter antenna and how to improve a low powered xmtr for 80 and 40. 73 Don. Michael Friend, KN1BAP, 56 Catharine St., Worcester, Mass.

Paul Ferguson, 4012 Richmond, Shreveport, La., K5ESW, has graduated from the Novice ranks. He writes:

Dear Don: My Novice ticket expired and I passed my condx. exam. 9 weeks ago. As a Novice, I worked 40 states, 39 confirmed and a DL4, KP4, WP4, and VE1. I

would like to sked Nebr., N. Mexico, N. Dakota, Colo., Nev., Wyo., and Iowa. The rig is a DX-35, AR-3, and a QF-1. When my condx. comes I will have a VF-1 and a V80 vertical. I QSL 100% on all cards received (doesn't everyone?) and will sked anyone needing Louisiana for WAS. 73 Paul.

Jerry Adams, RD #1, Pierce Cr. Nd., Binghamton, N. Y., says:

Dear Don: I just got the "N" out of my call and I would like to get on 6 meters. The rig is a WRL Globe Chief 90. I would like some information on converting this to six. I would be very pleased if you could help me. My receiver is an SX-99 with an International Converter for six. Around Binghamton there is quite a lot of activity on six. Keep up the good work with the Novice column. 73's Jerry. *I don't have any specific information Jerry. You might try to apply the info at the start of the column or possibly write directly to the factory.*

At least I have received plenty of letters lately and I can just about tell what the letter contains before I open it up to find one like this one from Herbert H. Kahlo, KN8CIC, 1635 Defense Avenue, Muskegon, Michigan. He writes:

. . . I have ripped the *CQ* apart page by page and no sign of the modification plans for the Globe Scout 65-A to go on 6 meters. WHA HOPPEN?

Well we'll get the next issue and look again, or maybe I need glasses.

Congratulations on your *very nice* column and the start of your second year. We'll be watching your column for the finest in information.

Best of luck. 73 . . . Herbert.

Thanks for the nice words Herb, I sure hope you get as much fun out of your Globe Scout as I do and I hope to work you on 6 meters soon. I think the Globe Scout is about the nicest transmitter for the Novice that I have tried in my shack. If all of the people that have written me get their Scouts on six meters some of us will have to go back to 75 meters to get out of the QRM. Good luck to all of you that are converting them to six meters.

Rich, W3FHG, 180 Drexel Avenue, Lansdowne, Pennsylvania writes.

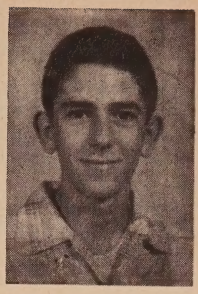
. . . I haven't seen many letters from Pennsylvania so here is one. I had my Novice up to August 3rd when I got my General but as most of the new Generals are, I'm still a Novice at theory, so I'm very much interested in your Novice section.

I work 40 and 15 meters, using 50 watts. I built a DX-100, but there are a few bugs in it. I'd appreciate it if someone could help me with fixing it.

I'd like to sked stations in Arkansas, Wyoming, Montana, South Carolina, Idaho and anyone needing Pennsylvania for WAS. I'd like some pen-pals too. For now . . . 73 and thanks . . . Rich.

Would you believe it? A letter from *Montana.* W7 mail is very scarce in the *Novice Shack,* I only need one state for my WAS of letters to the





Ronald Zenone, WN3IHW, 109 Miller Street, Latrobe, Pennsylvania will sked anyone needing a Pennsylvania QSL. He has the good old habit of 100% QSL, do you?

editor. I now have 18 countries, 5 continents. The Montana writer is: James Garrity, W7BPG, Box 365, Cut Bank, Montana. He writes:

. . . I have read the *Novice Shack* for about 2 years, I think it is a great help for the Novice.

My call is W7BPG, I moved to Cut Bank about one year ago. I am the only active ham here. There are about 5 other hams here, but they are inactive at the time. I am 13 years old, my class is Conditional. I got my Novice when I was only 11 years old.

I will be running 275 watts to a Viking Valiant when I finish putting it together. I will sked for any reason, WAS or otherwise. I will be on the air again in about a month.

I will say 73 for now, Walt.

CU Soon and 73 . . . James.

Ray Neubauer, KN2TCD, 3222 Cambridge Avenue, Bronx 63, New York writes this letter.

. . . I have been reading the *Novice Shack* for a number of months now and I think the letters are one of its nicest parts. After reading the last issue I thought it was time to take out the ole Gutenburg Press and drop you a line.

The rig here is a DX-35 and an HQ-140-X. I have 15 countries and 34 states after two months of operating. My best DX includes a 4X4, LZ1, and two LU1s.

Here is a tip to Novices that like to work DX. I have found that the best time on 15 meters is at 10:00 to 11:00 a.m. and between 5:00 and 6:00 p.m., with slight variations. The frequency is as close as you dare buy a crystal to 21.1 mc. You really don't need anything more than a dipole for an antenna, I use one cut for 40 meters.

So I'll wind it up with just one gripe: why do the foreign phones come all of the way down to 21.1?

Well 73 and believe me, when my General comes in about a week, I'll still be the avid *Novice Shack* reader. Keep up the *great* work. 73 . . . Ray.

I never thought that I would make it, but there is the bottom of the stack. Next month I am planning a special column devoted especially to helping you get on 21 mc so that you can work some DX. 73, Don, W6TNS.

[*from page 45*]

VE3DSU, Jack Emerson, winner in the Ontario section. ➤

W3EAW, Dan Scherr, winner for the Maryland Section (50 mc). Danny scored fifty-three contacts in twenty- two sections. Rig is Six meter Gonset and three element Telerex beam. ➤





ANTARCTICA [*from page 39*]

train approaching and passing by. Then they run like the dickens to catch up.

Today's ceremony conveys the information that we are dedicating the first station ever to be established at the South Pole,, where 17 men will stay the long Antarctic night, plundering this land's most important treasure, scientific information.

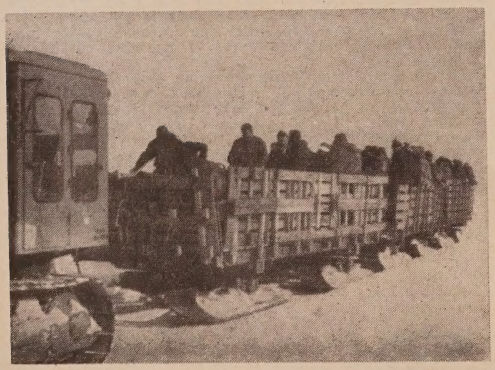
KC4USV

No trouble finding the Communications shack. Just follow the feedline of any of these



Loading a tractor train for the trip to McMurdo Camp.

Sled ride to camp. Pretty slow going, we were able to jump off, run ahead, snap a picture and then climb back aboard.



several rhombics strung overhead till you come to a squat, orange building bristling with verticals. I fell in to visit KC4USV. The old crew, having finished their hitch, had high-tailed it out of there to move aboard the ships, and the new crew was still pretty bewildered. Commander Snay, the only one operating the rig during the transition, was nowhere to be found. There was a "blackout" — no signals were coming in at all. They were just barely copying the 50 kw teletype signals from Balboa. Even the path across the few miles to the ships was poor.

So I joined a group hiking over the hill (the "entertainment" mentioned earlier) to visit the New Zealand camp, about two miles away. The New Zealand boys had been at work only about six weeks, but their small camp was beginning to take shape. One building was completed, containing the kitchen, the tea room and the radio shack. Found Ted, ZL2US, and Lin, ZL41P. Peter, ZL2SP, was out on trail and physicist Neil, ZL?? was working over the hill somewhere. With two other hams from the Curtis, we declared an Antarctic Hamvention, with good hot tea to loosen our tongues and benumb our faculties in general.

The New Zealanders are using the call ZL5AA, on 15, 20, and 80 with pp 813 transmitters (a.m.). Later ZL5AB will be on, but it's doubtful that many of you will hear them. AB will be used by the trail party operating a portable 274N on 40 from the Skelton Glacier. They hope to work New Zealand with this little rig.

We trudge the two miles back to the U. S. camp, just in time to learn we'd missed the sled back to the ship. They left early to catch the ship before she pulled out. A big swell had come in, breaking up the bay ice. Our instructions were to sit tight, they'd try to get us back on the ship. Sometime.

The blackout has lasted about 3 or 4 days now. On 20 a couple of cw signals are starting to come thru, but that's all.

A little after midnight, suffering from too much dinner and too much heat in the bunkhouse, I turn out for a stroll. Outside our windowless quonset the sun is shining brightly, only from the other side of the sky than it was 12 hours ago, and a few degrees nearer the horizon.

Since the sun does not rise and set according to the familiar pattern, within the Antarctic Circle, the normal system of time zoning is useless. Therefore all Antarctic stations use the same time, synchronizing their clocks with Scott Air Force Base in New Zealand.

I found Commander Snay in the shack. Snay, dubbed "The Whip" or just "Whip," in charge of Antarctic communications, usually operated KC4USV.

Whip says Blaine Garrett of Joplin, Mo. is the boy who really knocked himself out to get USV on the air.

In addition to a full-time job, Blaine spent so much time in the shack that he was missing meals and sack time. Ham radio had him in its vice-like grip—he's looking forward to getting on the air when he gets home.

Blaine's not the only hard-bitten old sailor who's told me that operating down here has practically restored his faith in human nature. He was astounded at the way hams in the states would put themselves out time and again to be helpful in any way possible. Blaine says the word "neighbor" had lost all the meaning it had, say, twenty years ago.

"But on the air we discovered the best darned neighborly bunch of people we ever dreamed possible."

Like W2KCR, Paul, who was there every night, always cheerful, always patient under the mounting load of traffic. Paul, backed by the Radio Amateurs of Greater Syracuse (RAGS), eventually took nearly all the message traffic for the states when Red Cross pitched in to forward the messages ("Hamgrams") via teletype from Syracuse to their points of destination.

And 16-year old Jules, K2KGJ, whose eager voice and unbounded helpfulness never failed to elicit a smile of heartfelt gratitude. Fine operating manners, plus an excellent signal and phone patch made Jules a real standby on the East Coast. And W3HN, "Sam, the Man." Word got out in Washington that Sam was the man to see if you wanted to talk to your husband in Antarctica, and Sam had wives calling him all hours of the day and night.

West? In Denver, Chuck & Al, WØUJS & WØAJL, in L.A., Doc, K6AHL and a dozen others, in Phoenix, Don, W7SXP. All these fellows did a terrific job. And in the midwest, Ike, W9RUK, and Jack, W9GPI—the list is endless, and the gratefulness of these fellows down here is something that it would warm your heart to see.

One hour at 5 mph gets us back to the new docking facility, where later the LSD arrives and taxis us out to the Curtiss. Lots of new faces aboard, the home-bound McMurdo crew of Deepfreeze I.

The next day I catch a boat over to the ice, to stomp around a little and to photograph some penguins. We haul the last of the McMurdo evacuees to the ship and we're ready to leave for Little America.

Jan. 26. Pity the poor fellows who were having beer out on the ice when it started breaking up. Several cases had to be abandoned. I wonder if Davy Jones has an opener?

It's doubtful we'll be able to tie up over at L. A. There is no bay ice there at all, just the sheer walls of the barrier. We may have to rely entirely on the helicopters.

Little America V

Little America is about 400 miles east along the jagged outer edge of the Ross Ice Shelf. The Shelf oozes slowly outward like toothpaste from a thousand-year tube, and is just as gradually undermined and devoured in large chunks by the sea.

There's no shortage of big icebergs now. These look big enough to be worth avoiding, and we're glad to be escorted by the Atka.

KC4USA, the Little America station, was first to get on the air. In spite of being high, dry, and groundless on 750 feet of snow, USA drops a real blockbuster signal into the states with the new rhombic. The call KC4USA has been used by previous Little Americas (this one is #5) and got a pretty good workout by the party who left here just before the War, and during Operation High Jump, in 1949.

All that was pre-SSB, and mostly CW. Except during phenomenal conditions, the only 'phone signals you can copy without losing your hair, your temper, and your enthusiasm for ham radio, are 90% sidebanders. Down here there's just too much fading, too much atmospheric noise, too much QRM to copy the average AM signal.

In Kainan Bay, we keep a respectable distance from the formidable walls of the barrier. These sheer white cliffs, 50 to 100 feet high, gentle as they may look, are not of the consistency of the snow that falls in your front yard in the winter. Mute testimony to this is the battered bow of the Atka, which had earlier been breaking ice under walls much smaller than these.

The hillside in view is covered with hundreds of tons of supplies and diesel fuel drums, lined up in neat rows. Cartons of food are stacked the same way, as there is no need for roofs or refrigeration.

The base proper is about 2 miles from the barrier's edge, over the hump, not visible from the ships.

Deepfreeze I—1955-56

Thirteen months ago this was virgin territory.

At one point in the bay, the contour of the shelf dipped nearly down to the ice, forming a natural ramp. This was what clinched the choice of this spot by the first landing party.

Here 71 Navy men and 2 civilians lived for more than a year.

In January 1956 the Little America Station was officially commissioned.

Early in March the seemingly endless crates of radio gear were finally emptied. Long rows of transmitters, receivers, and teletype gear lined the Comm Shack—assembled and in fair working order. Then they opened the goodies. The KWS-1 and 75A4.

Chet Twombly, W1PLD, the U.S. Weather Bureau's man, helped Navy ops Red and Mac get the rig going. Chet's regular project was a 27-mc radar device for tracking meteor trails. 11-meter QSO's with flying rocks, even those from outer space, can get pretty dull, so Chet was anxious to try 20 meters with the KWS-1.

A fixed 3-element beam with wire elements was mounted a few feet above the top of the building.

From late afternoon New Zealand time, signals start building up, and from supper-time til late in the evening, twenty was at its best. The 75A4 really did a beautiful job of sorting signals from that tight little snarl between 14.2 and 14.3.

The transmitter loaded up, and the boys

made the first contact from Deepfreeze—'twarn't hard at all. Art, W6JHB, gave a fair-to-middlin' report, and was at least a little excited about being the first to QSO Antarctica.

It soon became pretty obvious that it was not going to be very tough to make contacts from Antarctica. A quarter-wave vertical was tried with about the same reports as the beam. 'Twas then the boys began dreaming of a rhombic all their own. But that had to wait a while.

At first, operation of the shack was pretty



KC5USN, the silent key of Antarctica. Bless the Pentagon.

informal. Lot's of work remained to be completed in camp. Chet tried the rig on cw, Red and Mac stuck to sideband, all operating when they got a chance. K6ICZ put thru the first phone patch, making Mac the first to taste the thrill of talking with his wife from Antarctica.

In two months Little America 5 neared completion. Ham radio, a "sleeper" at first, hit that gang like a ton of bricks. The shack became the most popular spot in town. Most were caught completely off guard and were amazed by the present scope of ham radio—having held pictures in their minds of the impractical back-yard tinkerer, the eccentric attic putterer with "tubes and wires," or the weird, reclusive neighbor whose voice blares forth from the radio, the TV, and even the telephone shouting strange, hieroglyphic messages to an unknown audience.

The shack expanded. Operations Officer Vic Young, George Moss, and Lieutenant Commander Bob Graham were drawn in by the old magnet, and learned how to operate the rig. Soon a regular "watch" schedule was set, with one fellow operating the rig each evening. Bob, Vic, George, Red, and Mac rotated the watch, and KC4USA really got down to business. So many messages came into the shack that a little letter-drop was rigged by the door, with special message forms. Phone patches were something you had to stand in line for, but worth it. Men seen floating around a few inches off the ground, grinning broadly, eyes dreamy and slightly out of focus, were not identified as dope addicts. Instead the familiar caption was, "He's just had a *phone patch.*"

During the week of April 20, the sun vacillated around the horizon, then disappeared altogether. In the darkening twilight and increasing cold the cozy shack became a place of pilgrimage.

August 10 the temperature crept down to −78°.

August 20 the sun peeked above the horizon for a few minutes, then longer each day. Ham radio contacts had become an indispensable part of camp routine. They'd been away a long time.

Deepfreeze II—1956-57

Our helicopter touches down next to a group of bright orange buildings, and we tumble out into the swirling snow stirred up by the 'copter's blades. A passing weasel jerks to a stop and we exchange hearty "Hallo's" with some of the boys from the ship who are just getting acquainted with their new home.

Little America V, planted on snow rather than on volcanic earth as is McMurdo, looks considerably different. Buildings are arranged in two rows facing a narrow corridor which is the central runway of the whole community. The long corridor is covered over with chicken wire and burlap, protection against the snow which could pile high later on, though winds will probably keep it clear above the level of the rooftops. Right now sun is filtering thru the burlap, and in places sun-melted snow has dripped thru to form little ice-mounds on the boardwalk.

The nearest building has a surrealistic-looking dome perched on a platform about 30 feet above, connected by a narrow tube to the building below. A short climb up the ladder reveals a large radar-type rawinsonde antenna, sealed against the snows by a large plastic bubble. Step thru the door in the side of the bubble, onto the platform, and you command a panoramic view from the tallest skyscraper in Little America. From here you see a dozen rectangular orange buildings, a couple of olive-drab quonsets, scattered piles of crates and drums, a few rhombics with a ski-equipped plane nearby (the larger planes and main airstrip are out of sight), a little Bell helicopter parked out in front, a few weasels scurrying about, and snow, snow, snow.

And snow straight down for 750 feet. Then water, the Ross Sea.

The first building you walk into houses Geomagnetism, Meteorology and Weather Central, with one 8 x 10 corner walled off for the

hamshack. There she is, KC4USA, with a placard on the door displaying the familiar penguin keying a c-w rig. From behind this door originated the first transmissions from Deepfreeze, that thrilled amateurs and short-wave listeners the world over.

Nobody in now, but I find the boys in the big shack working over the Navy teletype gear. Bushy-faced Bill Williams, W5BPB, of Paris, Texas issues a hearty greeting and I meet a couple of the new operators-to-be, "Kraut" and George, W6DLJ.

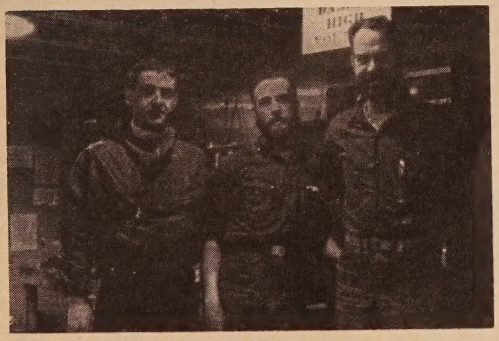
After snooping into a few more buildings, I return to the hamshack to find Vic Young operating on 20. Vic's one of the old crew. He was in charge of the tractor train that made the long traverse across the eastern shelf, thru the crevasse area and over the Marie Byrd Plateau to set up the Byrd Station. Vic put USB on the air, making the first contact from there on January 5 of this year.

Twenty warms up nicely by this time of afternoon. The time is 5 p.m., 11 p.m. on the east coast, U.S.A.

Jules calls in from Clark, New Jersey, so we get him to buzz W2NSD. Wayne calls in on his own rig. I can hear him down here! He must have put up something better than that old folded dipole.

Meantime word is received for correspondents to return to the ship, it was a mistake, we're not supposed to be over *here* yet. So we gather together and get in line for the return airlift.

On the ship we learn that Admiral Dufek



Me, "Kraut" and Bill W5BPB in the communications shack.

plans a press conference the next day, and mention is made of flying us out to visit the tractor train now making its way to Byrdland, and a flight out to the old Little America Station.

9 a.m. Feb. 1. We meet Admiral Dufek and he enlightens us on several subjects.

I got the heartiest response of the morning when I asked the Admiral for his comments on amateur radio. Admiral Dufek says enthusiastically that amateur radio has been the biggest morale booster in the whole Antarctic operation. Though carefully picked for this duty, many men occasionally became depressed. Phone patches lifted those long faces like magic.

He commiserated with me on being refused permission to operate aboard the Curtiss. He had a rig all set to go, too, on his plane (Navy plane, not Air Force). CNO told him at the last minute to be sure not to use it.

Dufek did not seem to oppose the idea of hams operating additional stations at Antarctic bases, but indicated it was a matter for the Communications men to decide.

L. A. 3

I skipped the trip out to the tractor train. The country they're traversing at present is no different from this, and, after all, a train is a train, although this is probably as extraordinary a one as you'd ever see. I spent the afternoon in the shack, chatting with Bill and the other fellows who popped in from time to time.

But I wasn't missing that trip over to old Little America. No sir E. I was right on hand next day for the sled ride to the airstrip in full eskimo outfit, with cameras tucked snugly under my parka to keep them warm and in operating condition.

We are to take two ski-equipped Otters, carrying 2 pilots and about 8 men each. One will have to return to pick up the remaining passengers.

Runways are smooth, and the take-off on skis is almost as easy as any other. The little Otter has my confidence already.

Gaining altitude, we get a bigger and better view of more snow. Off to the north we sight the irregular edge of the barrier and the sea beyond, strewn with the barrier's offspring. The view is predominately H_2O, in one form or another.

Little America 3, our destination, is about 40 miles west, on a concave section of the barrier called the Bay of Whales—site of Little Americas 1, 2, 3, and 4. When the Deepfreeze party moved in, they discovered the surface ice had broken out of this bay, so they chose Kainan Bay, farther east along the barrier. This summer the ice is broken out of Kainan, too.

Sooner than we expected—it's hard to judge speed and distances over snow—we sight the telegraph poles marking the old camp site, and the lone tent where Commander McCoy and one of the doctors are roughing it for a couple of days, looking over the old station and collecting samples of old foodstuffs for radioactivity tests. They're camped within a few feet of the narrow hatch leading down to the old station, now deep beneath the snow.

Our landing is, if anything, easier than the take-off. We pile out and tromp thru ankle-

deep powder to the tent, exchanging greetings with the hearty outdoorsmen. Inside, an 18-year old chicken has been thawed out and is stewing over the primus stove. We're offered samples of equally ancient soda crackers which we taste out of curiosity, and hot cocoa made from a pre-war can of ready-mixed powder, which we accept because we're hungry and cocoa sounds good. The favorite cold-weather brew is right up to par.

We're all anxious to climb down the hatch to explore the old buildings, so we check our flashlights and gather round as the first man disappears down the narrow hole.

Below we find ourselves in a large room built on top of the Old Camp by the L. A. 4 group, *Operation High Jump*. The High Jump main camp was a "tent city" nearer the bay, half of which has since broken off and fallen into the sea. But High Jump erected this one building right on top of the buried L. A. 3, as a supply dump and accessway to the old camp below. This newer building is now buried, while the camp beneath is gradually being crushed by the accumulating weight of tons of hard-packed snow.

I hesitate to describe the contents of this first room lest I be held accountable for a rash of unfortunate demises in ham expeditions to Antarctica. Brand-new transmitters, tubes, relays, keys, and cans of movie film line the walls and fill dozens of cases scattered about. All in a state of perfect preservation—having, since shortly after the departure of the last expedition, stayed at a temperature below −10° F.

Today it was −13°, a deadly quiet, deceptive −13. As we file thru the far door and down to the old camp, we encounter breathtakingly lovely clusters of crystals clinging to the ceilings of the narrow passageways. We are cautioned not to bump these with our heads, as a special photographic party plans to record the beauty of these delicate, cubistic appendages, like miniature, unlighted chandeliers.

Condensation of the breath of many visitors has formed these crystals, since the camp fires went out in 1940.

Further down the corridor we clamber over tumbled boxes of canned pineapple and Hershey's hot chocolate, into the mess hall. There's some kind of raw meaty concoction sitting in a pan ready to be cooked, and several half-empty cans, contents fresh looking as if they had just been opened. All frozen stiff. When they were laid out there I don't know. In '39, maybe in '49. Possibly no more than a year ago. Someone from Deepfreeze may have decided to throw a picnic down here, then given up because of the cold, possibly frightened by the poor combustion.

We're cautioned that some of the lower corridors, though still accessible, are filled with suffocating carbon dioxide and carbon monoxide gases. At our present level the air is safe enough. It bites the nostrils a little, and has a strange, un-alive feel, though it's about the same as the atmosphere in a walk-in freezing plant back home.

Bunks are crudely-constructed, double-decker niches in the walls. A few stoves are in evidence, coffee pots, battered chairs scattered about. The place looks plenty lived in. A few signatures on the walls, nicknames and obscure comments on local jokes now long forgotten.

In what looks like the main recreation area, or "living room," I try to take a picture, but my flash doesn't fire. Darn! Is it frozen up? I've heard that happens, but determine to look inside the thing for more probable causes when I have the chance. Too bad.

I'm curious to know if Lloyd Beebe, the Disney photographer, got down here. It would be too bad if he missed this. I understand he made many trips down into the crevasses, even taking giant floodlamps and power plants along on occasions. Beebe stayed over a year with Deepfreeze I, shooting more than 110,000 feet of film. Being a real Disney enthusiast since the Nature Series started, I'm anxious to get back to enjoy Antarctica in the comfort of the local movie house, with all the advantages and none of the inconveniences—especially parts I've missed, like the crevasses whose walls glow with an eerie blue light which deepens to violet as you go lower and lower. And the aurora! And of course I'll enjoy seeing again the places I *have* been. I see myself now, 'midst the oo's and ah's of screen-viewing friends, admitting nonchalantly, "Oh yes, I've been *there*." Heh, heh. What a snob.



KC4USA hamshack at Little America 5, Vick Young operating.

About two-thirds of the old Little America camp is accessible. Some of the corridors we passed thru were showing signs of the slow crush. Sturdy beams were buckling, walls pressing inward. Thru cracks in some of the higher passages we could see the violet glow which permeates the snow when the sun strikes the surface many feet above.

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I notice my rubber boots make a different sound as I walk across the same plywood floors on the way out. They now clack like hard leather, where they were nearly silent before. For the only time in Antarctica, my feet are beginning to feel cold.

We—that is, about 95% of us, the camera-hounds and gadget-lovers—are waylaid again on our return thru the supply room. We sigh as we think of all these beautiful things dropping into the sea as the shelf inches ever outward. Ah, well.

Some of the fellows have a little trouble climbing the ladder, what with the exertion of climbing around down below and all. But we eventually emerge into the bright sunlight, blinking like owls, feeling around the bottoms of lumpy pockets for our sunglasses.

In the tent the good doctor is extolling the virtues of a certain brand of Norwegian kippered herrings, which you can't get anymore. A case was discovered in the search for food



McCoy boiling an 18 year old chicken at L.A. 3. Yum, yum?

samples to be sent back to the states for radioactivity tests. He's passing them out as the elite of delicacies to a few of his friends. Looting? Tch, tch.

We notice the same blue glow around the edge of the opaque tent, and ask about it. As he explains, Commander McCoy takes a stick and pokes a 6-inch hole in the snow several feet in from the edge of the tent. The inside of the hole glows brightly with an unearthly blue, while light transmission from the snow floor around the hole is hardly perceptible. A hole punched nearer the center of the tent glows a deeper blue, but brilliant, alive. Need a light? Just take a stick and plug a hole in the floor!

The planes arrive to return us to New Little America. At the moment it does not occur to us to wonder who might one day be poking thru the remains of that camp, it's such a thriving community now. The commander and the doctor are breaking camp, too. Their work here is done. They cover the old hatch against coming snows, leaving the telegraph poles as sentries, should anyone care to visit this historic spot again.

KC4USN

When you mention Antarctica, some say, "Oh, yes! The South Pole!" The "pole" is simply an arbitrary dot in the center of a continent nearly the size of North America. There's no peppermint-striped stick poking up out of the snow there and as a matter of fact it's a pretty hard spot to find exactly. The altitude of the plateau of snow is 10,000 feet, and the 8 men who airdropped there in November would work a few licks, then drop to the snow, panting for breath. Temperature of the thin air was −18°.

By sighting of the sun, the first team figured they were about 8½ miles off, so four men and a dogsled found the "real" pole, where subsequently three big planes daily dropped tons of gear.

All the radio equipment was dropped in one "pallet," or cargo-chute frame. With 30% of the chutes "streaming in" and making beautiful holes in the snow, the radio boys purely forgot to breathe while they watched the pallet of Collins gear descend. One transformer slipped loose when the chute opened. Later the boys dug it out just to find out what it was or had been. At fifteen feet they found a mass of twisted wires and laminations. The rest of the equipment survived the drop in perfect shape —two 30K transmitters, ARC-1 10-channel VHF equipment. "Angry-nines" (the two-way AN/GRC-9), and the precious 75A4 & KWS-1.

One week later, the day before Christmas, "Monty" Montgomery had the rig on the air, hooked up to a 35′ whip. Lots of standing waves, but it worked out. First contact was with Jules, K2KGJ, who patched Monty thru to his wife in Massachusetts. First-day cancellations from the new U.S. Post Office, South Pole, Antarctica went out on many of the early QSL's.

SeaBee Monty broke Navy op Bill McPherson in on the Collins and saw him thru the mike-and-knob-fright stage, then hopped a plane for McMurdo and the long trip home.

The Pole will have one real bone-'n-fried licensed ham (you can't hardly get them kind down here) this winter:—John, KL7BNJ, the US Weather Bureau's man.

(Can't you just hear the old two-letter man in upper New York state calling "CQ Antarctica. Class A operators only. No lids.")

By the way, John has a *Tapetone* Converter for six meters with him at the pole and expects to have a transmitter and antenna up by the time you read this. He would like the gang to point their beams south once in a while. John can be contacted on twenty for further information.

KC4USB

East of Little America about 500 miles is a high plateau where the violent extremes of Antarctica weather give full play without nat-

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73, Bil Harrison, W2AVA,



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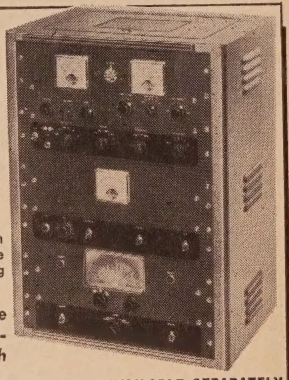
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ural obstacles. Of course this fascinated the scientists, who chose the spot for a daughter station to Little America. Army experts fresh from Greenland duty blasted and dozed a trail across the hair-raising crevasse area halfway between, and in December a heavily-loaded tractor-train crept across the flag-marked trail to establish the new base, taking 18 days to cover the 600 trail miles. In a record 9 hours the first 20′ x 48′ building was erected. In two weeks Vic had the rig set up and established contact with W2KCR.

With signals crossing the tropical Amazon, contact was made with KG1FR at Thule Air Force Base in Greenland for a new DX record.

Byrd Station has a full scientific program and a pretty interesting crew. You don't have to look hard to find their signal, up around 14.282.

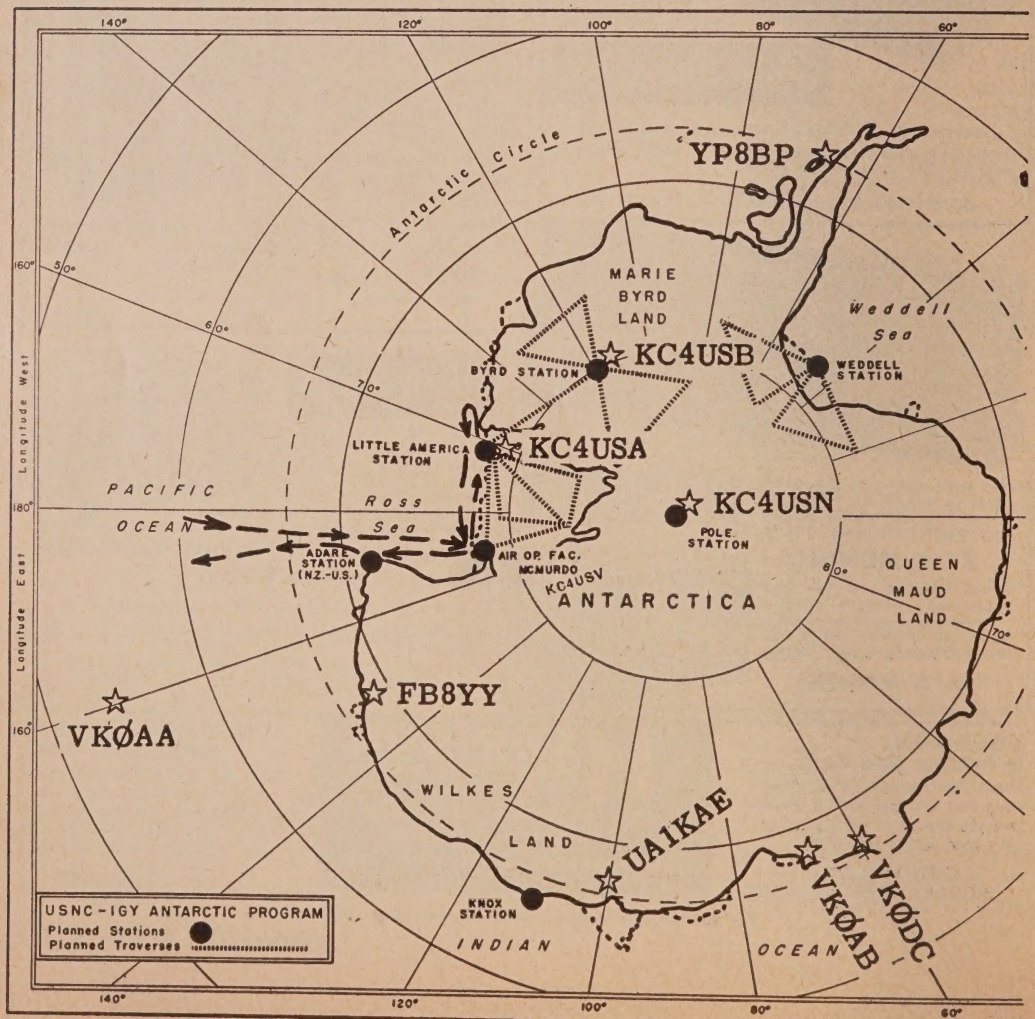
KC4USH

Near the Antarctic Circle on the western coast of the Ross Sea is Cape Hallet, site of the Adare Station, a small co-operative U.S.-New Zealand base. Just a few feet above sea level the familiar bright orange huts are perched this time on glacially-deposited gravel at the foot of rugged peaks that rival the Alps. Penguins abound by the thousands and have to be fenced out of the main camp area. As this has been the site of a penguin rookery for several decades, *guano* up to several feet thick covers the area. *Guano* is a French word borrowed from earlier French explorers. In English, it makes good fertilizer. This is no hazard generally, but warm, sunny days are not as popular here as at the other bases.

Though small, Adare plays an important part in the meteorological network, with limited programs in the other fields. Adare is directly on the flight path between New Zealand and McMurdo, furnishing an important relay point in air operations.

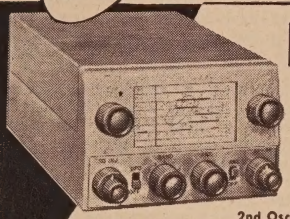
On our return to New Zealand, we picked up the tired gang of SeaBees who built the base, leaving behind the 14 men who will winter over. When we went by, the base had just been completed and the ham station, last on the priority list, was expected to be on the air around March 15, with a fairly good rhombic hitched up to the usual KWS-1.

Route of the Curtiss and location of various amateur QTH's.



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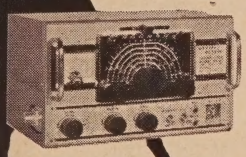
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For further information, check number 81 on page 127.

Letters *[from page 16]*

the "panic" program, on June 11:

This was no panic—this was a mess! Who writes this kind of stuff??? It must have made a damn fine impression on the non-ham public! If *that* was ham radio, leave me out!!

You folks down there are putting out a mighty fine publication: How about putting it out twice a month??? That would be ONE way to increase your revenue—which you are always beefing about.

Say fellows, how about campaigning FCC to issue a Telemetering frequency, or several for Ham use, on a usable frequency. I am using one on 11, but it was quite a struggle to get. Telemetering by radio opens up new experimental fields for the ham that likes to tinker.

Nick K. Thompson W1LWV, KC2HXP (experimental)
Millinocket, Maine

Panic? Ugh. With all the blessed hams in California you'd think that at least one would be around when they are filming a ham type program and keep them from botching it up so miserably technicalwise. Guess that is standard procedure for the submarine movies and TV shows are just about as bad. CQ twice a month? My aching back!

DX Info

Janitor, CQ Magazine
300 West 43rd Street
New York 36, New York

Dear Janitor:

This letter should be good for three things, so don't throw it away before due consideration is given to at least one of them!!

FIRST: It will keep the coffee cup from making rings on the desk, if folded twice and placed under the cup. If the cup is cracked, use two letters.

SECOND: SUBSCRIPTION INFORMATION.

THIRD: A very moderate GRIPE.

Well, let's take third things first. In this month's CQ, I noticed a little blurb concerning SVØWN and his lack of QSLing. May I say that SVØWN left his assignment sometime before the first of the year, and the call has been re-issued by the military authorities in Athens.

About a month ago, I went to the island of Crete and was granted the call SVØWN on a temporary two week basis. I was able to work quite a few stations on 20 meters, and the QSL cards are at the printers right now. I am going to QSL 100%.

The call SVØWN has now been re-re-issued to another chap, friend of mine, and he will try to do some more operating from Crete.

The former holder of the call has more than 2000 QSL cards waiting for him at the Athens, Greece Army Post Office. I was able to get a forwarding address for the Post Office, and as far as I know, the cards have been forwarded on the way.

I have received several letters from amateurs that heard me on the air from Crete, asking about the former operator. I gave them the same information I have just given you.

I think you would do me, and the present holder of the call, a good turn by running a line or two in one of your next issues about the re-issuance of the call.

Incidentally, I am planning a DXpedition to one of the Greek islands. I'm working on it with my friend SV1GA, George Aristogenis, Asst. Supervisor of the Greek Radiotelephone Service, to get a unique prefix and call issued to us, but at present, it is rather indefinite, and I can give no other details.

The second item, and by far the most important, if the editorial policy of CQ magazine is any basis for judgement, concerns subscriptions.

Some time ago, I noticed a brief line about Air Mail delivery of CQ to APO and FPO addresses. I have been unable to locate the issue in my CQ file, which dates back to Vol. I No. 2! What is the extra charge for Air Mail delivery to APO addresses? (*$6.00 a year*)

This might be of further interest to hams around the world, and a regular check-square on the subscription form would come in handy in case they wanted this type of delivery.

You might be interested to know that there are three DSB sigs operating out of Frankfurt, and several more on the way. The main trouble is getting modulation transformers of the proper turns ratio. Most of the transformers in use now are power transformers. Seem to work FB.

Well, Mr. Janitor, I hope you can pass this along to Wayne Green before you light the fire.

In the parlance of some phone signals heard on the air:

Very best best regardses,

Mr. Dwight B. Olson
W9EAM-/VE 4-DL4GF-AJ3SI-SVØWN
Frankfurt, Germany

Save 11

Dear Wayne,

Thanks for your efforts in behalf of the "Save 11" project. We hope that the support of all the amateurs during your contest will help. The conest was a whopping success, now if we can only get more regular tenancy on the band maybe we can convince Mr. FCC et al.

As for the contest itself, I have never enjoyed any contest more. A great deal of its success was due to everybody's interest in the contest. None of this 90% disinterest that we so often observe in DX contests or sweepstakes contests.

Propagation conditions were not too good on Saturday, but on Sunday I think we all got a taste of what rare DX goes through: the only thing limiting the number of contacts was waiting for the QRM of calling stations to clear. We still could have used a lot more stations, things began to thin out by noon or shortly thereafter and new contacts were hard to find. It was most gratifying to have so many foreign amateurs active.

The competition here in San Diego was wonderful. At least 12 stations were fighting it out and several were near or over the 100 contact mark. If every other city gave you (and 11 meters) that kind of support you should really be loaded with logs.

Thanks so much again for your program and help. Let's hope that this is only the start to making an awareness of the possibilities of the 11 meter band among the ham fraternity.

Win Goddard, W6RCD
San Diego

. . . . conditions were spotty here in Michigan until near the close of the contest, but the band was "hot" for about two hours. Congratulations for doing something to awaken the ham fraternity to the fact that the 11 meter band can and should be used more.

Jim Kuiper, W8HJU
Ann Arbor, Michigan

. . . . received on an old HRO-MX using the general coverage coils! On Wednesday night I discovered that I couldn't get drive enough with my VFO so on Thursday I started getting some xtals. Built a 2 element Plumbers Delight on Friday night (tnx to W6SAI's specs) and put it up on Saturday in the rain. Dead band on Saturday but success and lots of fun on Sunday.

Bob Arntz, W3YPI
Millersville, Pa.

. . . . was loading an end fed 40 meter long wire, glad to get out of the back yard . . . will have better soon. Enclosed find $5 for some ham in Europe to get a CQ subscription . . . you pick him and maybe some day he'll answer a lowly W3. C U on 11.

W. J. Kleuber, W3DZP
Pittsburgh, Pa.

. . . . enclosed is my mobile log for the 11 meter contest. I was using 3¾ watts input to the 28-9er, built from an article in CQ some time ago. The little rig works fine. I like the 11 meter band now that I've tried it, it has mobile possibilities.

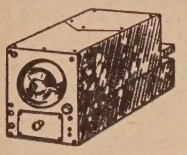
James E. Brugh, W3ZUW
Pittsburgh, Pa.

. . . . thanks for a great idea which led to a wonderful

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T-18 Marine, 2.1-3 Mc, as is, w/tubes, 3.95, used 4.95, boxed 7.95
T-19, 3-4 Mc, as is w/tubes, 6.95, used 7.95, new 8.95
T-20 or BC-457, 4-5.2 Mc, as is w/tubes, 2.95, used 3.95 boxed 5.95
T-21 or BC458, 5.3-7 Mc, as is, w/tubes, 2.95, used 3.95, boxed by depot 4.95
T-22 or BC-459, 7-9.1 Mc, as is, w/tubes 3.95, used 5.95, boxed 8.95
T-23, 100-156 Mc, xmitter used, 13.95, xlnt 14.95
Special—1 R-28 Rec. & 1 T-23 xmitter both 25.95

Misc. Command Equipment as available

Receiver dynamotors 28V, used ..... $ 1.00
BC-456 SC Mod. w/tubes, new 4.95, used 3.95
MD-7 ARC-5 P1 Mod w/tubes less dyn. Xlnt 8.95
28 v dynamotors for above unit 3.00
3-Rec. Rack, new 2.49
New 2-Trans. Rack 2.95
New 24V Trans, 1A 3.50
Plugs for rear of receiver 1.00



110 VAC power supply for ARC-5 & 274N Recvrs kit 8.95, Wired & tested 12.95

Receiver Conversion kit: cont. schematic, BFO Sw, 25 K Pot. phone jack and knob, with instructions 1.95

1625 Tubes, for trans & mod, 50¢ 3/1.00

POWER DRIVEN ANTENNA REEL

½ HP G.E. Motor—12-24 V. Removable 6" Reel. Cam worm gears, bevel gear, Solenoid clutch. In gear only when current on. Operates clockwise or counter clockwise. Ideal for power fish line, opening or closing doors, auxiliary power take-off. Can be used as buffing machine or for dozen of other uses. **$4.95**
Weight 6 Lbs. ..... New

Popular Dynamotor Specials

DM-34 Recvr. Dyna, 12 V in 220 @ 80 ma Out, new 4.95
DM 36 Same as above, 28 V. new 4.95
either of above, used 3.95
DM-42, 12 V in. out 1000 and 500, ea at 215 Ma. used 12.95
DM-35, 12V in. 600 at 200 Ma out. Xlnt 12.95
Wincharger Dyna. 12 v in 440 @ 220 MA Out, new 12.95
BD-69 Rec. Dyna. 14 v in, 220 at 80 MA out, new 9.95
PE-73, 24 v in 1000 at 350 Ma. out. New 8.95, used 6.95
PE-94, 28 v in for 522, 300 at 250 Ma, 150 bias, and 12 V 10 A, new 4.95

BC-357 Radio Beacon Receiver

62-80 Mc. radio controlled receiver. Contains 10,000 ohm plate relay. Power requirements are 24 V. AC. @ .5 Amps. and 220 V. DC. @ 20 Ma. Swell for Garage Door Opener, Receiver, and other remote control installations. **$4.95**
Brand New ..... 12 V Heavy Duty Solenoid. New ..... $ 1.49
5763 Tube. New ..... $1.25 ea. 3 for $3.50
815 Tubes. New ..... $1.49 ea. 2 for $2.75
826 Tubes. New ..... 89¢ ea. 3 for $2.00
BC-654 Transceiver: 3300 to 5800 KC ..... Used: 34.95

Cathode Ray Tubes

5HP4 or 5CP1 ..... New 1.98
7BP7 ..... New 2.98

WESTON—SANGAMO

METERS. ALL NEW 2" SQUARE

0-2 Ma 0-300 Ma
0-5 Ma 0-500 Ma
0-15 Ma 0-20 VDC
0-50 Ma 0-40 VDC
0-100 Ma 0-300 VDC
0-200 Ma

$3.29 ea. SPECIAL 3 for $9.00



Heavy Duty Collins choke 4 Hy-300 Ma can take 500 Ma peaks, new 3.95
Bantam 1-watter, BC-746 plug-in transmitter tuning unit from WALKIE TALKIE. 140 mmfd APC type variable cond. plus assorted parts including chassis. Builds into low power transmitter (See CQ March '54) ..... New, $1.29

OIL CONDENSERS

2 mfd 5000 vdc new $5.95
2 mfd 1000 vdc new 1.95
10 mfd 600 vdc new 1.49
8 mfd 600 vdc new 1.49
4 mfd 600 vdc new 3 for 1.00
2 mfd 600 vdc new 3 for 59¢

Mobile Microphones, newly assembled, W.E. D173015 similar to the TC-128, push-to-talk switch, 3 cond. 5' curl, cord, new **$3.95**
Chest Mike T-26 w/P1 Button. New $1.49
F-1 Carbon Mike Element ..... 59¢
RT-48A/TPX-4 IFF Trans-receiver 157-167MC. Complete with Tubes, used, xlnt. Makes nice 2 Meter Rig $12.95
BC 655 Signal Generator Range 17.5 to 160 Mc. good for T.V. set alignment, use as transmitter fre. checker, built in 0-200 Ua. Triplett 2" round Meter. New $19.95
Brand New Headphones, HS-23, 2000 ohms, $3.95. HS-33, 600 ohms, complete with brand new rubber cushions **$4.95**

New small cushions, pr. ..... .49
Used chamois cushions, pr. ..... .49
New lg rubber cushions, pr. ..... .29

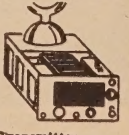




Brand new Impedance matching transformer, plug in, 2000 ohms to 600 ohms, takes std plug, boxed 69¢ each, 3 for **$1.95**

CD-307A cords, has JK-26 on one end for phones, std plug other end ..... **$ .97**

Stewart Warner Ammeter, 60-0-60 Amps, brand new, 95¢, 6 for 5.00
Phone-CW Filters, 1020 cycles, new, FL-3, 69¢ FL-8 with switch 1.89
GP-7 transmitter with all tubes less 803 tubes with 80 meter coil unit only 13.95
less tubes and coil unit 7.95
TU-7, 4.5-6.2 MC; TU-8, 6.2-7.7 Mc; TU-9, 7.7-10 MC; TU-10, 10-12.5 MC; TU-26, 200-500 Kc, choice, used, for BC-375 transmitter, each 2.29
T-30 Throat Mikes, used, 5 for 1.00
3' Mast Sections, MS-49 thru 52, 50¢ each. 53 and above, 75¢ each. Special 1 each MS-49 thru 54, makes 18' vertical 2.95
MN-26C direction finding Equipment
MN-26C Receiver w. dyna 10.95
MN-20E Loop 4.95
MN-52H Az Cont Box 2.95
All above new, special, 1 each for 17.95



Antenna Insulators, Bendix MT-48C, plated end caps, new 15¢ ea., 10 for 1.25
Control Box w/5 Ma S meter, special 1.98
SCR-522, exc. condition. Contains Receiver, Transmitter, Modulator, tubes, tunes 100-156 MC, covers 2 m w/o modification 29.50
New transmitters, GF-11 for 12 volts, or GF 12 for 24 volts, with tubes and built in modulator—less tuning unit, GF-11 $8.95 ..... GF-12 8.95
BC-223 Xmitter New With all Tuning Units 29.50
Used W/One Tuning Unit 18.95
Right Angle Coax Connectors, Type M-359 and M-359A (83-1AP) ..... .29
T S-24/ARR-2—Calibration Test Set for R-3/ARR-2 Receiver New 8.95

TG34 or TG10, 1 Hour Code Tapes

No. 10, No. 13 ..... New, ea. 1.25

2.00 Minimum Order. All prices Subject to Change without Notice. Canada & Mexico minimum 10.00. Cash with Order. Sorry, no COD. California Orders Include 4% tax. Prices FOB Los Angeles.

SAM'S SURPLUS, 1306 Bond St., Los Angeles 15, California

For further information, check number 32 on page 127.

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The first and only complete handbook devoted to the very high frequency spectrum. 12 chapters . . . 208 pages over 150 illustrations . . . brand new antenna facts. Moon reflection transmission data

$2.95 **VHF HANDBOOK**

by William I. Orr, W6SAI
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Complete and concise information about beam antennas. Dimensional charts, SWR data, and construction data on parasitic arrays for the 6, 10, 11, 15, 20 and 40 meter amateur bands! Invaluable!

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For further information, check number 48 on page 127.

weekend of operating on the Eleven Meter Band, you really brought 11 to life.

C. C. (Chuck) Worsley, K9ESL
Quincy, Illinois

Dear Sir,

One potent argument for the amateur service to retain the 11-meter band is that under present circumstances of meandering and tortuous commercial diathermy QRM it takes real operating skill and "bandsavvy" to maintain adequate communication, even on a local level, especially during week days.

All of us dyed-in-the-wool 11-meter amateur operators have learned and mastered, over the years, the flexible technic required to compete with this type of QRM, and find the band fascinating and challenging, despite these difficulties.

I seriously doubt if the other proposed services would be able to take the necessary operating measures to utilize this band with anything near the efficiency that the amateur service has.

Frank C. Binkley, M. D., W6SRT
Pasadena, Calif.

Maritime Mobile

Dear Boss:

Well, I haven't handled messages for the 800-odd people aboard, haven't arranged phone patches for these guys who haven't seen their families for over a year, haven't given KC5USA contacts to some thousands of anxious hams, and I've generally fallen down on the job of being a respectable ham during these three long months to Antarctica and back, all because of that little old "yes" I couldn't get from the Navy.

But during the longest QRT in my history I have at least had time to convince IGY Director Dr. Gould and all the IGY and Navy people I've seen of the tremendous advantage of having a ham station aboard the major transport vessel in the Deepfreeze operations—preferably all the large ships and planes.

We all agreed that this year we'd just started too late in trying to get the Navy to take exception to an established policy. This time we're taking no chances. Plans are underway for establishing IGY ham stations, both mobile and fixed, for next year's Deepfreeze.

73, Jimthaw

Thanks

Dear Sir:

The members of the Oil Capital Mobile Club Inc. of Tulsa, Oklahoma wish to express our appreciation to our fellow amateurs for their cooperation during our recent flood emergency. Many of you respected our mobile frequency of 3825 kc and moved off frequency in order that our Net Control Station could read our low powered mobiles. Others stood by to help clear the frequency or to handle out of town traffic. Our sincere thanks goes to all. The enclosed picture is of the Communication Center at the Civil Defense Headquarters in Tulsa, Oklahoma.

Lou Wilson, K5DVE
Tulsa, Oklahoma

We're Childish

To the editors of CQ:

There are really quite a few of us amateurs who are fully grown up—at least beyond the baby stage—who have not yet become excessively childish and we can read and understand plain English. The line of lingo in your ads indicates that some of you definitely have not reached that stage yet. Let's hope that you soon grow up.

Jay Hare WØDQW
Delphos, Kansas

Our childishly ungrown-up baby stage immature ads are extraordinarily successful. Perhaps maturity and humor are not unconcomitants . . . ed.

Hi there CQ:

I read the article (?) by K4HQB (Novice LFO) in the April issue. The part about PSQ magazine (The Amateurs' Allah) made me want a copy. I couldn't find any around here so I came to the conclusion that it is sold on the Black Market. Can you give me the name



ARC-5/R28 RECEIVER 2-meter Superhet, 100 to 156 Mc in 4 crystal channels. Complete with 10 tubes. **BRAND NEW** **$18.95**
110 V AC power supply kit $9.75

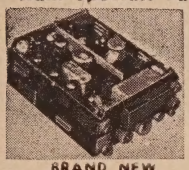
ARC-5/T23 TRANSMITTER companion for above; includes 2-832A and 2-1625 tubes. BRAND NEW, complete with tubes **$19.95**

ARC-5/T23 TRANSMITTER **$5.95**
Excellent used, less tubes
BRAND NEW, less tubes $7.95
ARC5 MODULATOR, type MD7 BRAND NEW $8.95

SCR-522 FINEST 2-METER RIG!

Terrific buy! VHF Transmitter-Receiver, complete with all components. 100-156 Mc. 4 channels, Xtal-controlled. Amplitude modulated voice. They're going fast! Excellent condition.
SCR-522 Transmitter-Receiver, complete with all 18 tubes. COMBINATION ..... **Special $33.33**

Ham Special! Famous BC-645 Transceiver



BRAND NEW

With MANUAL for Easy Conversion to CITIZENS' BAND!

Makes wonderful mobile rig for 420-500 Mc. Easy to convert for phone or CW 2-way communication. This swell rig originally cost over $1000—yours for practically a song! You get it all, in original factory carton, BRAND NEW, complete with 17 tubes, less power supply. **Conversion Instructions included.** **$29.50**
Shpg. wt. 25 lbs.
PE-101C DYNAMOTOR for BC-645, has 12-24V input (easy to convert for 6 V Battery operation only) **$7.95**
UHF ANTENNA ASSEMBLY, for BC-645 ..... $2.45
Complete set of 10 Plugs for BC-645 ..... **$5.50**
CONTROL BOX for above $2.25
SHOCK MOUNT for above 1.25

CONVERSION BOOKLET. Instructions for most useful surplus rigs **$2.50**

DYNAMOTOR VALUES! Excellent BRAND

DM-33A DYNAMOTOR, 28V 5A input with 575V @ .16A output; 28V 7A input with 540V @ .25A output. Excel. Used **$1.95**
As above, BRAND NEW $3.95

DM-32 Type DYNAMOTOR, input 12V @ 2.4A output 250V @ .060A. BRAND NEW **$5.95**

SPECIAL BUY FOR MOBILE HAMS

Brand New DYNAMOTOR, Input: 14 V @ 2.8 A., Output 220 V. @ .080 A. Filter in base. Complete with shock mount and spare brushes **$7.95**

A WORD OF CAUTION to Buyers of Military Surplus Equipment—When comparing prices, check also whether the equipment is USED or NEW—and whether TUBES are included or not.
G & G POLICY IS YOUR PROTECTION: WE CLEARLY STATE WHAT WE SELL!

BC-929 3" SCOPE INDICATOR COMPLETE

For IFF and Radar Navigation. Complete with all tubes. Used with SCR-729 and AN/APN-2 Equipment. Excel. Used. **$12.95**
As Above, BRAND NEW $14.95
BC-457 TRANSMITTER—4-5.3 Mc, complete with all tubes and crystal. BRAND NEW **$7.88**
BC-458 TRANSMITTER—5.3 to 7 Mc, complete with all tubes and crystal. BRAND NEW **$7.88**
BC-459 TRANSMITTER—7-9.1 Mc, complete with all tubes and crystal. BRAND NEW **$11.95**
ARC-5/T-19 TRANSMITTER—3 to 4 Mc. BRAND NEW, complete with all tubes & crystal **$8.88**

SCR-274 COMMAND EQUIPMENT

ALL COMPLETE WITH TUBES Type	Description	Used	Excellent Used	Brand NEW
BC-453	Receiver 190-550 KC	$10.95	$11.95	$14.95
BC-454	Receiver 3-6 Mc	7.19	8.29	11.95
BC-455	Receiver 6-9 Mc	5.25	7.95	9.95
BC-456	Modulator	2.24	2.75	4.24

110-VOLT AC POWER SUPPLY KIT

FOR ALL 274-N and ARC-5 RECEIVERS

Can be assembled quickly and easily, on pre-drilled chassis. Plugs into the rear of any model 274-N receiver and delivers 24 volts as well as "B" voltage. No wiring changes needed. This is a substantial kit of QUALITY Parts—custom fitted—no cutting or trimming. Don't be fooled by flimsy unsatisfactory imitations! Complete kit of parts with metal case. Instructions **$7.95**
Wired. Tested. Ready to Operate $11.50

SPLINED TUNING KNOB for 274-N RECEIVERS. Fits BC-453 BC-454 and others. Only **49c**

JUST RECEIVED! ASB-5 'SCOPE INDICATOR



BRAND NEW, including all tubes together with 5BP1 'Scope Tube Originally used in Navy Aircraft Radar Equipment. Easily converted for AC operation. Value $250.00! **$15.95**
OUR LOW PRICE .....

ASB-5 RECEIVER for 420 Mc BAND!

As featured in "CQ" for October 1956. Easily converted, makes a marvelous receiver for 420 band, with RF Amplifier! Supplied complete with all tubes,
OUR LOW PRICE **$14.95**
Conversion information for 110 V AC included FREE.
Tuning Knob for ASB-5 Receiver $1.29

OPERATING MANUAL for ASB-5 Indicator and Receiver listed above **$1.95**

BRAND NEW SPECIAL PURPOSE TUBES
in Original Individual Packing
JAN CRP-730A MAGNETRON, Raytheon **$3.45**

6J6W	.45	832A	5.95	3FP7	1.18	6AL5	.44
RK65	7.25	837	1.15	5BP1	2.22	6C4	.33
VR105	.79	1625	.26	5BP4	2.22	6J6	.35
VR150	.79	1626	.16	5CP1	2.45	25L6	.39
2J724B	.35	1629	.27	9LP7	1.88	35W4	.44
807	1.15	8002R	5.95	RECEIVING TUBES		35Z5	.41
811	2.45	NEW CATHODE RAY TUBES				50B5	.44
815	2.99			2X2	.39	50L6	.42
826	.44			6AG5	.35		
829B	7.95	3CP1	1.18				

BC-605 INTERPHONE AMPLIFIER

A Sensational Bargain! This amplifier can be easily converted to Intercom set, ideal for home, office or factory. BRAND NEW, complete with 4 tubes,
OUR SPECIAL PRICE ..... only **$3.99**
Instructions for Conversion to 110 V AC ..... 50¢

ARC-5 MARINE RECEIVER-TRANSMITTER

Navy Type Comm Receiver 1.5 to 3 Mc
BRAND NEW with 6 tubes **$16.95**
Navy Type Comm. Transmitter 2.1-3 Mc
BRAND NEW with 4 tubes and Xtal **$12.45**
DYNAMOTOR for Above $4.95

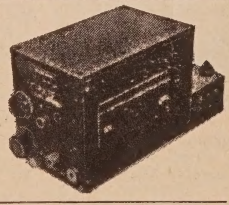
DYNAMIC HANDMIKE with "Press-to-talk" Switch, cord and plug—**BRAND NEW** only **$2.95**

FAMOUS BRAND HI-FI DYNAMIC HEADSET WITH LARGE RUBBER EARCUSHIONS
Freq. Range: 40-14,000 CPS. No distortion.
BRAND NEW. Value $45.00 ..... **$6.95**

CD-307A Cords, with PL55 plug and JK26 Jack ..... .99

DYNAMIC HEADPHONES, 600-ohm impedance, with large earphone cushions, cord and phone plug.
BRAND NEW, special **$3.95**

234-258 MC RECEIVER



BRAND NEW 11-tube UHF Tunable Receiver with schematic. Only a few at this low price! Complete with tubes.

$9.99

With 28V 1.6A Dynamotor, complete $12.98

110 VOLT AC POWER SUPPLY KIT for above $9.75

BEAM FILTER (Navy Type) BRAND NEW, complete with 3-ft. cord and PL-55 Plug **$1.88**

FL8-A RADIO FILTER $1.79

2 VOLT BATTERY "PACKAGE"

1—2V. 20 Amp. Hr. Willard Storage Battery .. $2.75
1—2V. 7 prong Synchronous Plug-in Vibrator . 1.49
1—Quart Bottle Electrolyte (for 2 cells) 1.45
ALL BRAND NEW! Combination Price **$4.99**
Willard 6V 3Amp hr Midget Storage Battery, uses stnd. electrolyte $2.45

Please include 25% Deposit with order — Balance C.O.D. 50¢ HANDLING CHARGE on Orders under $3.00 MINIMUM. All Shipments F.O.B Our Warehouse N.Y.C.

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Really SILENT A-C Relays

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Model DKC



1000 WATTS
Length 4½", width 3"

←***Silent*** **A-C magnet prevents hum modulation of carrier — A-C types guaranteed as quiet as D-C.**

Special connector protects your receiver ←from R.F. during transmission (Optional).

Transmit contact-pressure over 75 grams, making the 1000 w. rating very conservative. Causes negligible change in SWR up to 100 Mc.

DKF rigid adapter for external chassis mounting, $1.85



AC types (All Volt.) Amateur net.....$10.50
DC types (All Volt.) Amateur net..... 9.50

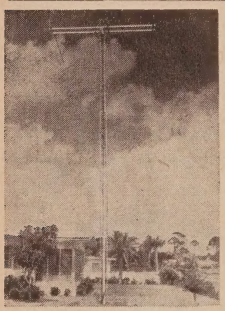
See your distributor. If he has not yet stocked Dow Co-axial relays, order from factory. Send check or money order or will ship COD. Prices net FOB Warren, Minn. Shipping Weight 9 oz. Dealers' inquiries invited. Literature on request.

Add $1 for external switch (Optional)
Add $1 for special receiver protecting connector (Optional)

THE DOW-KEY CO., INC.

WARREN, MINNESOTA

For further information, check number 49 on page 127.



K4EGE
Owned by Ben Wimberley, 39 N. Pine Circle, Clearwater, Florida. Ben says, "Greatest thing that ever happened to Ham radio."

HAMS ARE WAKING UP!

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I will use a.....antenna.
(State type and model)
Type of Rotor.....
Name.....
Address.....
City.....State.....

E-Z WAY TOWERS Inc.
P. O. Box 5491 • Tampa, Fla.

For further information, check number 22 on page 127.

hold them to perform this operation without the wire breaking.

A holder is made by taking a clothes pin and filing the edge down to a thickness of about ⅛ inch on both

and address of the Black Market Store nearest me?

Another gripe—in the "So You Think You Know Radio" bit in the June issue, #5 is not a Clapp but a Green (W2NSD) "power supply overloader."

Eric K. Albrecht K8BFH
Cleveland Heights, Ohio

Dear Wayne:

It just occurred to me that the boys might sorta be burnt out on mathematical puzzles, so here's a little idea that might stimulate "CQ" sales.

Run a word-making contest, using basic words that pertain to ham radio, i.e., amateur, antenna, current, amperage, transmitter, receiver, etc. As a sample, using the basic word "amateur." You will see that it is possible to make 44 words out of "amateur," using the same letter only as many times as it appears in the basic word. Each word must contain at least two letters. No proper names, abbreviations or foreign words may be used.

1. AM	23. REAM
2. AT	24. MUTE
3. ATE	25. TAME
4. ARE	26. TRAM
5. AR	27. ERA
6. ARM	28. RUT
7. ART	29. TARE
8. TAR	30. TEAR
9. RAT	31. EAR
10. RATE	32. TAM
11 MAT	33. RAM
12. MATE	34. TRUE
13. MAR	35. RUE
14. MARE	36. MUT
15. MART	37. EMU
16. MEAT	38. EM
17. MET	39. URE
18. RET	40. ARUM
19. TRAUMA	41. AURA
20. RUM	42. TEA
21. TERM	43. EAT
22. TEAM	44. MURE

As an inducement, offer one year's subscription to "CQ" for the most words. In case of a tie, use the oldest postmark. In this way you can only get hooked for one subscription each month and I feel sure the idea will stimulate quite a bit of interest.

What say?

Arthur E. Hutchins, W5AXI/MM
S.S. Fullerton Hills at sea
(See answer below)

Well Hutch, I like the idea, but I don't see how to go about putting it into operation: Someone has to sit down and spend a few hours a month reading the letters that come in for the contest, check the words involved, and master-mind the whole thing. Art and I are already trying to do far more than we can manage as it is and I haven't seen any volunteers standing around waiting for work to do.

Dear Editor,

If Paul W9HSG/6 (May Letters) will check another well known "Ham List" for Winter 1956 he will find Aurora about 20 names under his. He can then arrange a schedule by mail, or he can go to his local post office and look up Aurora in the Alphabetical List of the Directory of Postoffices and he will find 15 different Auroras. He takes his pick of them and etc., etc.

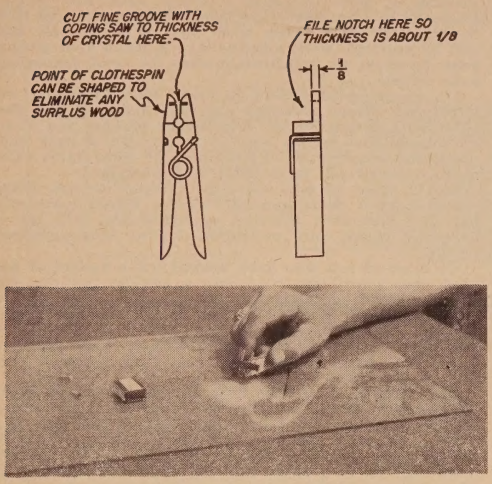
Arthur M. Hartz WN3IVS
Morton, Pennsylvania

Ask a silly question, get a silly answer.

Holder for Grinding FT-241 Crystals

Dear OM,

A clothes pin can be put to work as a holder when sanding the edges of the FT-241 low frequency crystals to increase their frequency. Because of the thin wire welded on the face of the crystal it is very difficult to



jaws. A slot is then sawed on each side of the jaw to accommodate holding the edges of the crystal. A fine coping saw blade will make this cut.

By holding the clothes pin in the right hand and supporting the holder base with the left, the grinding operation can easily be done. Fine emery paper should be used by laying it on a flat glass surface and held with scotch tape. The crystal edge sanded off this way will move the crystal frequency up to 1 kc without too much difficulty. This compares with any point between adjacent channel surplus crystals.

See the January 1957 CQ, page 59, for a complete listing of the fundamental and harmonic frequencies of these crystals.

E. H. Marriner W6BLZ
528 Colima St.
La Jolla, Calif.

Dear Sir:

I note one error in the schematic for the Novice LFO (April 1957). R4 should be substituted for R7 and vice versa, otherwise the Q-values will be degenerative.

Also I would suggest that a 12 PQ7YGT*A* be used in this circuit, instead of the 12PQ7YGT. You see although 2 pi T is always equal to 3.2, it is opposite to 3.2*A*—hence, upon cancellation, the A appears in the final result. It is a shame that this one little slip should mar an otherwise brilliant engineering job.

Incidentally, the 12PQ7YGTA has just gone into production, it being produced right off the bat as a surplus item—and therefore should be available dirt cheap.

Harold A. Thomas, W5HJM

Gentlemen:

In the February, 1956, issue of CQ there appeared an article of mine entitled "The Drooping Doublet." Now this, in itself, is nothing particularly praiseworthy or sufficient to cause a stir in the bosoms of your readers. So what, lots of hams have written articles—and better ones, too!

Well, the idea is this: I'd like to tell anyone who has ever considered writing an article for publication in CQ, or any other radio publication (there are *others?*), just what it has meant to me. This was not my first article for CQ—there was another one, on mobile antennas, in an earlier issue. But the "Drooping Doublet" was a longer, and, in my opinion, better written, article.

Naturally, a great deal of satisfaction comes from seeing your name, your call, and your article, in print. You feel that you have accomplished something which *might* be of value to some member of the ham fraternity. But, and little did I realize this until a while after the magazine was published, the biggest thrill is hearing from hams who have used your idea. Since publication of my little literary effort, I have heard from amateurs in Nebraska, South Dakota, Nevada, North Carolina, Michigan, Colorado, Kansas and California. Some have written to me wanting more information; some sent

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Available in MC-7 or FT-171 holders at above prices. Specify holder wanted.

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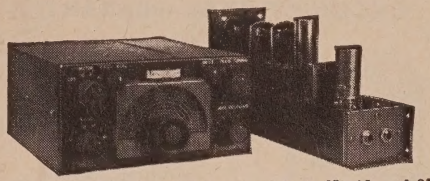
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For further information, check number 34 on page 127.

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For further information, check number 37 on page 127.

pictures of *their* Drooping Doublets; some just wanted me to know that they were using the antenna and liked it. The next thrill comes when you get on the air and, just by accident, work someone who is using your gadget, your antenna, or whatever it may be, and remembers your article.

It's a real good feeling to know that something you wrote has helped someone else. It's not just the fact that you are occasionally remembered because you wrote an article; that is the least of it, for me. I have done something constructive; I have been of some value other than to simply add more QRM to the bands.

So, to those of you who have written to me, thank you. I hope I have answered all the letters personally, but if I haven't I herewith apologize and will try to do better if you care to address further correspondence to me.

To those of you who have worked out a gadget of *any* kind, even something that seems so obvious that you feel no one would be interested, don't just sit there, write, dammit, write! You'll not only enjoy writing it and possibly seeing your name and article in print, but you'll get a real kick out of finding that someone, somewhere, has benefited from your idea, however humble *you* may believe it to be.

Now, if I may be permitted, I'd like to tell you about the present status of the "Drooping Doublet." Since writing the article, we have moved from Glendale, California, to Santa Barbara, California, about 100 miles up the coast from Los Angeles. We are again in rented premises, and at present may not erect a tower or mast of any kind. Also, since it is a TV fringe area, I am trying to keep the antenna as un-obvious as possible, so #30 copper wire is being used (yes, #30). The center insulator is supported at the peak of the one-story roof, about 15 feet above ground. It is fed with 300-ohm twin-lead, rather than the open-wire line recommended in the article. Each half of the half-wave, 40 meter, antenna comes down at about a 35 to 45 degree angle, and each end is secured to a fence which encircles the property. While this, of course, is not as effective as the antenna outlined in the article, we have, with our present 55 watts, worked up and down the coast of California, from well above San Francisco to below San Diego, and always with nothing less than a Q5, S9 report, and, happily, frequently a few db over S9. I might add that we have had the antenna up, as of this date, less than one week.

On the basis of my own experience, and that of others, it woul seem relatively easy for any ham, anywhere, to get on the air, regardless of location, with *some* kind of antenna. While optimum conditions may not obtain with the antenna you are forced to use, you can certainly get out if a little planning and willingness to deviate from "the book" are employed. The small diameter wire seems to make no difference. Mechanically it is, of course, inferior. Electrically, as far as I am concerned, it does as good a job as I could desire under present conditions.

Richard F. Van Wickle, W6TKA
Santa Barbara, California

You Don't Need a Lot of Power!

Dear Wayne:

I suppose every Ham, at one time or another, would like to have a better transmitter, a better antenna or a better receiver. I have been guilty of this myself, but lately I have been wondering if we, who work with a small rig, don't have more fun!

It can be compared to a fellow who sits on the bank and casts a piece of number eight thread, on which is attached a pin rook and piece of fat meat for bait! He pulls out the bass while the fellow with the fancy fly and expensive reel gets nothing! When it comes to bragging of conquests what chance does the other guy have?

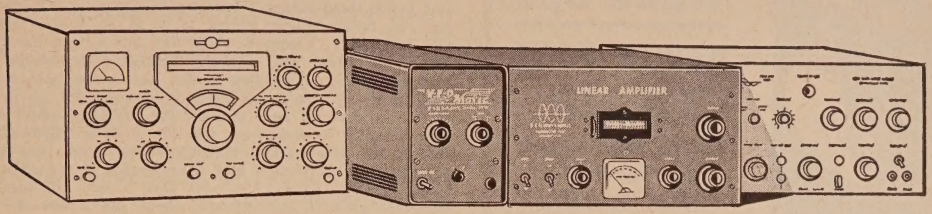
Oh no, I'm not going to brag, I'm just going to tell you of the fun I have had! I haven't had any really big ones, but I have had more enjoyable QSO's than most people in the six years I have been on the air.

I began as a Novice, and still am, except for the code! However I have my WAS on forty meter CW, and I did it the hard way. I have worked all VE districts, including VO. My DX consists of Rhodesia, South Africa, Finland, Windward Islands, South America, and of course, New Zealand, Japan, Hawaii, Australia and DU7SV!

To some, in fact to most, this isn't a very imposing list, but when I tell you of the circumstances, under which I did it you may understand why I feel a little bit proud!

[*turn to page 125*]

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NEW V-F-O-MATIC . . . plugs into 75A-2, -3, -4 Collins receivers; requires no rewiring or changes; does not affect calibration, sensitivity or adjustments. Collins precision VFO furnishes freq. control for both send and receive. For all SSB phasing type exciters (10A, 10B, 20A, Phasemaster, Hallicrafter HT-32, etc.) using 9mc mixer frequencies. Automatically zeros in Xmtr to exact freq. received. Operates both upper and lower SB on 75 and 20 meters. Complete with power supply. (Model 80-10 all-band unit for KWS-1 also available.) Immediate delivery.

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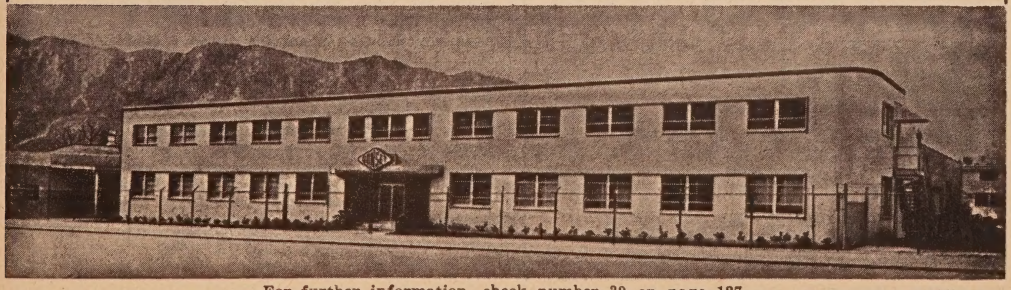
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For further information, check number 39 on page 127.



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For further information, check number 40 on page 127.

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FM Rec. easy to convert 30-50 mc. push button tuning 10 channels, phone jacks, 10 tubes 12 or 24 v imp. $33.95 Dynamotor for above 12v imp. $4.95

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All shpts. FOB whs. Send 25% dep. with all C.O.D orders. Item sub. to prior sale & change of price without notice. Min. order $2.50.

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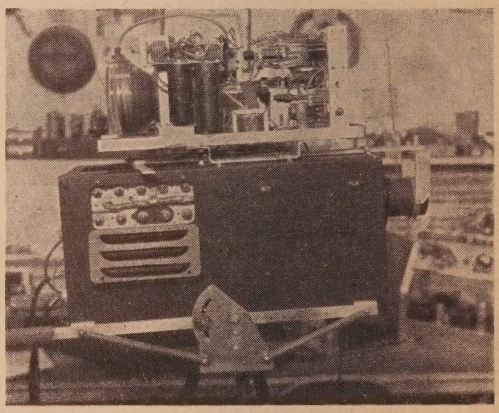
For further information, check number 41 on page 127.

Surplus [*from page 85*]

other interested parties of Amateur TV systems. Bob and I will help others interested in amateur TV providing you forget about trying to do it on a shoe string. 73's Willard J. Carmack, W5FND, 302 Lemur Dr., San Antonio, Texas. *Bill included quite a description of activities, only sorry that I did not have room to include them. I think that there is demand for an article on a simple flying spot scanner for the low budget boys, Bill. It could be something like the B & K "Dyna-Scan" only with better video amplifiers (or even just video amplifiers) real simple and inexpensive to construct. I have a pile of ham TV gear that I am unloading if anyone wants to get started. Send for a list as long as your arm.*



The ATJ camera converted by Carl Alsheimer. Note the beautiful focus, pan and tilt adjustments, also the viewfinder monitor (atop the camera).



Dear Don: Can you give me any dope on this new ½ inch Vidicon? I hesitate building or converting any equipment when this new tube might afford a better system. What is the price of the ½ inch job? Do you have any dope on a surplus receiver made by Emerson bearing the designation RB type CEX 46203 or CEX-10172? Robert C. Dalrymple W1ZEK, 30 Wyman Road Lexington, Mass. *According to RCA, the demand situation on the half inch Vidicon is such that the price is still too high for the average ham. It may be some time before a low cost ham version is announced, Bob. I hope one of the readers has some dope on the RBZ, I don't.*

That is the bottom of the stack. 73,'s and we'll see you again next month.

Don, W6TNS

Catalina [*from page 32*]

into the breakfast room for a wonderful breakfast.

Cleaned up and well fed, we went to town and hunted up our girl friends and planned the biggest ship-board party ever to be seen in Avalon Bay.

What a party. Our Drag-Net dance band was really living it up. Before the party had started we were surrounded by yachts. By morning all the yachts had pulled anchor and were on the other side of the bay.

After several days of skin-diving, walkie-talkieing (great fun interviewing people), horseback riding, dancing, romancing we pulled anchor and reluctantly headed for home.

Underway again, homeward bound, we were full of fond memories of good times. Confident of our navigation techniques, no worries entered our minds.

Three hours out of Avalon, we found that the bearings we had set on a San Diego station had shifted somewhat. Curious about this phenomenon, we tuned to a Los Angeles and then a San Francisco station, only to find that all of the stations had changed their QTH's (it seemed). Then we discovered the small stream of hydraulic fluid leaking from the wheel control box. Great. Now we had a broken hydraulic line, and no control over the yacht.

We had no idea how long this condition had existed, so our course was impossible to trace (later, we figured we had gone in circles for about two hours).

After a frenzied period of time, with all minds cranking furiously, we decided we had one way of guiding that boat.

Two of the boys sat at the stern above the rudder controls. Each guy was to control one rudder (there are two).

By tuning in the San Diego station, we headed the boat toward it (we hoped).

We continued with this Rube Goldberg affair for a half-hour, while the boys made a new tube out of some old tubing lying on the deck in the engine room.

Success at last. After adding hydraulic fluid, and getting the bubbles out, we discovered that the steering apparatus worked in the manner for which it was originally intended.

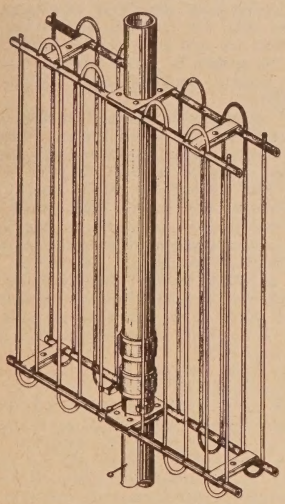
A few hours later, we pulled into San Diego Bay, a weary, but victorious group of guys.

Tying up at the yacht club, we happily greeted the yacht's owner, who appeared most relieved to see us.

"How did it go?" he asked.

"It went, man, it went," was the feeble reply.

So goes the story of the Drag-Net DXpedition to Catalina Island. Back to school, college, and work after a fabulous summer. We all felt we had the best vacation a club could ever have. ■



THE NEW, ALL NEW

BYQUIST BABY BEHEMOTH

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The "Little Giant" 27 Incher 7 MC - 14 MC, designed by W.Ø.M.B.H. and W.Ø.A.S.T.

A ruggedized, patent pending, new principle narrow band receiving and transmitting antenna, tunable to resonance over the 7 and 14 mc bands

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Full vernier inductance permits complete resonance at chosen frequency.

52 ohm feed line, any length, substancially flat at resonant frequency.

Thousands of hours of engineering plus actual point to point tests and QSO's (over 1000) DX and stateside, have gone into this revolutionary miniature antenna principle. Its tests have revealed some unusual gain figures and excellent vertically polarized DX potentials. Armed Service tests and independent lab tests have indicated gains considerably over the several DB's we mention. We suggest array be oriented in most desired direction or a TV rotator be used. Tests with reference antenna in very noisy locations show very much reduced background with proper orientation.

SOON—"Little Giant" 6" tubular, welded, aluminum mast with insulated base, provision for rotator under the base, co-ax leads and beam mast brought down thru the center. The ultimate in a vertical antenna, or with the "Little Giant" or your present beam. The answer for a permanent rugged installation for universal ham use. Even the XYL will like this assembly, enhances the appearance of any yard, a beautiful thing to see and to DX with.

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CQ Magazine

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VHF *[from page 81]*

"The six meter men in the Tulsa County 6 Meter Emergency Net were determined to make a show even though three-fourths of us, including myself are Techs. An old 75 'die-hard' told me 6 would fold in an hour after a mobile got into the field. Well, we did fold allright after about a hundred and twenty-six hours of steady operation by W5NDE, by many men through rain, storms and high water. They stacked up about seven hundred hours total. It has been rumored that half of 75 is moving up to six.

"I think that W5VCX, DCI, DCE, KTM, YKX, HXD, TMQ, NDE, K5GYY, GMK and IJH and many others who had a hand in the six meter work during the emergency deserve a big pat on the back. Special mention should be given to W8RLT (Larry Mueller) who helped keep the frequency clear from his end.

"We of the Tulsa County six Meter Emergency Net wish to express our heartfelt thanks to the men who cleared the frequency 50.1 for W5NDE during the band opening from May 17 to 22. Wish we could have cleared a hundred per cent but didn't. *I heard a YL in there, too, clearing the frequency.—Helen.*

"The question was put to one of the C.D. heads, 'What would it have been like if the Hams had not helped?' Answer—'God, man, don't think of it.' This shows what a good communications system can do when needed." *Congratulations to everyone who helped in the emergency. We heard part of the doings during the band-openings and couldn't imagine how the boys managed to do their job. Most said the better. THEY DID IT.*

The South Pole. From John, KL7BNJ who who is wintering over with his 6 meter *Tapetone* converter, 75-A4, etc. has come word to look for his beacon on 50.000 mc. If the band opens John has a KW ready to go.

VHF Session in Chicago

"Just a few lines to acquaint you with plans for the VHF program at the National Convention next Labor Day. I am giving John W9WOK, the VHF Chairman of the convention a hand with the publicity end of things, and he informs me that we will have you as moderator at the VHF forum. We expect to make this the largest gathering in VHF history, and no effort is being spared in this direction.

"A complete VHF program is planned including a series of technical sessions covering all major phases of VHF, hidden transmitter hunts on 50 and 420 mc, a VHF banquet, special prizes of interest to VHF men, etc. An open forum will be held at which time VHF activity, policy, resolutions, and future VHF plans can be made. A special award will be made to the individual or group that submits the most constructive suggestion, program, circuit, or equipment design for the promotion of VHF. A 'VHF Man of the Year' award will be conferred upon the recipient for the year 1956, by the Midwest VHF club. It is our goal to have at least one VHF man from each state attend this convention.

"A VHF room has been assigned us at the convention headquarters, approximately 40 ft. by 50 ft. in size. This will serve as a gathering place for VHF men, where visitors can display photos, QSL cards, bulletins or other items of interest to VHF. Facilities for registering VHF men and special badges will be available also. Space will be provided for non-commercial displays of VHF equipment which may be brought in by visitors, also a swap and shop area.

"A special VHF banquet will be held Saturday night for which seating will be available for 175 people. Tickets for this affair will be $6.00 and will include a first class meal and prizes. Tickets will be sold on a first come, first serve basis, and can be secured through the club secretary, W9BOZ, Ralph Miller, 928 Diversey Pkwy, Chicago 14, Illinois." *This information was sent to us by Melvin Meddelsohn, W9OBW, VHF Publicity Chairman of the Chicago Convention. Sure sounds like it's going to be a whing-ding.*

73, Sam, W1FZJ

Hamfests *[from page 18]*

W9QMG, nationally famous frogman and deep sea diver, who does his famous circus clown act (bring the kiddies), Bill DuBord, WØQDF, ace DX'er and SSB specialist, who is in charge of all activities, Lou Arivello, WØCPI, an Edison award winner and super traffic handler, and many others, including several ARRL officials. Food and drinks on the ground!

Contests galore!!! including code speed, hidden transmitter, phone-CW tug of war, CQ whistling, Famous voices, etc.

Come early and stay late. No admission charge for out of town hams. Mobile in on 29640 and 3940 kcs. Write WØWPS, "Ole" Bill Guhman for further details.

Calgary

The Alberta Hamfest will be held in the Stampeder Hotel, Calgary, Alberta on August 3rd and 4th, 1957. Messrs. Jim Brown and Geo. Sutherland of Remington Rand Ltd. will speak on the Univac Electronic Computor. Registration at the Stampeder Hotel commencing 9:00 a.m. August 3rd, 1957. Registration fee $5.00 — Entertainment, Banquet, Dance, Contests, Mobile, Lectures, Group Discussion and Good Fellowship.

Idaho

The Annual WIMU Hamfest will be held at Big Springs, Idaho; August 3rd and 4th, 1957; 20 miles south of West Yellowstone Mont. Events will be held for the OMs XYLs and YLs. Cabins and good campgrounds are available.

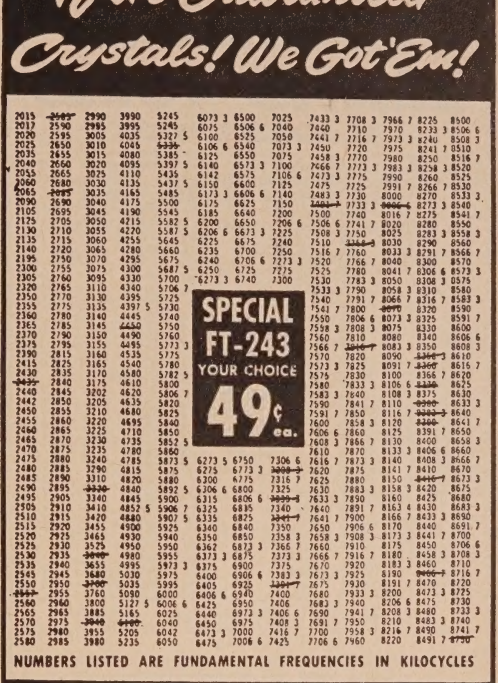
Waco

The Central Texas Amateur Radio Club of Waco, Texas is planning their annual "Hamfest" to be held on Sunday, August 25, 1957. It will be held at Cameron Park Clubhouse in Waco beginning at 10:00 A.M. on above date. There will be a pre-registration prize, main drawing prize, and many more regular drawing prizes. In addition there will be transmitter hunts, equipment displays and various entertainment both for the O.M. and XYL. Registration $1.50.

Chicago

The Hamfesters Radio Club is holding their 23rd annual picnic on Sunday August 11, 1957 at Santa Fe Park, 9100 So. Wolf Road. Site can be reached from the east by taking Route 4A (Archer Ave.) to 87th Street, in Willow Springs and turning west to the Grove. From the west, take Route 66 to 79th Street, east to Wolf Road. Kiddie Rides, convenient parking, modern facilities, and plenty of shade. Radio displays, food and refreshments. Bring your equipment for sale or trade. Events for kiddies and grownups, at the liveliest gathering in the midwest. Advance donations, $1.00; $1.50 at the gate. Contact W9IGC for information or tickets. ■

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FT-241 Single Side Band low frequency Crystals — 370 KC to 540 KC.....ea. 49c
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AN/TRC-1 FT-241 holders from 729 to 1040 KC— 1000 KC excluded.....49c
FT-241 200 KC or 500 KC.....ea. $1.00
FT-243 1000 KC Marker Std.....ea. $2.95
100 KC FT-249 RCA VC-5.....ea. 4.95
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DYNAMOTORS: 12V In, 625V out at 225MA, new $16.95; 14V In, 1000V out, 350MA, used $14.95; 14V In, 230V out, 100MA, new $6.95; 14V In, 515/1030V, 215/260MA, $19.95; 6V In, 600V out, 170MA, used $7.50. Ladd Electronics, 111 North 41st, Omaha, Nebr.

2000 WATT P.E.P. Linear Final—Johnson Viking Thunderbolt—complete bandswitching amplifier with self-contained power. Write for full details and best trade-in allowances. Ladd Electronics, 111 North 41st, Omaha, Nebr.

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SSB STATION: Barker & Williamson 5100-B Transmitter and 51SB-B SSB generator $550; also NC-300 with crystal calibrator SXCU-300 $300. Buy them both and will give electro-voice crystal mike and Atlas stand plus Coax antenna relay free. Bought for summer QTH sold QTH all in original cartons taken out to check only. First check gets it express collect. M. Swedgal, 2111 Albemarle Rd., Brooklyn, N.Y. K2HAM.

DX-100 $170; NC-183 $150; Telrex 3 EL. 10 meter beam $20; Heathkits grid dip $17; Imp. meter $8; Conelrad Mon. $9; 150' 72ohm coax $10; Q-multiplier $9; tube tester $23; power meter $9; Eico VTVM 25; B & W baluns 8; freq. standard $8; also many xformers, relays, tubes, filters, etc. DX-100 wired by RCA eng. Will sell separately on first check for $425 takes all. K9AWI, John Mahan, Orleans, Ind.

FOR SALE: Complete 100w 80 meter fone/cw station. BC969, BC454, relays, antenna and push-to-talk mike $65; automatic hum-free fone patch $8; BC453 $5; RCA UHF TV conv. $7.50; code osc. $5; mod and driver xmfrs for 807s $8; 75 meter 15w mobile VFO xmtr $15; conelrad alarm, BC set, 3PDT control rly $22; 50, 25, 12.5v heavy duty filament xfmr $6.50; 6 meter converter with new tubes and xtal $20; Triplett 3256 freq. meter $10; var. inductor $4; Tungar battery charger tube (new). J. Gordon, W5GXH, 520 So. 2nd St., McAlester, Okla.

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200w, 814 TRANSMITTER, in attractive cabinet with complete metering, built-in VFO and pi-network. Power supply needs new filament transformer so am willing to sell for $80. Accessories include power supply. External antenna coupler, coax, coils and kw, low pass filter. Will ship free local delivery. For details and pics write W7YOQ, Frederick, 4521-46 NE., Seattle, Wash.

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GLOBE CHAMPION and RME-45 (Michigan hams attention). Write "Rus" Sackers, W8DED, Holland, Mich.

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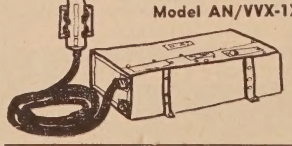
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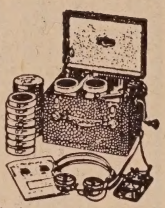
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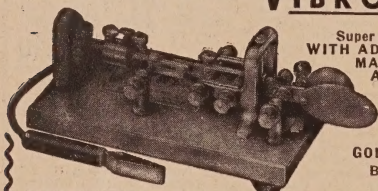
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WANTED: BC-221, BC-348, BC-312, BC-342, BC-610-E, ARN-7, BC-788, ARN-6, APR-4, ARC-1, ARC-3, ART-13. All types surplus or amateur transmitters, receivers, test equipment taken in trade for New Johnson Viking Ranger, Pacemaker, Valiant, Hallicrafters, Hammarlund, National, B&W, Gonset, Elmac, Telrex, Fisher Hi-Fi, etc. Write Tom W1AFN, Alltronics-Howard Co., Box 19, Boston 1, Mass. Tel RIchmond 2-0048.

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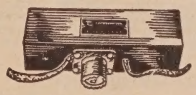
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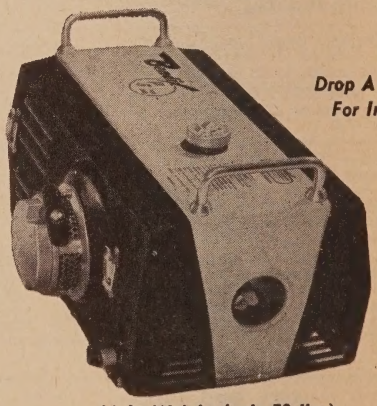
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This one is just as complicated as the above is simple. Where Bill gives circuits and discussions these fellows present pages of calculus . . . real long hair. But, if you really want to have a reference book which goes into the fundamentals of linear-network analysis and synthesis, including the use of unilateral elements, here it is. A book you'll treasure.

We advertised four darned good books last manth on page 112, but you obviously were carried away by the editorial or something and missed it. Your apology will be accepted if accompanied by sufficient cash.

C. SOS at Midnight by Walker Tompkins, K6ATX $2.75

D. Radio-TV & Basic Electronics by Oldfield. . $4.95

E. Radio Operating Questions and Answers. . . $6.00

F. I, Libertine by Frederick R. Ewing (K2ORS alias) ..... 50¢

Maybe you forgot to order these too:

G. Antennas by John Kraus, W8JK. $9.50

H. Electronics Manual for Radio Engineers. . . $14.00

I. Vacuum-Tube Circuits and Transistors by Arguimbau $10.25

J. Cybernetics by Norbert Wiener. $3.50

K. Electronic & Radio Engineering by Terman (new) $12.50

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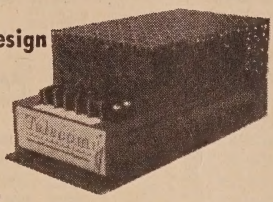
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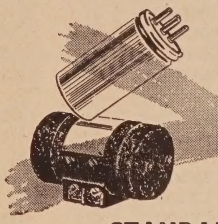
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For further information, check number 45 on page 127.

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W3VKD	1200
W5ZWR	28
K6LOM	40
W7SFA	1060
W8JIN	836
W8NXF	360
K9ALD	9
W9KRL	1
WØGEK	153

U. S. A. CW	
W1PPN	231
W2WZ	2945
W2EQS	1250
K2GMO	200
W2GJD	190
W2BOT	180
W2KKT	35
W3VKD	4128
W4LZF	2574
W4KVX	525
W4LHT	363
W5DF	1650
W5ZWR	77
W6LDD	4446
W6ATO	988
K6DDO	576
W6AFI	371
K6LOM	84
K6BHM	56
W6CLZ	40
W7SFA	5421
W7TML	1664
W8JIN	5031
WØJMB	144
K6CJQ	2550

(Multi-op)

Leaders in each country—Phone.

KL7RZ	28
HR1EZ	48
CO2OZ	280
XE1DU	672
VQ4ERR	70
KA2FQ	924
VS2DQ	1236
OH5PE	1159
HB9MU	35
ON4DH	126
DL1UX	860
G3TR	546
LA5YE	528
SM5LL	20
CT1PK	234
I1TDJ	110
CE3DY	760
CX2AY	36
ZP5CG	312
VR2BZ	361

Leaders in each country—CW

VE3ADV	4
FA9VN	608
CR7BS	35
ZS5U	1036
JA3BB	1960
OD5LX	120
VU2HF	234
VS1GV	249
4S7MR	16
OH4NT	874
HB9QU	735
ON4PA	1350
F9MS	120
PAØVB	266
DL1DX	2400
G5RI	2890
OZ3FL	1200
SM5LL	561
LA1WF	66
LA1K	252

(Multi-op)

EI9F	16
OY7ML	4
HA5KAG	36
OK2KBE	36
YO3RD	364
ZB1HKO	48
CT1IQ	4
EA2CR	30
UA3KBA	25
PY1ADA	1224
LU7AS	198
YV5DE	54
CE3AG	3094

How the boys "Down-Under" stacked up in their districts:

	Phone		CW
VK1PM	678	VK2GW	4136
VK2AHH	1252	VK3PG	3750
VK3ALZ	932	VK4SD	837
VK4DI	554	VK5DK	2431
VK5LC	1684	VK6RU	3308
VK7PM	802	VK7UW	3130
VK9DB	3083	VK9DB	4600

a few ZL scores next month.

It's Set

November is going to be the big month. If you haven't subscribed by then you will have the opportunity to spend a dollar for that special issue of CQ on your friendly (why shouldn't he be friendly, look at the dough he is making from you) newsstand. Yessir, the November CQ will practically be a handbook . . . it is our first annual (and maybe last) jumbo, behemoth, gigantic, enormous, monstrous, immense, huge, voluminous, titanic, mighty, colossal, Gargantuan issue. It looks like we'll have at least 40 (forty) feature articles . . . some of 'em real corkers.

So there you are. Don't you think it might be prudent to get your check book in gear and subscribe right now? Wouldn't you rather that we mail this dollar issue to you at no extra cost than to have to take a carrying handle down to the newsstand to bring it home?

Look at it from the dollars and cents angle too: this year CQ will cost $6.50 on the newsstand. On a three year subscription you only pay $3.33 a year (about 28c a copy).

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C-8

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Letters *[from page 112]*

My OM isn't a Ham! I have a son who is, but does not live at home. My radioing has been by the "trial and error method," if this doesn't work, maybe something else will!

I have never used more than sixty-five watts. Now I have a Globe Scout and usually, when some one gives me a good report, he asks "What kind of beam are you using?" I have never had a beam. For the first time, I am on twenty meters, but the only antenna I have is a Windom (so they tell me!) about sixty-feet long, or is it sixty-two? I have a single 300 Ohm lead, with relay. I have an HQ-129 x, for which I traded a new receiver. I'm satisfied. I hear as much, or more, than I can reach, which is good!

I have never owned a microphone. At a meeting the other night, I asked a girl if she had been in the YL contest. Her reply was typical of many persons' attitude toward CW. "Yes," "she replied," I got third place for our district. "That's swell," I replied, "I got first." "O yes," was her reply, "but *that* was on code!"

One of the nicest of compliments is to be told, "You have a beautiful fist!"

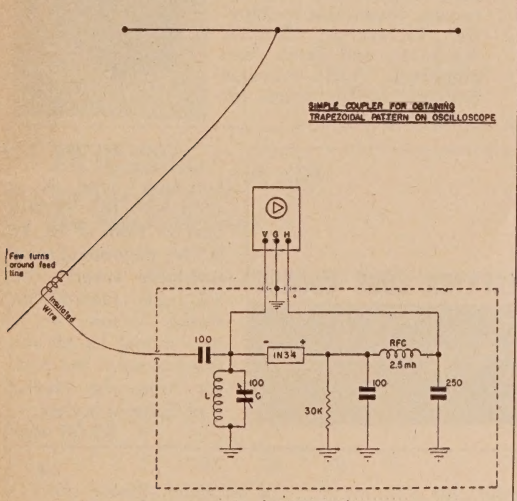
My little rig, sitting on a small table in my kitchen, isnt very powerful, just a "Bug," receiver, head fones, transmitter and speaker, (which I seldom use). Above it, on the wall, are cards and pictures of people, from all over the word. It can truthfully be said, "I have the World at my finger-tips." I don't need more power, it's more fun this way.

Inez Morton W7PUV
Scottsdale, Arizona

Safe Modulation Monitor

Dear OM:

First of all—many thanks for the cumulative index in Jan. '56. It saves hours of looking with its resultant wear and tear on copies!



Enclosed please find a sketch of a simple, *safe* coupler for obtaining a trapezoidal pattern on a scope for Modulation Monitoring. One doesn't have to dig into the xmtr for a connection which might have lethal properties. *L* may be plugged in or tapped or what have you, for varous bands. The setup is not original but am unable to remember where I first ran across it. It works equally well regardless of the type of feedline to the antenna.

Len Creighteon, VE4SC
Manitoba, Canada

ARC/5 274N EQUIPMENT SPECIALS!

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Kit 50 Tubular Condensers	Kit 6 Piezo Xtals & Holders
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1S5	.68	6AJ5	1.00	12SQ7	.69	866A	1.20
2C22	20/1.	6AK5	.69	24G	2.00	954	10/$1
2C39A	11.00	6AK6	.69	25L6	.72	955	3/$1
2C40	7.00	6AL5	.59	25T	4.00	956	3/$1
2C43	8.00	6AQ5	.66	25Z5	.72	957	4/$1
2C46	5.00	6AS7	3.00	28D7	.80	958A	2/$1
2C51	3.00	6AT6	2/$1	35T	4.00	959	1.00
2D21	.68	6BA6	.59	50L6	.69	991	5/$1
2E22	3.00	6BA7	1.00	HK54	4.00	1619	4/$1
2E24	3.00	6BE6	.59	T55	9.00	1625	.35
2E25	7.00	6BG6	1.50	RK20	5.00	1626	5/$1
2E26	3.00	6BK7	1.00	RK38	4.00	1629	7/$1
2E30	3.00	6BQ7	1.00	RK47	3.00	1851	2.00
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3E29	9.00	6CL6	1.10	211	.49	7193	20/$1
3Q4	.68	6H6	.59	233A	1.00	3APIA	6.50
3Q5	.84	6J4	1.72	250T	20.00	3BPI	1.80
3D23	5.00	6J5	.59	254	10.00	3DPIA	6.80
4-65A	15.00	6J6	.59	388A	1.00	3EPI	1.00
4-125	32.00	6K8	1.00	434A	2.00	3KPI	7.00
4-250	35.00	6L6	1.00	450T	43.00	5APl	2.95
4E27	7.00	6SA7	.69	717A	4/$1	5BP7A	25.00
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4X150	19.00	6SK7	.72	802	2.00	5FP4A	3.00
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TRANSFORMERS: ***PRIMARIES 115V, 60 cycles, 1Ø.***

TYPE TPF51 RCA H'Sealed Pwr&Fil Transf 1200VCT @ 200 ma, 6.4V@8A, 5V@3A & 125V@200ma, 5H7L6"W HiLo Pri. $6.95 ea, 2 for $12, 5 for $25
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TPF52 Pwr & Fil 778VCT @ 200 ma. 5V @ 3A, 6.3 VCT @ 5A Uprt dbl shell $3.75 ea, 3 for $9
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Cool that Tube or Equipment MIN-FAN AC input 6 & 12VAC operation. BARCOL mfgr. $1.49 ea, 4 for $5
ADVANCE RELAY 12VDC/4PDT $1 ea, 6 for $5
OIL 4mfd/600WVDC TLA type upright Tubular 4 for $2
MICA CONDSR XMTTNG .006@2500WVDC/5KV Test 7for$1
FILAMENT TRANSFORMER 866A/2.5VCT/10A/7.5KV $2.98
866A Combination tcbes sockets & trans. $5.89

CHOKE W. E. 8Hy @ 400ma, $5 ea., 2 for $9
CHOKE RCA 10Hy/150ma/H'sld, $2 ea., 3/$5
MILLER 2.5 mh/2.5 & 5mtr CHOKES 12 for $1
NATIONAL R300/1mh/300ma RF CHOKE 4 for $1
WESTON RFmtr/3½"/120ma/3½", $14 ea., 2 for $24
RF METER 475ma & 5Amps/3½"/GE $3.75 ea, 2 for $6
METER 800ma/3½"/2% Accy/B'KLT (SI) $3 ea., 2 $5
Sq/Rd one Ma/2%Acy 1½" PRECISION MTR $4 ea, 2/$7
Write For "TABOGRAM" That's A Buy Catalog

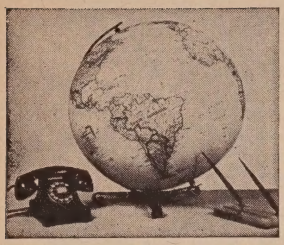
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"TAB" TERMS: Money Back Gtd. (cost of Mdse. only), $2 min. order F.O.B. N.Y.C. Add Shpg. charges or for C.O.D. 25% Dep. Tubes Gtd. via R-Exp. only. Prices shown are subject to change.

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For further information, check number 46 on page 127.

FOR YOUR HAM SHACK



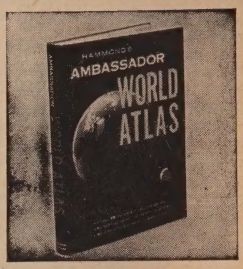
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Here it's Friday already . . . what better time to give the XYL this globe for your shack . . . and *you're getting a FREE year of CQ to boot.* Costs $25.00 in the stores . . . only $19.95 on this CQ deal.

ATLAS

Come on, get with it. Don't pull a blank when some one asks you for the capital of Honduras. For only $12.50 you can own 7 lbs. of full-color maps and a complete gazeteer. Send for this Hammond Atlas. PLUS a one year subscription to CQ.

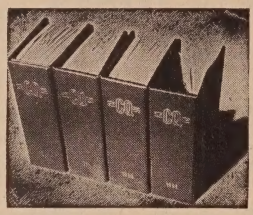
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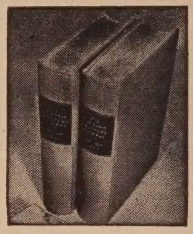


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There is no other good way to keep your back issues. Make 'em neat. We supply the binder, with the year embossed in gold, not merely a sticker which will come off later. Specify what year you want stamped on your binder.

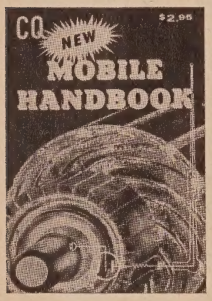
$3.50 each.





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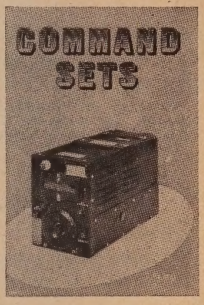


MOBILE HANDBOOK

This new Mobile Handbook by Bill Orr, W6SAI, has been getting raves from all of the experienced mobile operators. There is all sorts of information in here that cannot be found anywhere else. This is NOT a collection of reprints. $2.95 postpaid.

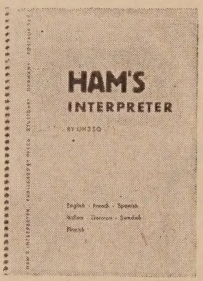
COMMAND SETS

This IS a collection of reprints, containing all of the available information on the conversion of the popular "Command" transmitters and receivers into good ham transmitters and receivers. Invaluable for Novice, Technician, General, Advanced and Extra class operators. 136 fabulous amazing terrific pages for only $1.50 PPD.



HAM'S INTERPRETER

Now you can talk in broken French, Spanish, Italian, German, Swedish and Finnish. This handy little book gives all the popular ham conversation in seven languages, including letters and numbers. Only $1.50 postpaid (direct from Germany).





CODE RECORD

Learning code is a snap with this record. Speeds from 3 to 16 WPM, depending upon turntable speed. This 12" LP record has twelve lessons on it and should be all you need to learn the code for both the Novice and General license.

$3.50 each

C8

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300 West 43rd St.
New York 36, N.Y.

SIRS: My check (money order) for $..... is enclosed. Please send the following items to: ☐ Globe ☐ Atlas ☐ Binder___Year Wanted ☐ Bound Volume___Year Wanted ☐ Mobile Handbook ☐ Command Sets ☐ Ham's Interpreter ☐ Code Record

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Void after August 25, 1957

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when you're at the ARRL CONVENTION in Chicago—

come and enjoy

ALLIED RADIO'S

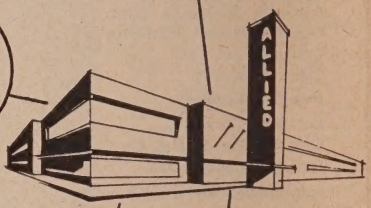
"Open House" hospitality

plan now to visit us— enjoy the ALLIED "Hospitality Tour" on August 30 or 31





FREE bus service right to our door



visit us in cool air-conditioned comfort

We here at ALLIED are looking forward to meeting you during the 9th Annual National ARRL Convention in Chicago on August 30, 31 and Sept. 1. We'll be on hand to greet you at our display booth in the ARRL exhibition area at the Palmer House. Better yet, we'd like you to enjoy a "Hospitality Tour" of our ultra-modern plant—so we've made convenient arrangements for you (for free transportation and tour schedules, check at our booth). We know the visit will be one of the highlights of your Convention holiday. Plan now to visit us.

YOU'LL SEE:

- An operating Ham station
- The world's largest electronic supply operation
- Our 35-man Ham staff on hand to greet you

AND... THERE'S A WONDERFUL CONVENTION SPECIAL WAITING FOR YOU

VISIT US
at our booth at the Palmer House in Chicago, Aug. 30, 31, Sept. 1

Our 37th Year of Ham Service

ALLIED RADIO
100 N. Western Ave., Chicago 80, Ill.

For further information, check number 15 on page 127.

FINEST AMATEUR RECEIVER IN ITS PRICE CLASS



BURTON BROWNE/New York

The accent is on value . . . with features found only in more expensive receivers.

The lowest-priced general coverage receiver available today with exclusive "Microtome" crystal filter, separate product detector for CW and SSB reception. Has big "S" meter. Covers 540 kc to 40 mc in four bands including broadcast band. Voice, CW or SSB. Features smart, new styling.

FEATURES:

- ★ Calibrated bandspread for 10, 11, 15, 20, 40 and 80 meter amateur bands. Separate tuning capacitors, knobs, and scales for general coverage and bandspread.
- ★ Large 12 inch indirectly-lighted lucite slide rule dial.
- ★ Adequate over-all selectivity with eleven miniature tubes including rectifier and voltage regulator.
- ★ Has exclusive "microtome" crystal filter providing five degrees of sharp selectivity in addition to normal bandwidth for voice, has sharp phasing notch over 60 db deep for interference rejection.
- ★ Separate product detector for excellent reception of CW and SSB Signals.
- ★ Has "S" meter on front panel for signal strength indication and more accurate tuning.
- ★ Accessory socket for external adaptors, and other accessory devices including phono input or crystal calibrator.
- ★ Has gang-tuned RF amplifier stage, two IF and two AF stages.
- ★ Has separate antenna trimmer and tone control on front panel.
- ★ Separate high frequency oscillator tube increases stability. Has ceramic oscillator coil forms and is temperature compensated for exceptional stability.
- ★ Separate RF and AF gain controls.
- ★ Series type automatic noise limiter.
- ★ Conelrad (CD) frequencies clearly marked on dial.
- ★ Mode selector switch for ANL, AM, CW, SSB and accessories.
- ★ Smartly designed two-tone cabinet.

COVERAGE:

BAND	GENERAL COVERAGE	BANDSPREAD
A	.54-1.6 mc	——
B	1.6-4.7 mc	3.5-4.0 mc (80 meters)
C	4.7-15.0 mc	6.9-7.3 mc (40 meters)
D	14.0-40 mc	14-14.35 mc (20 meters)
		20.4-21.5 mc (15 meters)
		27-30 mc (10/11 meters)

TUNING SYSTEM: Separate general coverage and bandspread tuning capacitors connected in parallel on all bands. Bandspread, used primarily for tuning the amateur bands, can be used as a vernier for general coverage use. Antenna trimmer is on the front panel.

AUDIO SYSTEM: Two-stage audio amplifier with single 6AQ5 output tube provides 1.5 watts at less than 10% distortion. A handsomely styled accessory speaker is available. Output impedance 3.2 ohms. Has phone jack.

DRIFT: .01% or less.

SENSITIVITY: Under 1-2 microvolts (10 db signal/noise ratio).

SELECTIVITY: 6 Positions. Constant Gain.

	NORMAL	SHARP
6 db	5.2 kc	200 cycles
60 db	29.5 kc	10 kc

plus four additional intermediate degrees of sharpness.

CONTROLS: Main tuning; bandspread tuning; antenna trimmer; band selector switch; RF gain control; AC ON/OFF and AF gain control; stand-by switch; mode selector switch for ANL, AM, CW, SSB and ACC; tone control switch; BFO pitch control; selectivity control; phasing control.

TUBE COMPLEMENT:

RF Amp.	6BA6	AF Output	6AQ5
Freq. Conv.	6BE6	Rectifier	5Y3GT
HF Osc.	6C4	Voltage Regulator	0B2
1st IF Amp.	6BA6	Product detector	6BE6
2nd IF Amp.	6BA6	Det, AVC and ANL	6AL5

1st AF and BFO/S meter amp. 12AT7

OTHER SPECIFICATIONS:

Antenna Input: 50-300 ohms, balanced or unbalanced.
Size: 16 13/16" Wide x 10" High x 10⅞" Deep.
Finish: Handsome Two-tone gray wrinkle finish.
Shipping Weight: Approx. 35 lbs.
Optional Accessories: Matching Speaker, XTAL calibrator.

Only $19.95* down
Up to 20 months to pay at most Receiver Distributors.
*Suggested Price: $199.95**
**Prices slightly higher west of Rockies and outside U.S.A.

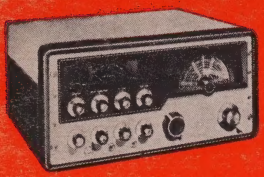
For further information, check number 2 on page 127.

Eight out of 10 U.S. Navy ships use National receivers

NC-109

tuned to tomorrow

Since 1914 **National** COMPANY, INC.,
Malden 48, Mass.



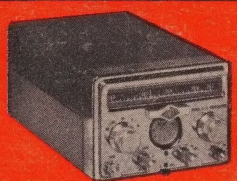
Hallicrafters' HT-32 uses two RCA-6146's



Viking II uses two RCA-6146's



WRL Electronics' Globe Scout uses one RCA-6146



Gonset G-77 mobile transmitters uses one RCA-6146



RCA-6146 Beam Power Tube
(RCA-6883 is identical to the RCA-6146, but is designed with a 12.6-v heater for mobile applications)



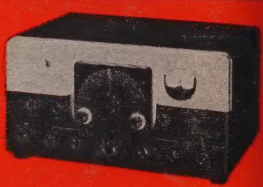
Morrow MB-560-A uses one RCA-6146



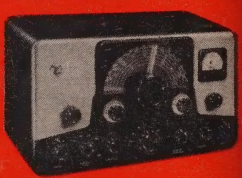
Viking Valiant uses three RCA-6146's in final, two in modulator



Collins KWM-1 Transceiver uses two RCA-6146's



Viking Pacemaker uses one RCA-6146



Viking Ranger uses one RCA-6146

RCA-6146

DESIGNERS' FIRST CHOICE

The commercial rigs pictured on this page are typical of the many professional designs now making communications history across the amateur bands. And every one of these outstanding transmitters uses at least one RCA-6146 beam power tube in the final.

Here's why so many of today's best-known transmitters are designed around the RCA-6146: (1) This husky, compact tube packs a mighty wallop—even at low plate voltages; (2) RCA-6146 requires very little driving power—fits snugly into bandswitching circuits, requires fewer driver stages; (3) RCA-6146 is economical, and it's built to "take it".

RF AMPLIFIER SERVICE MAXIMUM AMATEUR RATINGS, CLASS C		
	RCA-6146	RCA-6883
Heater Volts	6.3	12.6
Plate Input Watts		
CW	90	90
AM	67.5	67.5
DC Plate Volts		
CW	750	750
AM	600	600

RCA-6146's and -6883's are available from your local RCA Tube Distributor. For technical data on the 6146 and 6883, write RCA, Commercial Engineering, Section H-15-M, Harrison, New Jersey.

RCA®

TUBES FOR AMATEURS

RADIO CORPORATION OF AMERICA
Electron Tube Division Harrison, N. J.

For further information, check number 3 on page 127.