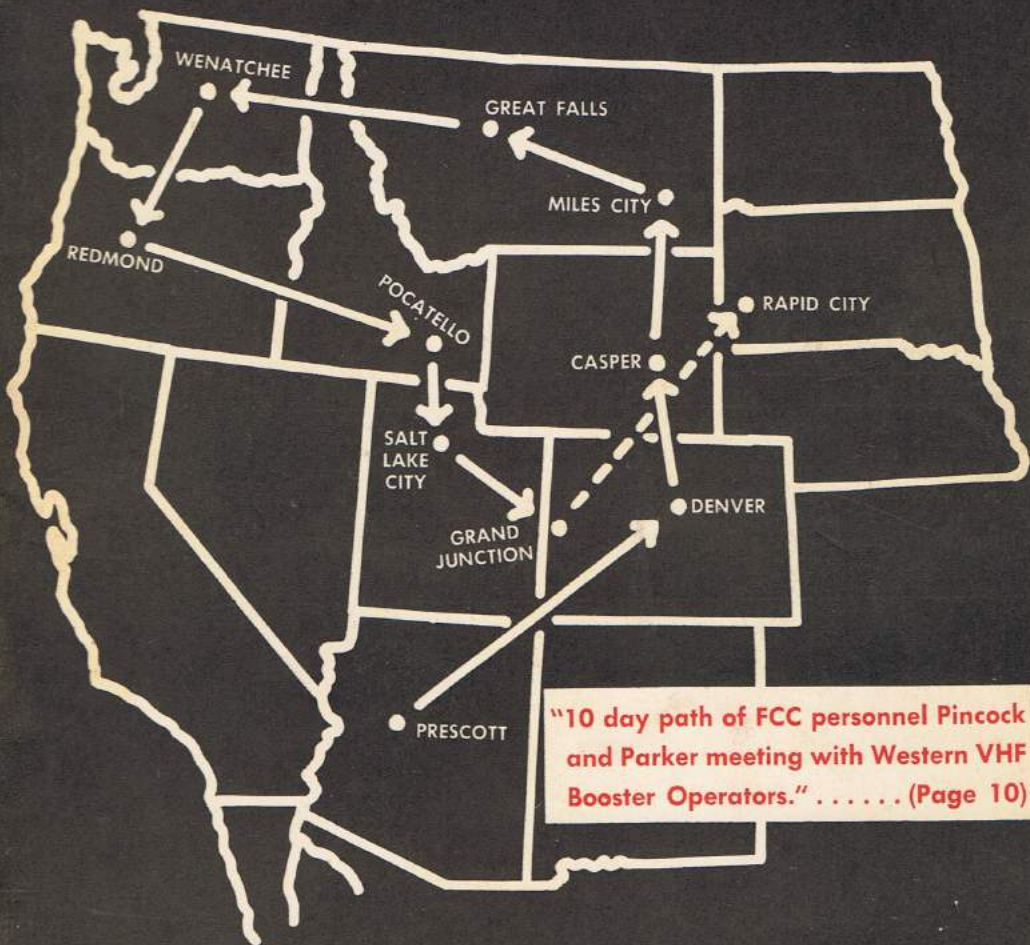


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# DXing HORIZONS



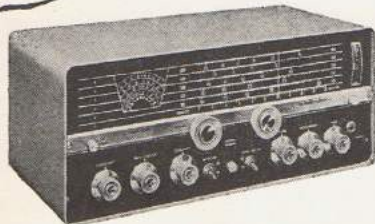
**"10 day path of FCC personnel Pincock and Parker meeting with Western VHF Booster Operators." . . . . . (Page 10)**



the world at your fingertips...

WITH RECEIVERS BY

# hallicrafters

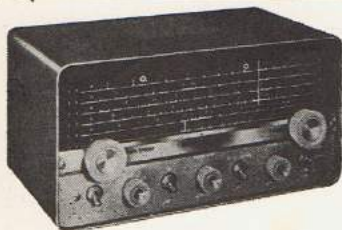


**Model SX-110.** The SX-110, an entirely new receiver in the medium price class, fills the need of the Amateur or shortwave enthusiast who desires features normally found only in higher priced units, such as an "S" meter with full vision vertical dial, antenna trimmer, and crystal filter. Housed in a functionally styled cabinet, the SX-110 is the leader in its field.

**Frequency Coverage:** Broadcast band 540-160 kc plus three shortwave bands covers 1550 kc-34 mc.

**Power Source:** 105/125 volts, 50/60 cycle AC.  
**Physical Data:** Gray steel cabinet with brushed chrome trim. Size - 18 1/4" w., 8" h., 10 1/2" d. Shipping wgt. - approx. 32 lbs.

W



**Model S-107.** For those requiring all-around frequency coverage including the 6-meter band at minimum cost. A compact unit, with up-to-the-minute cabinet design and full width slide rule dial. The latest refinements in electronic circuitry combine with an attractive cabinet to make this receiver a must in its class.

**Frequency coverage:** 5 bands covering 540 kc to 31 mc and 48 to 34.5 mc.

**Power Source:** 105/125 volts, 50/60 cycles AC.  
**Physical Data:** Cabinet - gray steel with brushed chrome trim. Size 13 1/4" w., 6 1/2" h., 8 1/4" d. Shipping wgt. - approx. 18 1/2 lbs.

N



**Model SX-62A.** The SX-62A is the most versatile receiver available for listening to local broadcast, FM, or world-wide shortwave stations. Covering frequencies from 550 kc through 32 mc on amplitude modulated bands and from 27 mc to 109 mc on FM or AM bands, this unit in a single package makes available the largest number of commercial and broadcast stations of any receiver on the market. In addition, a 10-watt push-pull audio circuit, flat from 50 to 15000 cycles, permits reception of musical programs comparable with present-day high fidelity amplifiers.

E



**MODEL S-38E.** The current version of Hallicrafters' famous S-38 series combines an easily read full vision dial with attractive, functional case finished in gray, mahogany or blonde. New tube complement makes for even finer performance than its predecessors. The S-38E may be used on either 110 volts, 50/60 cycles AC or DC supplies, and a line cord adapter is available for use on 220-volt mains. For the shortwave enthusiast or the amateur desiring maximum performance at minimum cost, the S-38E cannot be surpassed.

Y

S

For complete information on these and other world famous Hallicrafters receivers, write to Department DH-10

## INTERNATIONAL DIVISION

RAYTHEON COMPANY  
WALTHAM, MASSACHUSETTS, U.S.A.

The new ideas in communications are born at HALLICRAFTERS

# hallicrafters



# At Sign Off

## NEW THIS MONTH

The VHF Booster-Repeater world has taken on new stature with provisions now in the FCC law for legalized operation. With this step forward for low power — small town television, DXing Horizons welcomes VHF translator operators to these pages. In particular . . . pages 10-13, 28 this month.

## ALSO NEW THIS MONTH

Medium wave — shortwave — TV DX fans will find a world of information in the new **Propagation Horizons**, page 20. Readers are fortunate indeed to have the services of Stan Leinwoll, **Propagation and Frequency Manager for Radio Free Europe**, in this capacity monthly. We feel confident Leinwoll's carefully prepared charts will be well used by all readers.

## NEW WITH THE FCC

As predicted in the August DXH, this page, the FCC effort to promote additional VHF spectrum space for TV failed. The Office of Civil Defense Mobilization turned thumbs down on the proposed VHF for UHF swap with the government. Said OCDM Director Leo A. Hoegh, "Proposed move would cost government in excess of five billion dollars, and greatly endanger national security." Next FCC move? More UHF islands . . . more VHF drop ins . . . more chaos!

WRBL-4, Columbia, Georgia, planned a September 15 start on channel 3.

It appears WKNX-57, Saginaw, will become WKNX-9 in Alpena, Michigan.

Current leaning in Fresno-Bakersfield VHF to UHF move is to make channel 12 Fresno educational. The big problem . . . what to do with Bakersfield, remains unsolved.

WPST-10, Miami must be off the air by September 30, says FCC. WPST was tied up in a legal snafou involving former FCC Commissioner Mack, now on trial for alleged illegal activities in granting station permits.

WHDH-5, Boston has a similar fate awaiting it, although target date "to leave the air" has not been determined.

The fight to place WTHI-10, Terre Haute, Indiana on channel 2 continues. WTHI wishes to vacate 10 for 2, while another Terre Haute applicant (WLBH—Mattoon, Ill.) will file for channel 10.

In Northern California, several channel allocation proposals are still floating loose. KIEM-3, Eureka suggests adding channel 13 for 9 at Alturas, and add 9 to Redding (KVIP-7 there now). KVIP-7, says swap 13 to Alturas for 9, but don't add 9 to Redding . . . put it in Susanville.

FCC granted channel 22, Fort Smith, Ark. to Fort Smith Telecasters. Station will operate with 8.5 kw. visual power.

Also granted since last writing: channel 8, Portland, Oregon, educational outlet, 31 kw. video. Channel 13, Flagstaff, Arizona, 1.78 kw. video. Channel 34, Salina, Kansas, 6.92 kw. visual.

## NYC UHF TESTS . . . PROGRESS

FCC Engineer Arnold Scriveth announced "problems involved in placing high gain UHF antennas atop Empire State Building have been solved." Industry advisors and FCC people continue to meet, working out details of transmitting equipment, installation, etc. DXH continues to work on our part in this test. A preliminary announcement in November.

## STATION CHANGES

KHQ-TV, channel 6, Spokane has been on a new 904 foot tower since August 4th, at a new site, with antenna topping 4,549 feet MSL now.

CFCN-TV, channel 4, Calgary, Alberta should be on the air as this is read. Calgary's second station (CHCT-2 on now) plans 1700 LST to 2400 LST programming at the outset.

## AM — CLASS IV PROBLEMS

The long pending fight by class IV stations to increase power (local BCB operations) may be solved soon. FCC is leaning towards a ruling which would permit "power boosts (from 250 watts to 1 kw.) regardless of the extent of interference caused by the increase." This will be daytime only of course.

## RADIO FREE CUBA

More talk on Capitol Hill, this time from Rep. Roman C. Pucinski (D—Ill.), to create "high powered broadcast stations in the Florida Keys" similar to Radio Free Europe, as a means of getting the truth into Cuba.

## KIPPEL'S MEDIUM WAVE LOG

Two factors have delayed printing of this handy log, for a three week period. (1) Your editor will be traveling between Rapid City, S.D. and Baltimore, Md. from October 3 to 15, and insists the log mailing be delayed until he returns to oversee the operation. (2) Late changes by Kippel will make the log more useful through 1960-1961. Currently, the log will be mailed around October 22.

## MEMBERSHIP CERTIFICATES TO LEAGUE

For the same travel reason, membership certificates to the League will not be mailed until October 22. We are indeed sorry for the delay, but there is only a limited amount of manpower to go around.

## ATTENTION ALL DXers

Here is the late shortwave — medium wave and aurora conditions forecast for the coming 40-day period.

Disturbed condx (aurora) forecast: Oct. 1-3, 22-24, 27-30.

Unsettled condx forecast: Oct. 10-13, 25-26.

Other periods should be near normal seasonal levels.

Stan Leinwoll  
Propagation Editor — DXH

## FREE MAGAZINES

Send the name and address of any weak signal enthusiast you believe would be interested in receiving a copy of DXH (free—sample type) to Free Sample, P. O. Box 3150, Modesto, California. We will do the rest.

R.B.C.

# A Loop Antenna for Medium Wave DX

Raymond Moore  
Associate Editor  
DXing Horizons

7 TURNS #10  
PLASTIC COVERED  
HOOKUP WIRE SPACED 1/2"

NOTE: OVERALL  
DIAGONAL IS 58"  
INCLUDING SPREADERS

LOOP ANTENNA  
500 - 2900 KC  
R. S. MOORE

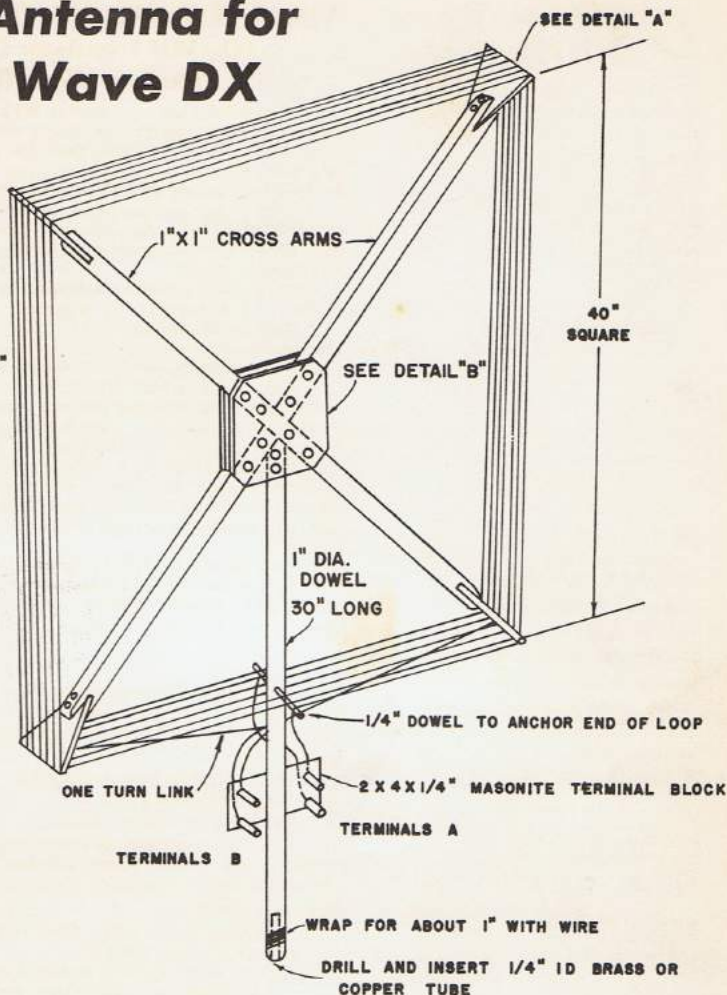


FIGURE 1

The great congestion of the Broadcast Band which has occurred since World War II has made the loop antenna an almost indispensable accessory for the really serious MW DX listener. I can't find any record of the serious use of the loop for DX work during the 1930's and there wasn't really any need for it because there were relatively few domestic stations and most of those went off the air after midnight. The loop doesn't exhibit its true value until the QRM, splatter, and noise become very heavy.

The writer has been using various three and four foot loops almost exclusively since 1946 and has logged over 75 MW countries on them. It has been the writer's experience that

any MW station that can be heard on a 300 foot wire can be heard on the loop, except perhaps for weak TP's on very quiet mornings. In addition, the loop, because of its directional characteristics, will enable the listener to log many stations that can't be heard on the long wire antenna.

A four foot loop antenna will have approximately the same pickup as a 30 foot wire, 20 feet high. The pickup will be down about 2 "s" units from that of a 75 foot wire, 30 feet high. Generally, this reduction in pickup is inconsequential on the Broadcast Band because the gain of any good receiver will make up for the reduced pickup and because the

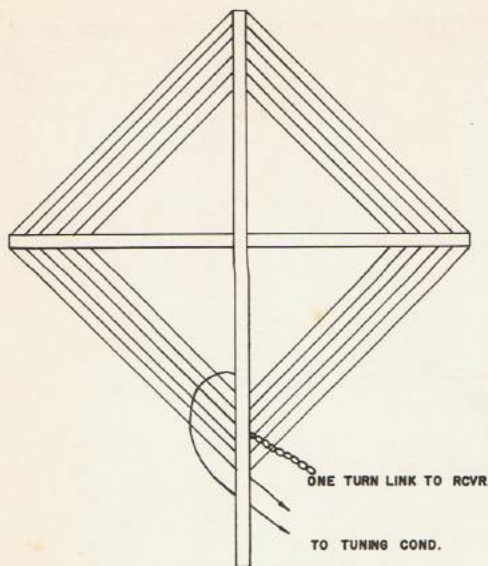


FIGURE 2 SPIRAL LOOP

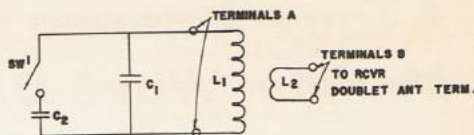
noise level is so high on the BCB that it can still be heard with the loop. Even though a weaker signal is delivered to the receiver the loop will usually give a better signal-to-noise ratio, since the noise level will be reduced about 35% more than the signal, due to the loop's directional characteristic.

The loop as used for MW DX work is a large coil tuned with a variable condenser and link coupled to the doublet terminals of the communications receiver. Two main types of winding are employed, the popular box type of Fig. 1, and the spiral type of Fig. 2. The pickup of a loop is proportional to the area enclosed by the windings—a four foot square loop will have four times the pickup of a two foot loop.

#### CONSTRUCTION OF A 4" LOOP

Figure 1 shows complete details of a 40" square loop that is light and attractive and covers 500 kc. to 1900 kc. which includes the Broadcast Band and the 160 meter amateur band.

The first step is to construct all the parts called for in Figure 1. The notches in the spreaders (Detail A) can be made best by making  $\frac{1}{8}$ " cuts with a saw blade, with seven notches  $\frac{1}{2}$ " apart. The holes in the two center blocks (Detail B) must be staggered so that the screws from the opposite sides won't meet. Make one full length cross arm 53" long and two half length ones 26" long and notch out the ends to take the spreaders. The notch



C<sub>1</sub> 350 MMF VARIABLE COND.

C<sub>2</sub> 500 MMF FIXED MICA COND.

L<sub>1</sub> 7 TURNS, SPACED 1/2" ON 40" SQUARE LOOP FRAME

L<sub>2</sub> 1 TURN LINK WOUND THRU CENTER OF L<sub>1</sub>

SW<sub>1</sub> SPST SWITCH

FIGURE 3 LOOP SCHEMATIC

should be about three inches deep. Now fashion the 30" dowel used to support the loop. Drill into one end of the dowel and insert the copper of brass tube that will serve as the bearing for the loop. After the bearing has been inserted it may be necessary to wrap the dowel for about one inch with bare copper wire to prevent splitting. After winding, the wire should be covered with solder, for rigid binding.

Sand all the parts smooth and then assemble per Figure 1 using countersunk flathead wood screws. Using a straightedge determine where the loop winding will cross the dowel support and mark with a pencil. About  $\frac{1}{8}$ " below this mark drill a  $\frac{1}{4}$ " hole and insert a  $\frac{1}{4}$ " by  $3\frac{1}{2}$ " dowel which is used to anchor the ends of the main loop winding. An inch below the  $\frac{1}{4}$ " dowel and at right angles to it drill a hole just large enough to pass two turns of the loop wire. This is used to anchor the ends of the one turn link. Also at right angles to the  $\frac{1}{4}$ " dowel, right on the pencil mark, make a  $\frac{1}{8}$ " notch on each side of the 1" support dowel.

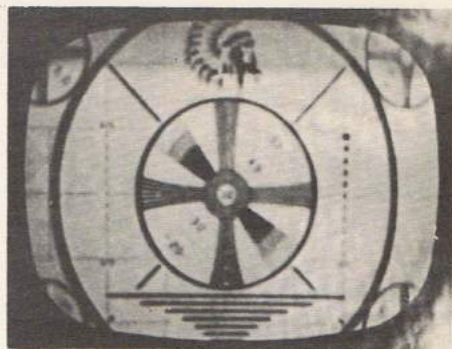
Give the whole frame a couple coats of shellac or varnish. Also coat and attach the terminal block. For binding posts we use National type FWH twin binding posts. Any type binding posts may be used, however, and the masonite will provide sufficient insulation.

Drill a hole large enough to pass the winding wire through each end of the  $\frac{1}{4}$ " dowel. About 130 feet of wire will be needed for the loop. The type or size winding wire is not critical but the type specified is easy to handle and produces a neat loop. Start winding by passing one end of the wire through one of the holes in the  $\frac{1}{4}$ " dowel and soldering to one of the "A" terminals. Wind on the seven turns and pass the end of the wire through the other hole in the  $\frac{1}{4}$ " dowel and solder to the other

(Continued on page 18)

# Weak Signal Video In Canada

"STILL—the home of the true DXer"  
(Part One)



Television in Canada did not get underway until September 6, 1952, when CBFT signed on with French-English programming in Montreal. Two days later CBLT took to the airwaves in Toronto (on channel 9), and video had finally arrived for an estimated 10,000 set owners in the Toronto area, who had been struggling with fringe area installations for nearly four years, watching snowy but acceptable reception from WBEN-TV, channel 4 in Buffalo.

If one drove north from Toronto, in the summer of 1952, only months prior to the inception of local television in Canada, it would have been an education in DX reception. This writer did so, and many details of the trip are still vivid.

For some unexplained sociological reason, Canadians in general, and Ontario residents in particular, wanted video reception in the worst way. '52, you may recall was the year of the commercial birth of the long yagi. Eight, ten and even twelve element models quickly replaced the time honored four and five element arrays across the U.S. Going north from Toronto, the single and stacked fives, cut to channel 4, evolved into single tens, and then as you approached Barrie on Route 11, double tens. North of Barrie, still on Route 11, and approaching Orilla, double tens had an addition . . . an antenna mounted pre-amplifier using the then new cascode 6BQ7 tube. Approaching Huntsville and the 200 mile point from WBEN-TV, the antennas thinned out, in quantity, but the quality continued to improve. Now double sets of stacked tens (forty elements) were common, with open wire low loss line and pre-amplifiers at both the antenna and receiver. From Huntsville to North Bay, which nestles on the eastern shore of Lake Nipissing, there are few homes and even fewer television antennas. People in this area tell you of trouble with AM radio reception, and television, they explain, "is just for the city folks" in Toronto.

As early readers to DXing Horizons recall, television continued north to North Bay in those years . . . 290 miles from WBEN-TV, North Bay resident Stan Hosken had televi-

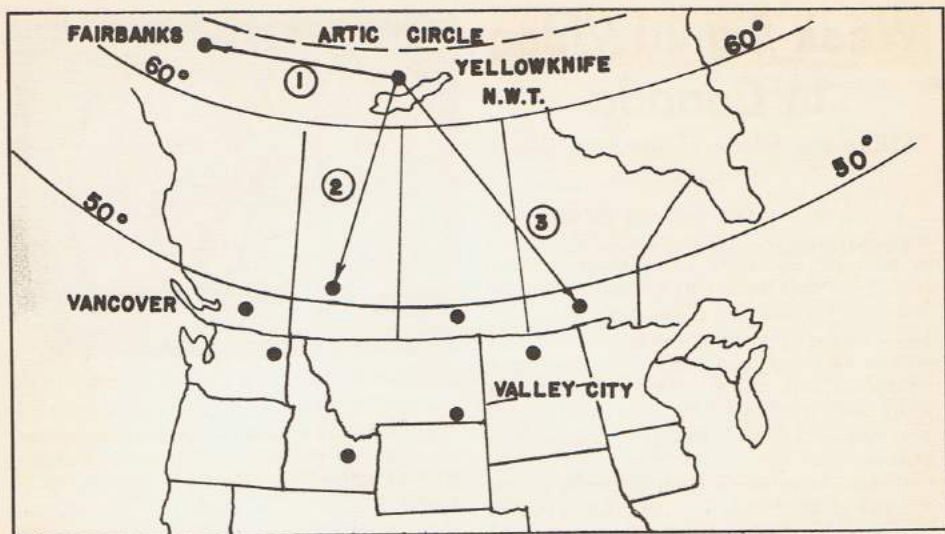
sion, but it took a 276 element antenna to do the job! (See DXH, February 1960, page 7.)

But the spirit of weak signal video reception, as evidenced by the early viewers in Ontario, had its effects on the *Canadian Board of Broadcast Governors*. Pushed by the enthusiastic reception given WBEN television by Toronto residents (all of whom were forced to pay exorbitant fees to import receivers from the U.S.), the BBG quickly OK'ed television for those areas already receiving American stations. It was a matter of pride, explained the BBG. Canadians should be watching Canadian Television.

## TO THE NORTH . . . FAR NORTH!

In 1954, the operator of the only radio and record shop in the Northwest Territory ordered a television receiver from Edmonton. The receiver, some yagi antennas, a booster and a few strands of wire were flown in, along with everything and everyone that came to Yellowknife. Harold Glick was his name, and in the next three years, he was to make weak signal television history. Glick had been following with interest articles in *Radio-Electronics* magazine, which detailed occasional DX reception. Assuming a "why not attitude," he installed the receiver, stacked the yagis, and sat back to await results. He had read of E skip reception, and tropes. Calculating his nearest station to be CFRN-3, Edmonton, Alberta, 640 miles, he ruled out tropes. But skip, he and many others were surprised to find, *occurred on an average of eight nights per month . . . not just during the summer, but all year around!* And some of his best openings occurred in the spring and fall, when E skip activity over Southern Canada and the United States is practically nil.

Several patterns soon evolved with Glick DX activity. Located on the northern shore of the Great Slave Lake, he was as far due east



of Fairbanks, Alaska, (1,000 miles) as he was north of Great Falls, Montana. He was less than 300 miles south of the Arctic Circle, and Aurora Borealis displays were frequent and widespread. He first suspected his semi-regular reception from such stations as KFAR-2, Fairbanks, Alaska, CBWT-4, Winnipeg, Manitoba, KXJB-4, Valley City, North Dakota and CKCK-2, Regina, Sask., was somehow associated with the aurora. He still believes so, although in the six years of experimentation Glick has learned not all auroral displays bring DX reception. However, in six years of working with DX reception, Glick has never seen more than the occasional burst before 1800 Mountain Standard Time, while DX often lasts until 0200 MST, when KFAR leaves the air for the night in Fairbanks. By southern standards, his station total is not impressive, nor are his distances. Glick's greatest distance has been WGR-2, in Buffalo, on several occasions, 2,000 miles. March and September are often the best DX months. May and June are usually the poorest.

Reception closely resembles E skip patterns in the states . . . strong video and audio, deep fading, occasional ghosting. It is not aurora, in the sense of the garbled video and audio . . . but most observers do believe it is a form of "cross aurora" skip, with the signal riding with and through the aurora laden E layer in much the same way a surf board rides over and with a heavy wave.

**EXAMPLE . . . TYPICAL SEPT., 1955**  
(Excerpts from the log of Harold Glick, Yellowknife, N.W.T., Canada)

- Sept. 2 2100 MST - KFAR (Fairbanks)  
 3 2100-2340 MST - KFAR, KXJB (Valley City, N.D.), CBWT (Winnipeg)  
 5 2230-0100 (6th) - CHCT (Calgary, Alberta), CFRN (Edmonton, Alberta), KHQ-6 (Spokane), KOOK-2 (Billings), KFAR-2  
 9 2300-2330 - KFAR, CBWT  
 11 2300-2400 - KFAR  
 12 2100-2200 - Channels 2-6 Active, KOOK, KHQ, KID-3 (Idaho Falls) identified.  
 17 2130-2330 - CKCK, CFRN, CBWT  
 18-29 Only bursts.

For a two-year period, until near Arctic ice and winds beat it down, Glick experimented with a two bay rhombic array. His biggest complaint in six years of DXing? There are two: (1) "DX reception is so frequent up here that several dozen families have ordered TV receivers from Edmonton, and now I have to keep them going! We have a telephone network, and when DX appears, everyone is called so they won't miss any reception. (2) "Most reception occurs late at night . . . I lose sleep, and usually only catch the tail end of movies. I've seen station sign-offs a hundred times . . . but have never seen one sign-on!"

# TECH NOTES

Edited and prepared by  
DXing Horizons Technical Editor  
Robert Grimm

2800 Monticello Avenue, Oakland, California

## TRANS POLAR TV DX?

A newly discovered mode of VHF propagation, uncovered as the result of VHF amateur radio work in the Arctic, just might bring TV DX reception to North American receivers from Europe . . . even during the sun spot low!

But, to begin at the "beginning." From February until October, in 1959, several amateur radio operators, associated with a U.S. Weather Bureau research project, set up camp on Fletcher's Ice Island, also known as T3, in the frozen Arctic Ocean. With them was equipment capable of operation on the two lowest VHF amateur bands . . . 50 and 144 megacycles. With their 50 megacycle equipment they learned much about the strange antics of VHF signals over, around and through the Auroral Zone.

At this time your editor will not attempt to cover the theoretical aspects of their discoveries . . . but rather stay with the facts, and present a few interesting possibilities from what they learned.

These amateurs learned that during the summer sporadic E season, over North America, they could hear channel two video carriers, and quite consistently, from stations 2,000 miles and more distant. On occasion they made contact with amateur 50 megacycle stations in Montana, the Dakotas, Wisconsin, Minnesota and Illinois. The channel two video signals appeared to be coming from the Canadian plains provinces (Alberta, Saskatchewan, and on occasion western Ontario). A most interesting aspect of their work . . . all signals from these distances appeared after 1830 their local time, which corresponded to 2330 EST. And also of interest . . . almost all of their contacts with 50 megacycle stations in the states, and southern Canada, were during periods when Aurora activity was noted by the U.S.A. and Canadian 50 megacycle operators. In other words, it would appear "that to work Fletcher's Ice Island, southern stations were working through the Auroral disturbance."

One of the best such openings during the Fletcher Ice Island experiment occurred on September 7, 1959. In this opening stations in all of the aforementioned states and Canadian areas were heard and contacted.

On the TV DX side, it is interesting to note that on September 7, TV DXer Ferdinand Dombrowski, of Okauchee, Wisconsin logged an Alaskan channel two station . . . one of few such loggings ever managed from the states. DXing Horizons is actively soliciting complete information on logging dates, times, fading, etc. from all DXers who have identified an Alaskan channel two station.

## NOW THE THEORY

According to the facts, the skip reception of VHF signals across and through the polar regions appears to occur during periods of high Auroral activity. Since Auroral displays essentially affect the entire Auroral Zone, completely around the magnetic pole (i.e., "On the other side of the polar



This Polar Projection depicts two possible TV DX paths using "Trans-Aurora Scatter" as a propagation medium. One, from northern Great Britain to Minnesota, Wisconsin and western Ontario, the second from Norway and Sweden to Ohio, Pennsylvania, and central Ontario.

cap as well."), it seems feasible that skip from extreme northern Europe might be possible into southern Canada, and the northern U.S.A., during some of the better Auroral displays. The trick seems to be . . . have the mid-point of the two or more skip hops lie within the Auroral Zone." Our sketch map shows the approximate Auroral Zone, and two such possible paths. Another would include Alaska and Nova Scotia, Canada. When the Aurora stretches further south, as it does in occasional violent displays, we know that "Auroral Es occurs" . . . i.e., skip over paths of 700-3,000 miles over southern Canada. (Editor's note: Refer to page 13, April 1960 DXH for three Auroral Es reports).

Why not from Europe to North America, or in unusually heavy Auroral displays, from Alaska to the northern Midwest, and western Great Lakes?

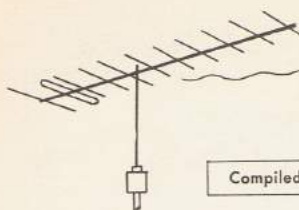
Only one way to find out . . . fire up the European standards receivers during periods of unusual Auroral activity, and for U.S.A. standards DXers with conventional equipment . . . keep a wary eye peeled for Alaskan channel two signals!

We will continue this discussion in a future column.

## HORIZONS FORECAST TV FIELD STRENGTH METER

The featured TV technical article in November details a very simple, handsome appearing set top "relative strength" meter for weak signal TV work. This meter has been designed expressly for DXH readers by Robert Grimm, DXH Technical Editor, as a solution to the hap hazard methods now used for reporting TV field strengths (i.e., good, fair, poor, etc.). The "RS-METER" is a simply constructed—calibrated unit, akin to communication receiver "S-meters." A suitable reporting code will also be explained. The meter itself is simplicity to construct, and can easily be mounted in a handsome case on top of your set. Connection into the AGC system on the receiver is also simplicity itself.





# FM HORIZONS



Compiled by BRUCE ELVING, 1131 Vattier Street, Manhattan, Kansas

This is a new section of DXing HORIZONS, designed to complement the FM DX reports. Here, new developments in FM of interest to the listener and DXer will be discussed. Results of the recently-concluded test of multiplexed stereo at KDKA-FM Pittsburgh, Pa. will be reported on, as well as other manufacturing and governmental activities. News of newly-operating FM stations, program changes, frequency shifts and deletions of existing stations will be found. While several industry and other publications will be consulted in the preparation of this section, it will help round out our coverage if those readers who have first-hand knowledge of new FM stations taking to the air, or have other pertinent information, send it in to the DXH-FM department.

## FM BROADCASTING GROWS

Perhaps the most significant development in the nationwide FM scene is the general upsurge in operating and authorized stations. The number of FM stations on the air as of Dec. 31, 1953, following several years of decline, was 560, with an additional 20 stations under construction. Still later, on August 31, 1958 only 558 FM stations were on the air, but the number of construction permits had increased to 86. With new stations going on the air in droves, the number of operating stations stood at 753 as of Aug. 31, 1960, with 181 additional grants about to take to the air.

The above figures do not include educational FM stations operating between 88 and 92 megacycles. Authorizations in this category, too, have risen, and now stand at 189, according to an informal DXH-survey. Of these, 72 are 10-watters, having exceedingly limited DXing potential, and several of the others operate during school months only, with their transmitters silent during much or all of the superb May through September FM DX season.

New FM stations taking the air this summer include KSBW-FM 102.5 Salinas, Calif., with 18,500 watts, operating from 7 a.m. to 11 p.m. local time. It transmits from 3,328 foot Fremont Peak and multiplexes a Muzak background music service, with main channel programming different from that of KSBW (AM), according to Eric Norberg, Carmel, Calif.

A new San Francisco station, KOBY-FM 95.7, is on the air 20 hours daily with 10,500 watts ERP (effective radiated power). KAFE 98.1 recently moved from Oakland to San Francisco and boosted its power from 1710 watts to 100 kw. A most interesting development, reported by Norberg, is the special antenna for KPEN-101.3 that will send up to 126 kw. of radiated signal into certain populous Bay Area regions. With the special pattern, radiation will be minimized toward Hayward — home of KBBM on 101.7.

WREO-FM Ashtabula, Ohio was received in

Duluth, Minn. on its new frequency of 97.1 megacycles Sept. 6, presumably operating with the new power of 200 kw. New stations in Buffalo, N.Y. include WEBR-FM 94.5 with 105 kw. from an antenna height of 710 feet above average terrain, operating from noon to midnight local time. Buffalo has an FM penetration of 34.8 percent of homes, according to WEBR propaganda. WGR-FM is also on the air. Its Buffalo frequency is 96.9.

In New England, WHDH-FM 94.5 Boston is now transmitting from a 1,000 foot tower with 3.3 kw. ERP. It is on the air 24 hours daily, except from 4:30 to 7:30 a.m. Sundays.

Two new Indiana stations operated by Sarks Tarzian, Inc. are WPTH 95.1 with 44 kw. at 725 feet in Fort Wayne, and WTTV-FM 92.3 Bloomington. WTTV-FM's effective radiated power of 37.2 kw. is radiated from an antenna 1,090 feet above average terrain located at Trafalgar, Indiana. Both stations operate from noon to midnight.

WFMW-FM 93.9, the booming FM voice of Madisonville, Ky. has recently increased its power to 30 kw. from 2.85 kw. According to H. W. Wells, manager, WFMW began operating with FM in April of 1949 with 1000 watts. WFMW-FM operates fulltime, with sign-off to be extended to 11 p.m. in October. Another progressive Kentucky station is WRLX 98.7 Hopkinsville, which has upped its wattage to 16,500, operating a CST schedule of 5 a.m. to 11:05 p.m.

Two new stations in Joliet, Ill. are WJOL-FM 96.7 and WAJP 93.5. WJOL-FM, operates with 1000 watts ERP, 125 foot antenna, and programs 24 hours a day except for Wednesdays from 1 a.m. to 5:47 a.m. WAJP is also a thousand watter, and serves a regular radius of about 40 miles from 8 a.m. to 10 p.m., according to owners Al and Jane Pohlars in a phone call to the Duluth editorial and DXing headquarters.

A new Minneapolis, Minn. FM station is WPBC-FM 101.3, operating from 5 a.m. to 9 p.m. local time. The FM voice of the University of Kansas, KANU 91.5, Lawrence, is temporarily off the air while a new antenna to provide 105 kw. radiated power, is being installed.

WCLM Chicago, which recently increased its 101.9 mc. power to 60,000 watts, seems to have the best signal of any Chicago area station at 400 miles.

## DX REPORTS

Your editor's summer DXing closed officially Sept. 8 when WPBC-FM Minneapolis, Minn. was entered as the 400th FM station heard at the Duluth, Minn. location. Other new additions to the log are KHOL-FM 98.9 Holdrege, Neb. on Aug. 22; KCJC 98.1 Merriam, Kansas Sept. 1; WQRS 105.1 Detroit, Mich. Sept. 6. WMBI-FM was re-heard on its new frequency of 90.1 mc.

Sept. 3. This Chicago station operated on 95.5 up to about eight years ago.

#### REPORTERS' ROUNDUP

Bradley R. Graham, situated on picturesque Fayerweather island near Bridgeport, Conn., reports that during August the FM band started to really open up. The best night was Aug. 24, when WBAL-FM 97.9 Baltimore, Md., WEEX-FM 99.9 Easton, Pa., WRK-FM 100.3 Williamsport, Pa., and his most distant logging to date, WFAN 100.3 Washington, D.C., WBAL-FM 97.9, were heard. Baltimore, Md. was received Aug. 22. A new home-built yagi antenna mounted 50 feet above the water has resulted in the reception of WFLN 95.7 Philadelphia, Pa.; WKOX-FM 105.7 Framingham, Mass.; WERS 88.9 Boston, Mass. during late August. The Graham log is now at 72 stations heard.

Stanley Harper, Lisle, N.Y. has enjoyed another month that was very productive of new FM catches. Harper's log, which now stands at 325, has been augmented by the following catches between Aug. 14 and Sept. 1 (the best period being Aug. 24-26): WCAE-FM 96.1 Pittsburg, Pa.; WMBI-FM 90.1 and WDHF 95.5 both Chicago, Ill.; WBVP-FM 106.7 Beaver Falls, Pa.; WREO-FM 97.1 Ashtabula, Ohio; WJIM-FM 97.5 Lansing, Mich.; WHFI 94.7, WDET 101.9, WMUZ 103.5 and WCHD 105.9 all Detroit, Mich.; WABQ-FM 106.5 Cleveland, Ohio; WTOL-FM 104.7 Toledo, Ohio; WCUY 95.3 Cleveland Heights, Ohio; WSLT-FM 100.3 Newark, Ohio.

From North Carolina, Harper has added WGRW-FM 92.3 Asheboro, WEQR 96.9 Goldsboro, and WRXO-FM 96.7 Roxboro. Other DX includes WBAL-FM, WCHV 97.5 and WINA-FM 95.3 Charlottesville, Va.; WAKR-FM 97.5 Akron, Ohio; WBET-FM 97.7 Brockton, Mass.; CKLC-FM 99.5 Kingston, Ont.; and WCMF 96.5 Rochester, N.Y. The reception of WMBI-FM and WDHF were by means of the aurora.

On a recent road trip that included Duluth, where your editor had the pleasure of meeting an avid DXer, Jim Hughes of Saginaw, Mich. heard the 10-watt KUMD 89.1 Duluth as far as Poplar, Wis., some 23 miles. WLIN 95.5 Wausau, Wis. and CKPR-FM 94.3 Ft. William, Ont. were monitored north of Hancock in Upper Michigan. The signals of KLIZ-FM 95.7 and WJMC-FM 96.3 were received virtually to the North Dakota border on the Hughes car Blaupunkt. Stations WNOB Cleveland, Ohio; WREO-FM; WMIL-FM Milwaukee, Wis.; and KRLD-FM Dallas, Tex. have verified. KRLD-FM mentioned that Hughes' report was from the greatest distance they'd been heard.

After acquiring a Sherwood S-2200 tuner, John Ebeling, Minneapolis, Minn. enjoyed the fine evening DX of Aug. 15 and 16, when such stations as WJBC-FM 101.5 Bloomington, Ill.; WOMI-FM 92.5 Owensboro, Ky.; WDET 101.9 Detroit, Mich. were heard. Ebeling attributes the rather distorted reception of KCFM 93.7 and KSTL-FM 98.1 St. Louis, Mo., and KQAL 94.1 Omaha, Neb. Sept. 3 from 4 to 9 p.m. CST to the aurora. Skip was noted the morning of Sept. 4 when CFCF-FM 106.5 Montreal, Que. came in with characteristically strong signals and quick fades.

Aug. 31 produced some unusual reception in the form of summer tropes for John Gary Oehlenschlager, Sebeka, Minn. Stations logged that morn-

ing: KFAB-FM 99.9 and KQAL Omaha, Neb.; KHOL-FM; KFH-FM 100.3 Wichita, Kans.; KCMO-FM 94.9 Kansas City, Mo. In the afternoon, KNOF 95.3 St. Paul, Minn.; WEKZ-FM 93.7 Monroe, Wis.; WWCW 94.9 Baraboo, Wis.; WBKV-FM 92.5 West Bend, Wis.; WROK-FM Rockford, Ill.; WEAW-FM 105.1 Evanston, Ill.; and Chicago stations WSEL, WMAQ-FM, WEBH, WCLM and WEHS. On Aug. 30, CJOB-FM 103.1 Winnipeg, Man. was received via the aurora — a station previously feared deleted. Using two Zenith AM-FM receivers and a TV antenna, his best DX has been KWKH-FM 94.5 Shreveport, La.

Norm Metcalf, Tyndall AFB, Florida has noted that reception improves when a high pressure system extends from his location toward the distant station. WBQO-FM 103.7 Augusta, Ga. is thus usually heard at 5 a.m. CST at 310 miles. WFLA-FM and WDAE-FM in Tampa and WRUF-FM Gainesville, Fla. are evening regulars at 230 and 190 miles respectively.

KEFM Oklahoma City, Okla. marked the first skip reception in the DXing history of Hank Holbrook, Bethesda 14, Md. on August 3 at 10:45 a.m. EST. KEFM, on 94.7 mc., has an ERP of 2.9 kw., and in their letter of verification, mentioned that "We have noted with some astonishment DX reports from Dallas and Wichita, 200 and 240 miles away, but never expected anything like this." WDNC-FM 105.1 Durham, N.C. was logged July 28 and WJWR 92.1 Palmyra, Pa. July 24.

Thomas R. Sundstrom, Stockton, N.J., now has an Eico HFT-90 FM tuner. Using a 5-foot 300-ohm twinlead dipole as an antenna, such stations as WALK-FM 97.5 Patchogue, N.Y.; WGLI-FM 103.5 Babylon, N.Y.; WFAS-FM 103.9 White Plains, N.Y.; and WASA-FM 103.7 Havre de Grace, Md. have been received in the past month. Sundstrom is leaving for college in St. Louis, Mo., and is looking forward to getting some DX from that midwestern location. Thus far from New Jersey, Sundstrom has logged 28 stations in four states, and has four stations verified in two states. A good, consistent signal range on FM of 90 miles is realized with this rather unassuming antenna system.

Take heed of the new Manhattan address when reporting for next month — 1131 Vattier Street. Send your summaries of the 1960 DXing season, information on stations, photographs (specify if you want them returned), and, of course, news of your new DX. Your FM editor will be in Manhattan, Kansas during the current academic year.



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**FM/Q WETHERSFIELD 9, CONN.**

# TRANSLATOR

Prepared monthly by  
James Beamer\*  
P. O. Box 833  
Livingston, Montana

# TOPICS

## EDITOR'S NOTE:

*DXing Horizons came on the weak signal TV scene only in January . . . a little too late to really aid in the fight to make a spot in the communications law for VHF Booster-Repeaters. But, our support behind VHF Booster-Repeaters has led us to the quick realization that while the fight may be over, the growing pains have just begun. To make this growing a bit easier . . . to aid and assist in putting legalized VHF Boosters on the air across the nation . . . on a national level as provided for in communications law, DXing Horizons is taking this opportunity to welcome all Booster operators . . . everywhere. "TRANSLATOR TOPICS" is your section. The news is your news. Editor Jim Beamer, we feel, is a man uniquely dedicated to the preservation and growth of the VHF Television Booster unit. Beamer led the fight which climaxed with the passage of a VHF Booster section in the Communications Law.*

*With this sketchy background, we invite all Booster Operators to join the ranks of active supporters of "TRANSLATOR TOPICS," THIS IS YOUR VOICE . . . USE IT, GUIDE IT, AND SUPPORT IT, with Jim Beamer as your host.*

R. B. Cooper, Jr.  
Editor, DXing Horizons

## WESTERN TRANSLATOR MEETINGS DRAW 500—PLUS

VHF Translator-FCC Meetings on discussions of new rules and regulations drew in excess of 500 interested people. The series of meetings were held in Prescott, Arizona; Denver and Grand Junction, Colorado; Casper, Wyoming; Miles City and Great Falls, Montana; Wenatchee, Washington; Redmond, Oregon; Salt Lake City, Utah; Pocatello, Idaho and Rapid City, South Dakota. Representatives of the FCC included Mr. D. Pincock, Assistant General Counsel for the FCC, Washington, D.C., McIvor Parker, Supervisor Engineer, Rules Standards Division of the Broadcast Bureau, Washington, D.C.; in Arizona and Utah Mr. W. W. Wallace, District Engineer for the FCC, Los Angeles; in Colorado, Wyoming and South Dakota Mr. Andrew Bahlay, District Engineer, FCC, \*Secretary, National TV Repeater Association, Tri-State Repeater Association.



Wenatchee, Washington, August 30 — The FCC meets translator operators. Left to right, seated—Herb Clarke, President Washington State TV Reflector Association; standing—McIvor Parker, Supervisory Engineer, Broadcast Bureau, FCC; seated—D. W. Pincock, Assistant General Counsel, FCC; seated—Herbert Arlowe, Chief Engineer, 14th District FCC.

Denver, Colorado; in Montana and Washington Mr. Herbert Arlowe FCC District Engineer, Seattle, Washington; in Oregon and Idaho Mr. F. H. McCann, District Engineer for the FCC, Portland, Oregon. This group, headed by Counsel Pincock, explained the new regulations and answered the questions asked by individual clubs. Pincock noted a very definite pattern established in the questions asked by all of the groups. Perhaps the most important information put forth concerned three critical dates established by the Commission in licensing of present boosters. These dates are: October 31, 1960 when all clubs must have filed, in triplicate, FCC Form 347-A for temporary authorization to continue operation. February 1, 1961 when all clubs must have filed FCC Form 346 entitled Application for Construction or Modifying a Translator. October 31, 1961 when all boosters must meet the regulations and equipment requirements of the Federal Communications Commission.

So far, no date has been set for filing applications for a regular license once conversion is completed. This form will be filled out by the individual clubs upon completion of the work outlined in FCC Form 346. The most important point of all is that no translator group make any alterations or modifications to their present equipment, or install new equipment, without filing and receiving approval of FCC Form 346. A construction permit must be filed and approved before any changes are made in that part of the equipment which radiates the signal.

## STATE ORGANIZATION QUESTIONS

For the most part, the questions posed to the FCC personnel by state organizations concerned

(Continued on page 12)

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interference problems. It was clearly evident that translator groups will be making every effort to stay off of channels occupied by other translators in the area, and by "off the air" signals. The FCC answers indicated their concept of valid interference, as follows.

#### FCC CONCEPTION OF VALID INTERFERENCE

The rule states that interference will be considered present when any regularly used signal is interfered with. No definition was given to the quality of the signal and it means ANY SIGNAL, no matter how snowy it might be. If interference occurs, it must be corrected at the VHF translator's expense. The FCC reasoning behind this: to prevent their field offices from being flooded with requests for signal measurements, where interference is claimed. By direct reception, the FCC means "incoming signal at an antenna that is receiving directly from a standard TV station." This means the receiving antenna of an individual home, the receiving antenna of a UHF translator or the receiving antenna of a CATV system.

Any suitable technique that will correct interference may be employed by the VHF Translator group. This might include changing the direction of the rebroadcast antenna, slightly, to exclude the interference from the aggravated party; by changing the direction of the antenna of the complaining aggrieved party, towards the translator site, they might possibly receive a better signal; by stacking antennas of the home receiver to phase out the unwanted translator signal or any other engineering technique which will satisfy the complainant. If the complainant refuses to cooperate with the VHF translator group by not allowing them to use remedial techniques, then the VHF translator group has, in FCC eyes, satisfied the complaint.

#### CATV INTERFERENCE

In regard to interference to a CATV system, were the incoming signal from the broadcasting station is interfered with, then the translator must remove the interference. Where the interference occurs to a channel employed on the CATV system line, then the CATV system must make its own adjustments as interference will be considered as not to have occurred. An example: A signal is received by the CATV system from station A on channel 4. A VHF translator using channel 4 and interfering with this received signal would be creating interference and would have to make the necessary changes to remove the interference. However, a signal received by a CATV system from station A on channel 4 and converted to channel 6, before being placed on the CATV system, and a translator operating on channel 6 interfering with the channel 6 on the CATV system will not be considered interference. In such a case, it will be up to the CATV system to shield its cables to prevent the translator signal from leaking in.

Where the VHF translator is being interfered with, by other power installations, or by leakage from the lines of the CATV system, then it will be the responsibility of the offending party to remove the source of interference. Again, co-operation is a necessity between the two parties.

#### OTHER QUESTIONS FROM STATE GROUPS

Why is a coding device necessary? "This is purely a policing action to aid FCC inspectors, and to conform to FCC identification regulations."

What about the one watt power level (as measured at the output of the final amplifier)? "This is the maximum which can be allowed under the present non-interference rule. However, this may be reconsidered at a later date on a case by case basis, as experience permits."

The definition of a remote control device. "The new regulations for remote control are such that the translator must be able to be shut down within 15 minutes of notification (by the FCC). The shut down may be accomplished by either land line control, a simple on-off power supply switch which can be reached within 15 minutes time, or by more elaborate radio control, in the 450 megacycle Citizen's Band."

What should station records consist of? "Only equipment repairs need to be logged."

Is a licensed operator necessary? "No licensed operator is required for day to day operation, or for replacing fuses and tubes (in the receiving section). First and second class radio-telephone licensed technicians are required when conducting tests or repairs of critical components, while the translator is in operation, and in which spurious emissions might result."

What about consent of the broadcaster? "Translator operators must obtain the consent of the origination station to use its signals for rebroadcast."

Comments from the clubs indicated that some areas may have problems meeting the regulations, while others agree they are reasonable and can be easily met.

Comments from the broadcasters present at the meetings indicated they feel the rules are very fair, and many expressed surprise in the outright relaxed nature of the new regulations.

#### STATE POLICIES FORMULATED

In Wyoming, Montana, Washington, Oregon and Idaho, meetings were held at the conclusion of the FCC meeting to discuss state translator association policies. Agreement was reached in these states to use the week starting November 13 as a date for a united financial drive for all VHF translators. The Colorado Association has since concurred. TV station operators have agreed to assist in their areas, to advertise these drives. One station expressed typical sentiment by stating, "We are happy to be able to assist fund drives. Our metropolitan coverage is approximately 100,000 sets, while our total coverage area shows 283,000 sets, most of which are served by UHF-VHF translators or CATV systems."

All state translator groups also indicated they will ask their State Legislatures to provide a means of setting up tax districts to obtain money for operating boosters, as Nevada, Utah and Colorado now do.

#### VOLUNTEER FREQUENCY ALLOCATION GROUPS FORMED

Committees have been established in Washington, Idaho, Montana, Wyoming and Colorado to work out a method of co-ordinating the channels in use to keep down the threat of interference by the VHF translators. These technical committees are also examining the possibility of supplying infor-

mation of better maintenance practices, antenna designs for both reception and retransmission, as a means of up-grading the service of the local technician, in charge of the translator. Indications now are these committees will meet in each state before October 15 to outline methods and procedures to be followed.

#### VHF-UHF COOPERATION URGED

Harlow A. Speckhart, President of the National Association of Low Powered Broadcasters—the national UHF translator association—was approached by the National TV Repeater Association—the VHF Translator Association—on joining together for the betterment of both associations to the ultimate goal of better television for the individual viewer. His response was immediate and enthusiastic. He said this has been one of his favorite projects. This concept of joining together makes good sense as both UHF and VHF are licensed entities serving a common purpose. The arguments of the past should now be forgotten and the best service from a technical and financial standpoint should govern the establishment of new translators. DXing Horizons agrees and congratulates the forward looking members of these two associations for taking this step.

The Idaho TV Repeater Association conducted a series of two meetings in Idaho for the election of officers and further discussion of FCC regulations. These meetings were held September 18 at Swendemands Electronics Supply, Idaho Falls and September 25 in the Court House in Grangeville, Idaho. The results of this Idaho meeting in November.

#### B-T LABS EXPAND

##### **Benco Becomes Benco-Tongue**

In a move officially announced September first, Blonder Tongue Laboratories, Inc. acquired a controlling interest in Benco Television Associates. Blonder-Tongue is a ten year old firm with base headquarters in Newark, New Jersey, while Benco TV Associates is the oldest (ten years) firm in Canada, specializing in weak signal distribution systems. Both firms manufacture similar product lines, and have been very active in the western VHF Translator areas for nearly five years, in support of low power rebroadcast units for isolated towns.

Under the new arrangement, Benco becomes Benco-Tongue, according to a spokesman at Benco Associates.

As both firms have major distribution throughout the United States and Canada, it is expected that each line of products will complement the other, with the expansion especially noticeable in the Becon line in Canada.

Benco-Tongue will continue to operate under Canadian management, and with Canadian personnel, although an expansion in both sales and manufacturing is expected in the Toronto headquarters.

Both firms, prior to the announced merger, were reported readying VHF Translators for FCC type approval. Benco-Tongue already has Canadian type approval from the Canadian BBG, and expected to receive first approval for VHF Translator installations in Canada at a BBG hearing held September 27th.

In the United States, Benco had indicated it was

preparing an equipment depot and conversion center in the western states to rebuild existing VHF Boosters to conform to VHF Translator regulations. Blonder-Tongue had announced similar plans. Now a common depot is likely.

#### **First Canadian Translators To Be Licensed**

September 27th, the Canadian Broadcast Board of Governors entertained applications from five widely separated VHF Translator stations. Under newly adopted Canadian Department of Transport regulations, isolated Canadian towns not now receiving "off the air" signals from presently operating stations may file for a VHF Translator license. The licenses are for two power levels... 100 watts, and 5 watts. In most cases, pending permits are for the 5 watt level.

Canadian regulations state that if an area is now receiving signals, it is not eligible for a translator station. Other Canadian regulations include:

(1) The area to be served must be covered with at least a grade B signal.

(2) Directional antennas are permitted only where it can be shown they will serve the population distribution in the proposed coverage area.

(3) Maximum power permitted is based on a combination of factors: size of area, spread of population within the area, proximity of the translator area to other areas with and without television, and the overall effect on the allocation plan.

(4) The originating station must "lay down" a consistent signal at the pick-up point assuring sufficient signal for long term rebroadcast purposes.

(5) Each translator (rebroadcast) station must have the permission of the originating station.

(6) Rebroadcasting programs of stations from outside Canada (i.e., the United States) is permissible only where off the air pick-up is impossible from either a Canadian originating station, or another translator station. In other words, in an area already served by Canadian television (either direct, or through a rebroadcast device), reception of an American station, through a translator, will not be permitted.

(7) In areas where the closest pick-up point of the originating signal is too far from the translator rebroadcast point to allow coaxial cable connection between the receiving antenna and broadcast transmitter, "radio relay" (microwave) will be considered by the Minister of Transport.

#### **VHF Translator Applications Slow Trickle to a Steady Stream**

Filings of FCC Form 347-A began in Washington immediately after the first of September. The filing of Form 347-A actually is designed to do nothing more than register, with the FCC, all currently operating VHF booster stations. This information contained on 347-A will in no way influence the future licensing of VHF translators, which eventually adopted the new FCC regulations.

At this writing (September 26) nearly 60 VHF booster stations have "registered" with the FCC. They extend from White River Junction, New Hampshire, in the east to California and Oregon in the west.

The most complex filing to date was made by the

(Continued on page 28)

# TV Reporting

**DEADLINE FOR NOVEMBER:** Send all TV DX reports to Modesto prior to October 18. In instances where reports are not received, this column must assume no DX was noted by the observer. Reports cannot be carried from month to month. DX news is timely, and as such must appear the month (15th of preceding to 15th of current) it occurs if this column is to be of information value. Reporting forms are available for the asking.

## AURORAL Es — BEST EVER!

From the scope of the reports noting auroral Es on at least two dates in the reporting period (August 14 to September 15), it appears that many DXers gave up the ship too early. Auroral Es is that strange form of DX which brings channel 2-6 signals over distances varying from 700 miles to nearly 3,000 miles, with rapid fluttery signals, garbled speech and usually ghost ridden video. It is hard to identify as to source . . . but easy to recognize. It is fascinating and likely to occur most often during August-September, and March-April, when other forms of E skip are taking a breather. Little is known about it and reports of its occurrence are actively solicited by this desk.

Seven reporters noted auroral E skip this month . . . considerably more than normal. Reception occurred on two dates . . . August 17, 0100-0155 EST, and again on September 4-5 (we should have seen this one coming . . . this is the fourth year running we have had auroral E skip on this date!).

Bill Ekberg, Walnut, Illinois reports for the 17th: Reception from CFRN-3, Edmonton, Alberta, at 1450 miles, Bill notes "It wasn't reception like any I have ever seen before. The signal came in weak and fluttery for almost an hour. It would drop away completely for a split second about once every three seconds. It seemed the best antenna heading was due north (almost 70 degrees north of direct path . . . Ed.). The antenna seemed very broad, however." CFRN was seen in Walnut, Illinois several times this year by regular E skip . . . which this was not.

Other midwest DXers apparently missed the early A.M. opening of the 17th.

## THE BIG DAY

The most unusual auroral Es opening in years occurred the evening of September 4th—the morning of September 5th. The auroral display was visible over much of the midwest and western U.S.A., south into Utah, and into Northern California. Mike Navarre of Port Huron, Michigan caught his first sign of auroral E skip at 1630 EST on the 4th. By 2250, Mike had a watchable, fluttery (Continued on page 15)

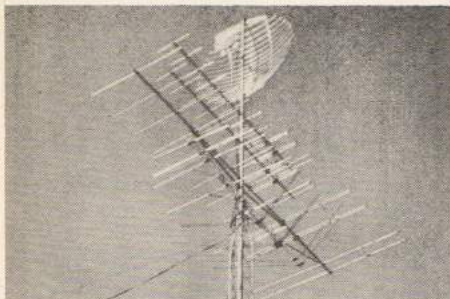
## OVER 50 TV DXers

Twice per year, the TV DX section of DXing Horizons will list claimed DX totals by reporters. This is the first such listing, and we invite you to submit your totals for the next listing, to appear in April, 1961.

DX Reporter	Location	Total Stations	UHF Total	VHF Distance	UHF Distance
R. Boyd, Zirconia, N.C.		290	4	4,500 miles	60 miles
K. Schafer, Kenmore, N.Y.		262	38	2,150	550
R. Nieman, Buffalo, N.Y.		260	39	2,288	566
B. J. Bingham, Festus, Mo.		254	16	1,510	450
C. Fleagle, Abilene, Kansas		246	0	1,418	—
Jim Himes, Joes, Colorado		240	0	3,450	—
B. Eckberg, Walnut, Illinois		214	27	1,486	373
E. Rugel, Independence, Kansas		212	0	1,455	—
F. Dombrowski, Okauchee, Wis.		203	26	2,600	450
Gary Olson, Barrington, Illinois		177	27	1,460	280
W. Olson, Springfield, Ohio		176	0	1,480	—
R. Cooper, Modesto, Calif.		172	10	6,600	218
D. Ruland, Holly Hill, Fla.		171	0	2,430	—
J. Parillo, Girard, Ohio		170	17	1,410	300
J. Gould, Kokomo, Ind.		169	0	1,450	441
J. O. Broomall, Augusta, Georgia		150	0	1,450	0
T. Hidley, Chicago, Illinois		140	31	—	—
F. Wheeler, Erie, Pa.		137	10	2,117	261
D. Beal, Tucson, Arizona		121	0	2,180	—
M. Navarre, Detroit, Michigan		107	9	1,380	150
B. Hauser, Oklahoma City, Oklahoma		100	3	1,365	10
M. Foote, Middleton, Idaho		98	0	2,551	—
D. Smith, Wasco, Calif.		98	9	2,200	240
H. Hurlburt, Bennington, Vermont		95	2	1,390	25
J. Dillon, Regina, Saskatchewan		87	0	1,580	—
W. Punkett, Weston, Ontario		78	0	1,332	—
H. Korb, North Bay, Ontario		77	0	1,360	—
H. Holbrook, Bethesda, Maryland		76	0	1,490	—
A. King, Augusta, Georgia		75	0	1,450	—
J. Dranchak, Bridgeport, Conn.		75	5	1,675	85
J. Cumbiie, Dallas, Texas		72	0	1,400	—
S. Tuura, Toronto, Ont.		63	9	1,400	215
E. Hepp, Phoenix, Arizona		60	0	1,800	—
D. Swanson, Chicago, Illinois		54	0	1,280	—

## Eastern DXH TV Lab Report

JAMES GOULD, Project Engineer, Dxing Horizons



Playfully dubbed "the southernmost terminal of the D.E.W. Line," this is the antenna array (a portion of it... anyhow!) in Kokomo. VHF antennas by Winegard. UHF Parascope by Channel Master. Tower and antenna erection by one dozen helpful Kokomo souls!

General tropes on both VHF and UHF have been above average at the Kokomo TV DX Testing lab this past month. Some highlights: Tropes to 450 miles August 16, 18, 25, 26, 27, September 3 and 6. August 25, 2200 EST, WNED-17, Buffalo, 413 miles; 2328 EST, WNBF-12, Binghamton, 550 miles. August 26, 0005 EST, WBAL-11, Baltimore. September 3, WVET-10, Rochester, N.Y., 0650 EST, 477 miles. September 6, WHEN-8, Syracuse, N.Y., 540 miles, 0615 EST.

Work is progressing on the 417A turret tuner-VHF booster. We may have a preliminary report in November. This is to be the first channel changing VHF booster of the ultra low noise type, in the TV world.

**TV REPORTING** (Continued from page 14)  
video carrier on channel 2. On channel 3, Navarre had the ABC program "Maverick," which ran through the 2300 EST break until 2315 fade out. The most likely prospect at this writing is KIEM-3, Eureka, California.

The period 2200-2300 apparently was the peak for auroral E skip activity. H. Korb, North Bay, Ontario caught channel 4, KDUH, Hay Springs, Nebraska from 2230-2300, 1170 miles across the aurora.

During the same 30 minute period, Jim Himes of Joes, Colorado was watching CFRN-3, Edmonton, Alberta, 868 miles.

A little earlier, from 2125-2205 EST, Gary Burrows, Kirkland Lake, Ontario, caught CKBI-5, Prince Albert, Saskatchewan, a distance of 1200 miles. Burrows also had auroral E skip on channel 6 at 2200 EST.

The top haul of the session, positively identified, went to DXer David Janowiak, of Milwaukee. Janowiak didn't check DX until 2300 EST when he was amazed to find KTVU channel 2, Oakland, California pounding in with good audio but badly hashed video. The KTVU signal, over a 1,900 mile path, stayed in until shortly after 2400 EST.

Early on the 5th, Bill Hauser, Oklahoma City, Oklahoma caught the southernmost auroral E skip recorded in the history of this strange type of DX. Hauser had auroral E signals on channels 2 and 3 from 0120 to 0145, with no identification.

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OPERATING CONDITIONS, AMPLIFIER, CLASS C, FM

	CCS	ICAS
Frequency	500	500 MC
Plate Voltage	180	200 volts
Screen Grid Voltage	180	200 volts
Control Grid Bias	-20	-20 volts
Plate Current	2x27.5	2x30 ma
Screen Grid Current	12.5	14 ma
Control Grid Current	2x0.75	2x0.75 ma
Driving Power	1.2	1.2 watts
Plate Input Power	2x5	2x6.2 watts
Plate Dissipation	2x2.1	2x2.6 watts
Screen Grid Dissipation	2.25	2.8 watts
Output Power	5.8	7.2 watts
Useful Power in Load	5	6 watts

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# MEDIUM WAVE

Edited by DXing Horizons  
Medium Wave Editor

Glen Kippel

302 N. 2nd Street  
Sterling, Colorado, U.S.A.

# DXing HORIZONS

Your Editor wishes to thank DX Consultants Bengt Ericson of Skara, Sweden and Keith Robinson of Invercargill, New Zealand for their splendid cooperation in sending in their monthly reports, which currently highlight this column.

This month, you will notice unusual catches are highlighted with capital letters for the country, for reader ease in spotting these items. Capital letters in the SPLATTER division have no special significance, however.

Next month, we will try a slightly different method of listing your catches. Instead of breaking up the listing by station location, the divisions will indicate what is being heard from that area. For example, everything heard in New Zealand will come under the PACIFIC heading. Thus a spot check of your part of the world will indicate what is being heard around you. The SPLATTER section will remain unchanged.

After comparing the two systems, we will be guided by your comments on which you prefer.

## Medium Wave Log Book

All times are in 24 hour EST. Please make your reports conform to the following standards.

### AMERICA

- 650 Costa Rica—TIBAS, San Jose, hrd over WSM 8/28 at 2321. (Ed.)
- 680 Puerto Rico—WAPA, "Voice of the Caribbean," San Juan, hrd 9/5 0455-0600, SINPO 55444. (Hauser, Okla.)
- 700 Ecuador—HCJB "La Voz de los Andes," Quito, hrd 9/2 2203-2213, SINPO 33233. (Hauser, Okla.)
- 725 Costa Rica—TILX "R. Columbia" noted often around 2200-2330. (Godwin, Tex.; Ed.)
- 735 Unidentified—SS noted evenings in Texas. (Godwin)
- 741.5 Colombia—HJCU "R. Tricolor," Bogota ligged frequently 2240-fadeout 2350, much QRM from 740. (Ed.)
- 765.5 UNIDENTIFIED — SS hrd around 2300-2400, fair sigs, s-off about 0102, ID as "Radio Libertal." (Godwin, Tex.; Moore, Mass.; Ed.)
- 780 PUERTO RICO — A.F.R.T.S. Ramey AFB, Aguadilla, s-on 0500 8/29 w-SSB, QRM from 4YA. Listed pwr 50 watts. (Stewart, Tex.)
- 865 Honduras — HRUC, Tegucigalpa, hrd 2252. (Ed.)
- 880 Guatemala — TGJ noted 8/26 at 2321 w-marimba music, ENGLISH announcements. (Ed.)
- 887 UNIDENTIFIED — religious music hrd at 2152 til abrupt s-off 2241:30. (Ed.)

- 950 Unidentified—two SS hrd over KIMN 9/11 at 2334, here in Sterling. (Ed.)
- 1025 Panama — HOU, David, hrd 8/28 at 2351 w-severe ITV. (Ed.)
- 1075 Costa Rica—TIFC, San Jose, clear ID in ENGLISH hrd 8/28 at 2310, powerful sig, no trace of YSEB. S-off w-anthem 0010. (Ed.)
- 1120 Venezuela—YVMF, Maracaibo, solid S9 plus 10 at 2145. (Moore, Mass.)
- 1125 Costa Rica—TISM "R. Sport" hrd 8/26 at 2253, good sig. (Ed.)
- 1150 U.S.A.—WGGH, Marion, Ill., fair 0533 8/22 w-QRM from 2WG, JORK, KJAX test. (Robinson, N.Z.)
- 1160 Swan Is.—R. Swan hrd at s-on 0500 in the clear. (Godwin, Tex.) at s-on 8/17, slight QRM WJJD. (Miller, Wash.) Clear Monday AMs s-on 0500 in Calif. (Cooper)
- 1175 El Salvador—YSCB, Sonsonate, hrd around 2240-2330, good sig. (Ed.)
- 1288A UNIDENTIFIED — woman announcer w-British accent hrd 8/22 at 2300. (Cooper, Ga.)
- 1390 U.S.A. — WFMJ, Youngstown, Ohio, fair thru 0503 8/8. (Robinson, N.Z.)
- 1420 U.S.A.—WDBF, Dalray Beach, Fla., weak s-on 0530 8/8. (Robinson, N.Z.)
- 1440 U.S.A.—WAJR, Morgantown, W. Va. weak thru 4YZ harmonic 0508 8/8. (Robinson, N.Z.)
- 1460 U.S.A.—WRAD, Radford, Va., fair at s-on 0515 8/8. (Robinson, N.Z.)
- 1500 U.S.A. — WTOP, Washington, D.C., noted under AFRTS Azores at 2100, S4-5. (Ericson, Sweden)
- 1510 U.S.A. — WMEX, Boston, hrd 2115 w-S6. (Ericson, Sweden)
- 1540 Bahamas—ZNS, Nassau, noted w-news 2100, QRM from WPTR. (Ericson, Sweden)
- 1560 Brazil — R. Cultura do Noroeste, Cauraru, PE, noted w-vy good sig 2100. (Ericson, Sweden)

### ATLANTIC

- 998 U.S.S.R. — RV95, Kishinev, hrd 8/8 around 1930. (Roberts, Mass. via Moore)
- 1097 Spain—EOP2 "R. Vida," Sevilla, member of a new network called Cadena de Ondas Populares Espanolas is hrd S8 at s-off 1900. (Ericson, Sweden) Power 2200 watts, address: Trajano, 39. CE is Estanislao Castello. (Hederstrom, Sweden)
- 1106 Litanian SSR?—Vilnyus? hrd 8/8 around 1930. (Roberts, Mass. via Moore)
- 1142 U.S.S.R.—RV129, Kalingrad, hrd 8/8 around 1930. (Roberts, Mass. via Moore)
- 1214 U.S.S.R.—A new Soviet station is hrd S7 in Sweden at 1600 under BBC. No ID hrd. (Ericson, Sweden)

- 1250 Spain—EOP12 "R. Popular de Huelva" same network as EOP2, hrd closing around 1900. (Ericson, Sweden) Is 2 kw. Address: Calle del Puerto, 73. (Hederstrom, Sweden)
- 1344 KUWAIT—Kuwait Broadcasting Service hrd vy often around 1900 w-S7, closes after 1900. All Arabic. (Ericson, Sweden)
- 1347 Spain — EFES "La Voz de Alicante" hrd closing w-S9 8/26 at 1827. (Ericson)
- 1372 Spain—EAJ26 "R. Antequera" hrd w-S9 at s-off 1830, 8/26. (Ericson, Sweden)
- 1385 Spain — EFE23, "Voz de Guipuzcoa" San Sebastian, has moved here from 1338, still S9, closes 1830. (Ericson, Sweden) Official power 5 kw. (Hederstrom, Sweden)
- 1400 Guinea Rep.—Radio Conakry hrd by Tavares Filho, Brazil, w-fair sig at s-off 0130. (DSWC via Boord)
- 1412 Spain—EAJ60 "R. Almeria" often hrd S7 around 1800, s-off 1815. (Ericson)
- 1418 Spain—EAJ61 "R. Jaen" hrd w--s-off 1810. (Ericson, Sweden)
- 1484 U.S.S.R.—A new station probably located in Estonian SSR hrd in Sweden 0200-1600, vy good strength. (Ericson)
- 1493 Unidentified — TA w-music, strong sig hrd around 1845. (Roberts, Mass, via Moore)
- 1507 Spain—EAJ-42 "R. Lerida" hrd at s-off 1800, S5. (Ericson, Sweden)
- 1538 Mali — R. Mali, Dakar, hrd 7-18 at 2320, heterodyned. (DSWC via Boord)
- 1572 Azores — CSB81 hrd 9/2 around 1845 (Roberts, Mass. via Moore)

#### PACIFIC

- 600 Philippines—DYRC, Cebu City, logged 0915-0945 w-pops, few announcements. (Robinson, N.Z.)
- 650 Australia—8DR, Darwin, former 5DR, logged until s-off 0900 weekdays. (Robinson, N.Z.)
- 750 Japan—JOIB, Sapporo, S9 plus 10 db peaks 0420-0443 9/5. (Cooper, California)
- 800 Alaska—KINY, Juneau, hrd 8/10 w-election returns, still going after 0600. (Millar, Wash.)
- 1080 North Korea—Pyongyang hrd w-ENGLISH 0830-0900, gave other MW freqs as 820, 1050. (Robinson, N.Z.)
- 1260 UNIDENTIFIED — Japanese language S-5 0357-0359; 0401 re-tune in, man with British accent giving news in English. Frequent mention of northern Japan fishing towns, 9/5. (Cooper, California)
- 1270 Alaska—KBYR, Anchorage, could be the one hrd w-woman DJ 0349 giving time as 11 before 11, fadeout 0355, no ID hrd. (Cooper, Calif.)
- 1270 Hawaii—KNDI, Honolulu, all-girl station, sked 1000-1700, ID as "Candy." (Robinson, N.Z.)
- 1470 CHINA — Fukien, noted in Germany 7/18 from 2139-2150 w-Chinese music, QRM from ZYE3. (DSWC via Boord)
- 1600 AUSTRALIA—3NE, Wangaratta, Victoria logged during late spring after AN WTRU, WAPX fadeout; good ID 0630. Keep an ear out for this one. (Millar, Wash.)

#### SPATTER

- AFGHANISTAN—Latest sked of Kabul Radio includes Home Service 2130-2330, 0200-0330, 0630-1300 on 660, 20 kw. (WRHB)

AUSTRALIA — 8DR, 650, Darwin, N.T. and 8AL, 1530, Alice Springs, veried by letter from J. S. Miller, Manager; Australian B/C Commission; Hindmarsh Square; Adelaide, S.A. (Robinson, N.Z.)

BRITISH HONDURAS—B.H.B.S. now on 830 as well as 1280 on MW. (Hauser, Okla.)

DOMINICAN REPUBLIC — New Outlet, R. Caribe, operates these stations: HIU, 1290, Ciudad Trujillo; HIUA, 1270, Santiago; HIUB 1300, Dajabon; HIUC, 1370, Barahona; HIUD, 1400, San Juan; HIUE, 1310, El Siebo; HIUF, 1340, Jimani. Address is Radio Caribe, Ciudad Trujillo, D.R. (Cooper, Ga.; Boord)

HAWAII—KPOI, 1380, Honolulu, verie signer is H. G. Fearnhead. KKA, 650 (formerly KPOA) form letter signed by James R. Markham, Chief Engineer. (Robinson, N.Z.)

IRAN—R. Iran, 1340, is now AN. R. Teheran, 895, sked is 0130-1600 inclusive all services; ENGLISH 1530-1600. (WRHB)

IVORY COAST—R. Abidjan, 1493, 4 kw., sked 0130-1900. (Boord, W. Va.)

JORDAN—Accdg to R. Sweden, latest sked from Amman, 800, daily exc. Fri. and Sun. 2230-0305, 0600-0805, 0900-1700; Fri. 2230-0805, 0900-1700; Sun. 2230-0400, 0600-0805, 0900-1700; and from Jerusalem, 677, in Arabic 0700-1000 and English 0600-0700, 1000-1200. (Boord, W. Va.)

MALI—R. Senegal, 1304, Dakar, 8 kw., sked 0130-1900. R. Mauritanie, 1349, St. Louis, 1 kw., 0200-1845. R. Soudan, 1430, Bamako, 1 kw., 0130-1800. (Boord, W. Va.)

MALTA—A station to relay BBC programs in Arabic is under construction in Malta. (Ericson, Sweden)

MARIANA IS. — Guam Bcstrs Inc., Agana, Guam, address 5293 Oio Drive, Honolulu 16, Hawaii, has applied for 990 kc. with 1 kw. (Broadcasting mag)

NEW ZEALAND—2XG, 1010, Gisborne, has been testing with 10 kw. (NZ DX Times via Robinson) 2YC, 660, Wellington, now using 100 kw. (Robinson, N.Z.) 3YA, 690, Christ-church; 1YA, 760, Auckland; 4YA, 780, Dunedin, are to increase pwr to 20 kw. (WRHB)

NICARAGUA—NZRDXL has arranged a DX program from YNOL, 825, for Feb. 4, 1961, 0600-0700 EST. Program will be ENGLISH and reports should be sent to David C. Solt, Chief Engineer; Ondas de Luz; Apartado Postal 607; Managua. (NZ DX Times via Robinson)

NORTH KOREA — R. Pyongyang sked has Korean 1st Program 1430-0930 on 785; 2nd Program 1430-1130 on 820 and 1080. (WRHB)

RYUKYU IS.—KSDT "R. Okinawa" is a NEW commercial stn w-3 kw. from 1500-1030. (WRHB)

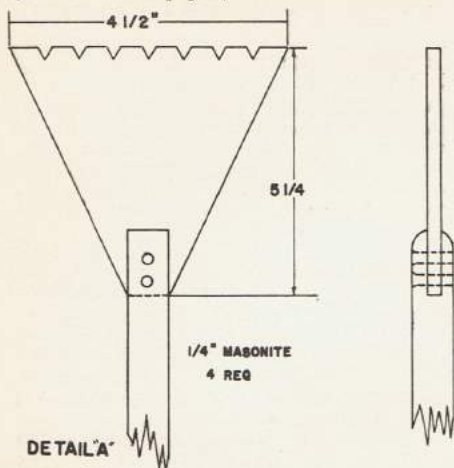
SUDAN—R. Omdurman now has Arabic 2315-0030 (Fri. to 0600), local prog 0900-0930 (also 0300-0400 Sun); ENGLISH 0730-0800. (WRHB)

SWEDEN—R. Sweden, 1178, is used in ENGLISH for Europe daily 1830-1900. (Boord)

DEADLINE—DX Consultants and last minute important flashes, the 14th of each month. For all basic reports, the 1st of each month... 73, GLEN KIPPEL.

## A LOOP ANTENNA

(Continued from page 4)



"A" terminal. Keep the wire as taut as possible as this will produce a neater and more efficient winding. Wind the one turn link next by passing one end through the hole in the 1" support dowel and soldering to one of the "B" terminals. Wind the link around the center of the main winding, pass through the hole in the support dowel, and solder to the other "B" terminal.

Connect the "B" terminals to the receiver doublet antenna posts. Connect the "A" terminals to the 350 mmf tuning condenser. See Figure 3 for these connections. C1, C2, and SW1 can be mounted on a bakelite or plexiglas panel near or on the loop.

### OTHER SIZE LOOPS

If it is desired to construct loops of sizes other than described the following two tables are offered as guides. Table I is for the box type loop, table II for the spiral type loop.

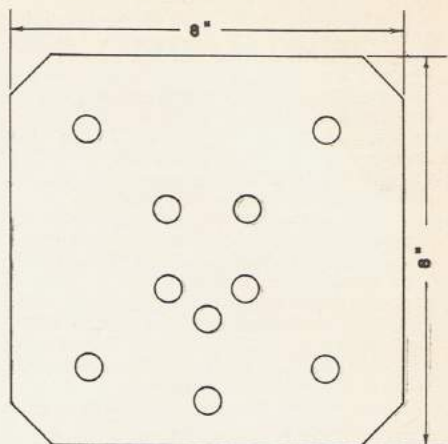
TABLE I - BOX LOOPS

Turns	Spacing	Length of Side
19	1/4"	15"
14	1/2"	25"
8	1/2"	48"

TABLE II - SPIRAL LOOPS

Turns	Spacing	Length of Diagonal
14	1/8"	16"
16	3/8"	25"
15	1/2"	35"
11	1 1/2"	65"

2 REQ'D 1/4" MASONITE



DETAIL "B" NOTE: STAGGER THE HOLES ON THE TWO PIECES

Note that these loops are designed to cover only 550-1600 kc. using only a 350 mmf variable condenser, eliminating C2 and SW1 of Figure 3. The above values are approximate and may need some adjustment to center them for the Broadcast Band.

### OPERATING THE LOOP

The loop described in this article will tune from 500-670 kc. with SW1 closed, and 620-1930 with SW1 open. Tune in a steady BCB station and then tune C1 on the loop for maximum signal by "S" meter or by ear. The loop can now be rotated to null out any QRM or QRN. It must be retuned each time the frequency of the receiver is changed.

The most valuable feature of a loop is its null at right angles to the frame. The loop is commonly used so that its null rejects any interference that may be present. Rather than rotate the loop to get the strongest signal from the desired station it is usually positioned to get the least response from the source of interference. The loop will reject interference from any source which has a specific direction such as TV buzz, power line leaks, another station, and sometimes atmospherics.

When tuning a split-frequency station with a powerful station on an adjacent channel the procedure is to tune to the interfering station, peak it with C1, then rotate the loop to null it out as much as possible. Then, without touching the loop, retune the receiver to the desired station.

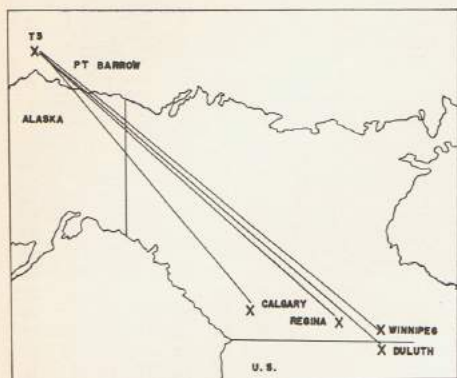
If hand capacity is troublesome add a bakelite extension to C1. It may be necessary to ground or remove any leads from outside antennas that come too close to the loop as these will affect its operation.

### BROADCAST BAND DXers!

A special subscription offer is detailed on the insert between pages 2 and 3. For the price of the subscription, you also receive my Medium Wave Foreign Station Log! Don't put off subscribing . . . Support Medium Wave DXing Horizons . . . TODAY! —GLEN KIPPEL

## DXing Horizons Exclusive!

# REPORT FROM T-3



T-3 trans-aurora paths most frequently observed during September. Duluth, Winnipeg, Regina, Calgary seen often.

Astute reader of DXing Horizons (what other kind are there?) will recall with anticipation our premature news release in the April '60 DXH, page 12, concerning TV DX observations from Ice Island T-3, or Fletcher's Ice Island, north of Point Barrow, in the Arctic Ocean.

We reported the ice floe, staffed with Air Force and U.S. Weather Bureau meteorologists would be a hard core scientific observation post through 1960 and probably 1961.

Now the first reports are in from T3, and reporter Robert Mellen.

Through the kind assistance of the Winegard Manufacturing Company, Mellen has been using a Color 'Ceptor Antenna for his TV DX work. Apparently the 'Ceptor has withstood the rigors of an Arctic spring, summer and part of a fall, because Mellen reports it is "performing fine business."

At this point readers are referred to pages 5-6 this issue, and page 7 this issue, for news of "trans-auroral scatter," which "just happens" to tie in with this report. And readers are referred back to page 14 this issue for news of auroral-E skip, which also hit the news spread this month (coincidentally!).

Now the report, relayed through TV DXer T. C. Mann, amateur VE4TX, of Winnipeg, Manitoba. "Mellen, located on T3, has been picking up TV signals as high as channel 5, although the nearest channel 5 appears to be CKX in Brandon, Manitoba, a short distance of at least 1,800 miles, and perhaps 2400, depending on the exact location of floating Ice Island T3 at this time! On September 3, 0100 EST, Mellen had TV on channel 2. At 0115 EST, two stations fighting it out on channel 2, with single stations on channels 3, 4 and 5. All apparently were coming from Saskatchewan, Manitoba, and Alberta, Canada. On September 5, 0200 EST, Mellen identified CBWT-3 Winnipeg, around 2,000 miles. (Editor's note: Mellen is of course isolated, and his only contact with the outside world is via amateur radio. His report to DXH comes through Cliff Mann, of Winnipeg, who frequently talks to Mellen on the amateur 50 mega-

cycle band . . . just below channel 2 TV.) Also, Mellen had signals from KDAL-3, Duluth, CBWT-3, Winnipeg, and CKCK-2, Regina around 0200 EST on the 9th of September."

Our thanks to Cliff Mann, and we will be eagerly awaiting another report from T3.

Incidentally, DXing Horizons is actively soliciting the donation of a used TV receiver with at least average DX capabilities, and good reliability, for Mellen's use in the next few months. DXH will gladly pay shipping charges to T3, if such a loan can be worked out for this very worthwhile long range TV experiment.

## Medium Wave DX

### 25 Years Ago . . .

(A monthly look into a DX world rich in history and tradition.)

The 1935-36 season marked the end of the great MW reception conditions that characterized the early 1930's. The sunspots were on the rise and the count averaged about 70 for the season, still low enough to provide remarkable reception at times, but conditions were not as sharp as they had been the previous four winters. Even so, it would be 1952 before conditions would be as good again during peacetime.

The October 1935 Radex and IDA Globe Circler devoted considerable space to the "Interclub Cooperation Plan for Broadcast Band DX Clubs for 1935-36" . . . this plan was endorsed by IDA, CDXR, NNRC, GCDXC, URDXC, MCDXC, and Radio News . . . so many clubs were scheduling special broadcasts that this plan was set up to bring some order out of the chaos . . . Radex announced the appointment of Carleton Lord as DX Editor . . . Carl is still active today as Special Features Editor of NNRC.

Looking through November and December issues of Radio News, Radex, and Globe Circler we find that October, 1935, turned out to be a fairly good TP and SA month throughout the country. . . Tony Tarr, Fort Lewis, Wash., reported he had never heard a TP before, but on Oct. 10 he logged one Japanese, 2 Zedders, and 9 Aussies. . . R. Tomlinson, N.Y., logged 24 "down under" stations and one Japanese on Sept. 27 and he also notes excellent early season SA reception of LR3, LR5, LS2, LR2, LR4, LS8, LR6, LR8, CX26, and PRF4. . . W. Birch, Mass., logged 29 SA's on Oct. 20 between 2030 and 2300. . . Hostetler, Ohio, reported 7NT, 3YA, 1YA, 2BL, 2CO. . . Radio News observers Kalmbach, Tomlinson, Lonis, Schmarder, and Kentzel, all from N.Y. reported 22 TP's between 0530-0610 EST and 13 TA's about 1800. . . Observers Shields and Beitman, Ohio reported 2BL, 1YA, 3GI, 2CO, 3AR, and 3LO. . . L. McVey, Md., heard 1YA, 2CO, 4QG, 2BL, 7NT and 3GI between 0430-0600 EST. . . Observer Routzahn, Pa., logged 7NT, 4QN, 7ZL, 1YA, 2CO, 5CK, best conditions 0500-0545 EST. . . R. Hunt, Calif., notes that DX is best between 0100-0530 PST with a peak at 0300-0400, and that JOIK and 1YA are the first signals to appear. . . C. H. Long, Mo., found excellent Aussie reception from such as 7ZL, 2FC, 3AR, 5CK, 5CL, 7NT, 3LO, 4QG, 2GB, and 4RK.

# Propagation Horizons

Prepared monthly by  
**Stanley Leinwoll**  
 Radio Frequency and Propagation Manager  
**RADIO FREE EUROPE**

Regular reception of distant shortwave radio signals depends on many things, some of which are subject to wide variation, such as transmitter power, transmitting and receiving antenna gain, noise levels at the receiving site, and propagation conditions over the particular path. Thus, the data given below is designed to serve only as a guide. During certain hours propagation over some of the circuits shown (for example, West Coast U.S.A./Near East) is extremely difficult no matter what transmitter power is used, with reception extremely unlikely except under unusual propagation conditions. However, if an opening does occur, it will most likely be in the bands shown for each hour.

In general, the bands immediately above and below those shown will be next best, although during periods of unusual propagation (ionospheric storms, etc.), there may be little agreement between actual conditions and the data in the tables.

Examination of the tables shows that data only for even hours is given. Since propagation over a path does not usually change radically over a short period, an inspection of the tables will indicate the range of frequencies that are best during odd numbered hours.

In addition to shortwave propagation data, the hours during which medium wave DX is most likely are shown with an asterisk.

The regular features of this column will include the propagation tables, a last minute forecast of expected worldwide propagation conditions, and a discussion of any unusual propagation phenomena (disturbances, sporadic-E, auroral propagation, etc.), that would be of interest to readers of DXH.

Since this is a new column, we invite our readers to participate in its formation by submitting suggestions for its improvement, questions (which we will answer), comments, requests, and newsworthy material of interest to our readers. All correspondence will be given our most serious attention. Write in care of DXing Horizons.

The following tables show the band most likely to be heard between locations indicated, for the time periods shown. For example, for a listener in the Eastern U.S.A. the 13 meter band would probably be best received from Latin America (LA) at 00 GMT. At 12 GMT, the 19 meter band would probably be best for receiving Near East stations.

Since the modes of propagation on which this information is based are via the normal F layers of the ionosphere, the laws of reciprocity will generally hold, and a listener in the Near East, for example, would probably also best receive signals in the 19 meter band at 12 GMT from the East Coast U.S.A.

Abbreviations in the tables are as follows: NO—north; SO—south; LA—Latin America; Eur—Europe; Nr—Near; Afr—Africa; SE—Southeast.

All times 24 hour GMT. Asterisk indicates hours of possible medium wave band openings.

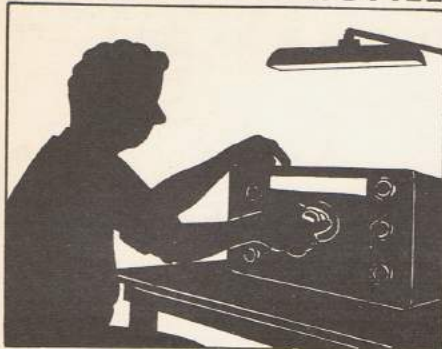
These charts are computed on a basis of accuracy through November 15, 1960. In November, the charts will be based on computations through December 15, 1960, etc.

Time GMT	Between Eastern USA and		N	S	E	W	N	N	S	F	S
	o	o	a	e	r	o	o	a	r	E	E
	L	L	t	t	E	A	A	A	A	A	A
	A	A			a	f	f	f	E	E	A
				E	E	s	r	r	r	a	i
				u	u	t	t	t	t	s	a
				r	r						
00	13*	13*	31	25*	31	25	16	16	16	16	16
02	16*	19*	31*	25*	31	25	25	19	19	19	19
04	16*	19	31	31	31	25	25	25	25	25	25
06	16	19	31	31	31	31	25	31	31	31	31
08	19	25	41	31	31	31	25	31	31	31	31
10	25	25	31	25	31	31	25	31*	31*	31*	31*
12	13	13	16	16	19	19	13	31	25	19	16
14	11	13	16	16	16	11	13	25	19	16	16
16	11	13	16	13	16	11	13	25	19	16	16
18	11	13	16	13	13	11	13	31	16	16	16
20	11	13	25	13	25	16	11	25	16	16	16
22	11*	13	25	19	25	25	13	16	19	16	16

Time GMT	Between Central USA and		N	S	E	W	N	N	S	F	S
	o	o	a	e	r	o	o	a	r	E	E
	L	L	t	t	E	A	A	A	A	A	A
	A	A			a	f	f	f	E	E	A
				E	E	s	r	r	r	a	i
				u	u	t	t	t	t	s	a
				r	r						
00	13*	16	31	25	25	25	13	13	13	13	13
02	16*	16*	31	31*	25	25	19	16	13	13	13
04	16*	19*	31	41	25	25	25	19	16	16	16
06	16*	19	31	41	31	31	25	25*	25*	25*	25*
08	19	25	31	41	41	31	31	31*	41	41	41
10	25	25	41	41	41	31	31	41	41	41	41
12	25	19	31	25	31	19	19	41	41	41	41
14	13	11	16	16	16	13	13	25	31	16	16
16	11	13	16	16	16	13	13	25	16	16	16
18	11	13	16	13	16	11	13	25	16	16	16
20	11	13	25	13	19	13	11	19	13	16	16
22	11	13	31	19	25	16	11	13	16	16	16

Time GMT	Between Western USA and		N	S	E	W	N	N	S	F	S
	o	o	a	e	r	o	o	a	r	E	E
	L	L	t	t	E	A	A	A	A	A	A
	A	A			a	f	f	f	E	E	A
				E	E	s	r	r	r	a	i
				u	u	t	t	t	t	s	a
				r	r						
00	11	13	31	25	25	25	16	13	13	13	13
02	13*	13	31	31	31	25	25	13	13	13	13
04	16*	19*	31	31	31	25	31	31	13	13	13
06	16*	19*	31	31	31	31	25	19	19	19	19
08	19*	19	31	31	41	41	25	25	25	25	25
10	25	25	31	41	41	41	31	31*	31*	31*	31*
12	25	25	31	41	41	41	25	31*	31*	31*	31*
14	13	13	25	19	25	19	13	41	41*	41*	41*
16	11	13	19	16	19	16	13	25	25	25	25
18	11	13	19	16	19	13	13	25	13	13	13
20	11	13	25	16	19	13	13	19	13	13	13
22	11	13	25	19	25	19	13	13	16	16	16

## SHORTWAVE PROFILE



**SPECIAL NOTE:** During the fall SWDX season, PROFILE and SW STATION REPORT will be run in ALTERNATE issues of DXH—so more space will be available for listeners' reports in the WT and AFO columns.—Ed.

### Mr. A. R. (Al) Niblack Vicennes, Indiana, U.S.A.

A. R. (Al) Niblack, 420 Shelby St., Vincennes, Indiana, U.S.A., became interested in SW radio back in 1932 and began his DXing with a MIDWEST all-wave receiver.

Al was "inactive" 1937-1950, but since returning to the hobby he has become more interested than ever before, he says. For a year, he edited the SWBC section of the UNIVERSALITE, house organ of the UNIVERSAL RADIO DX CLUB, and is now a contributor to DXH, POPULAR ELECTRONICS, the NEWARK NEWS RADIO CLUB, and the DX program of *Deutsche-Welle* (GERMAN FEDERAL REPUBLIC). (Al—who was a highly valuable reporter to the ISW Dept. of RADIO AND TELEVISION NEWS in the early 50s—is now *Technical Consultant* for the DXH Shortwave Department and all inquiries concerning SW radio equipment and supplies should be addressed DIRECT to him.—Ed.)

Among the stations logged by Al in his early years of SWling were EAQ, Madrid, SPAIN; DJC, DJD, Berlin, GERMANY; GSA, GSB, London, ENGLAND; LATIN AMERICANS such as LSX, YV1BC, YV3BC, and HJ1ABB.

"My biggest thrill in those years was probably when I heard VK2ME and VK3ME in Australia," Al comments.

Currently, Niblack is using a HALLICRAFTERS SX-100 Receiver; a RME DB-22A Preselector; a BUD FCC-90A Crystal Calibrator, and an INTERNATIONAL CRYSTALS FMV-1 10 kc. Calibrator. A KNIGHT



A. R. (Al) Niblack, Vincennes, Indiana, U.S.A. was first interested in SW radio in 1932 when he began his DXing with a MIDWEST all-wave receiver. Currently, he is using a HALLICRAFTERS SX-100 Receiver; a RME DB-22A Pre-selector; a BUD FCC-90A Crystal Calibrator, and an INTERNATIONAL CRYSTALS FMV-1 10 kc Calibrator. A KNIGHT tape recorder completes his fine set-up. Al is *Technical Consultant* for the DXH Shortwave Department.

TALS FMV-1 10 kc. Calibrator. A KNIGHT tape recorder completes his fine set-up. His main antenna is a 40' longwire about 20' above ground level, although a 9' vertical, 30' above ground level, is also available.

"It was about nine years ago that I began to seriously collect verifications," Al outlines. "I have 120 countries DEFINITELY LOGGED and 60-plus VERIFIED. An 'acknowledgement' card of the early days of DXing is one from the BBC for its GSA outlet, issued in 1933. Verifications included in my collection which I consider among my favorites are those from Radio Addis Ababa, 15.055, ETHIOPIA, March 3, 1954; Radio Clube de Angola, 11.862, Luanda, ANGOLA, January 3, 1954; SABC, 9.680, Paradys, UNION OF SOUTH AFRICA, December 13, 1956; "Voice of Free Korea," 11.925, Seoul, KOREA, February 28, 1958; Radio Tahiti, 6.135, Papeete, TAHITI, December 4, 1956; Radio Tashkent, 11.690, Tashkent, UZBEK SSR, March 10, 1958, and Radio Kabul, 9.573, Kabul, AFGHANISTAN, January 3, 1960."

While Al is interested primarily in SWBC DXing only, locally in the past years he has been an associate member of the *Old Post Amateur Radio Society* and has done the publicity for that organization. Al is also interested in the Citizens Band and has License 18W4863.

Al, who is unmarried, is employed as a salesman in the Cash & Carry Department of the Crook-Wallace Wholesale Company in Vincennes.

*It is a distinct pleasure to dedicate the October DXH Shortwave Department to an old, loyal friend—one of the world's top SWLs and reporters, Al Niblack!—KEN BOORD*

# "What a Verification Means to Me"

Paul Kary  
Washington, D.C., U.S.A.

The author has been a SWL since 1943, both in the U.S.A. and in Cyprus. As one of the world's most successful QSL collectors, his collection includes some 1,500 cards and letters from approximately 160 countries, including such rare verifications as those from Bechuanaland, the Seychelles, Reunion Island, and Fernando Poo.

Although self-styled SWLs have undermined the authenticity of QSLs by seeking and obtaining verifications from foreign radio stations under false pretenses, the quest for letter and card confirmations seems to continue unabated despite the fact that a tape recording of a station is the most absolute, although perhaps not the most practical, verification of reception.

It is generally acknowledged that 15 minutes of continuous program information is the minimum for requesting a QSL from a station. Of course, a few dedicated and conscientious SWLs will supply a series of loggings over a period of a week or more. However, since the majority do not have the time to expend on such an involved project, the ideal compromise lies somewhere between the two extremes.

Under no circumstances are reception reports by SWL card acceptable, a practice pursued by a number of overseas listeners, although it must be sadly admitted that many stations will indeed confirm such sparse reports.

The listener must bear in mind that too much detail can also be a drawback, particularly in the case of many regional or local stations whose staffs may have only a very basic knowledge of English or perhaps none whatsoever. In such cases, excessive detail may prove confusing to the recipient, who may rightly conclude that the effort is hardly worth his time.

Since programs broadcast by many Latin American, African, and Asian stations are not precisely timed and may tend to blend into each other due to their variegated content, the listener must try to categorize as simply as possible. For example, "announcements and/or talks interspersed with recorded music," and then cite in chronological order whatever selections can be identified. It is best to list program information in "schedule" form rather than in a paragraph style, e.g., "0500 to 0506 GMT—World news in Portuguese read by a man"—and so on.

Receipt of QSLs will be more than doubly facilitated if the listener is able to compile his report in the language of the country concerned. This is especially applicable to South American broadcasters.

The "ideal" QSL should specifically state that the listener has heard the station on the frequency reported, and should be signed by one of the station staff members. The words "confirmation," "verification," or "verification of reception" need

CONFIRMAÇÃO OFICIAL DE RECEÇÃO  
DA  
EMISSORA DA GUINÉ

Nº 1

COM

POTÊNCIA: 1.000 WATTS  
TIPO DO EMISSOR: TELEFUNKEN  
ANTENA: DIRIGIDA COM REFLECTOR  
FREQUÊNCIA: 7.948 KC/S  
COMPRIMENTO DE ONDA: 37,76 M.  
HORÁRIO: 21.30 H./23 H. GMT.

BISSAU

(Guiné Portuguesa)

Ào Ex.º Sup.º

Com os nossos melhores cumprimentos pelas informações fornecidas no seu cartão de 8/1/77 e referências às emissões 400-21423

30 de Setembro de 1977

O Presidente da Comissão

Expensive folder-type card from Emissora da Guiné, Bissau, Portuguese Guinea, based on a scheme suggested by the author. Note "No. 1" in upper right-hand corner.

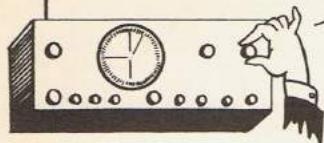
not appear in the QSL; even the terse "QSL yr rept" can suffice.

The "less-than-ideal" confirmation, which, in my opinion, still qualifies as a QSL, is the type issued by a host of foreign, particularly Latin American, broadcasters to whom the language barrier and an ignorance of the idiosyncrasies of SWLs have conspired to produce the vague "acknowledgement," e.g., "We beg to acknowledge receipt of your reception report dated . . ." or "We are most pleased to receive your report on . . ." As long as the listener has satisfied his own conscience that he did indeed hear the station in question, then he is entitled to consider the "acknowledgement" as a bona-fide QSL.

For the more demanding SWL, the way to circumvent this often frustrating response is to enclose a prepared multi-lingual QSL form in English, Spanish and/or Portuguese, and French. The form should be entitled "Official Verification of Reception" and should contain provision for insertions as to call sign, location, frequency confirmed, type of transmitter, antenna, schedule, future plans, official hand stamp, and signature. The station should be requested to fill in and return the form in addition to sending its QSL card. If the station is situated in a country which is a member of the Universal Postal Union, at least one International Reply Coupon (IRC), obtainable at most post offices, should accompany each reception report to defray return postage charges.

I will frankly admit that I have a considerable number of QSLs of the "acknowledgement" type or lacking signatures. There is no hard and fast rule on this score, and as long as certain broadcasting services persist in this practice, little else can be done than to settle for something less than the best!

# THE WORLD



## AT A TWIRL

Edited by DXing Horizons Shortwave Editor  
Ken Boord  
948 Stewartstown Road  
Morgantown, West Virginia, U.S.A.

**CLUB NOTES**—Robert Newhart, 213 Maple Terrace, Merchantville, N.J., has been named SWBC Editor for the AMERICAN SHORT-WAVE LISTENERS CLUB, succeeding Maxey Irwin, Sparta, Tenn. . . . Due to the illness of Irving R. Potts, President and Editor of the NEWARK NEWS RADIO CLUB, Stewart C. West, Union, N.J., has taken over Mr. Potts' club duties for the present; West was named President's Assistant some time ago. . . . The UNIVERSAL RADIO DX CLUB, 109 Mesa St., Vallejo, Calif., resumed publication of its house organ, *THE UNIVERSALITE*, on Sept. 1. SW Editor is C. M. Stanbury II, Box 218, Crystal Beach, Ont., Canada, and Amateur DX Editor is Ralph W. Kastner, 284 Wright Ave., New Braunfels, Texas.

\* \* \*

Now, this month's reports (GMT):

**AFGHANISTAN**—R. Kabul has ENG. for EU. now 1400-1430 on 4.750. (MALMO DX-aren)

**AZORES**—CSA97, 4.864, Ponta Delgada, now hrd from arnd 2130; gud by 2200 w-Pt. ID by man. (Cox, Dela.) Noted in Britain 1940 w-mx; ID 1942; SINPO 33333. (Young)

**BELGIUM**—Brussels has started a NEW ALL-ENG. xmsn to Eu. frm 2030 on 6.055. (GDX-aren)

**BRAZIL**—R. Cultura, 9.750 (LISTED 9.745), hrd 0200-0300 w-classical mx. (Rowell, Minn.) R. Gazeta, 5.955, noted 0135 w-N-Pt., QSA3, QRK3, CWQRM; ZYH29, 4.775, R. Dragao do Mar, noted 0215 w-"Fortaleza Nacional Informa" session. (Ekblom, Finland)

**CANADA**—Latest sked frm R. Canada lists EXTENSION of No. Canada Serv. as dly 2200-2245 (EAST), 0100-0700 (CENTRAL and WEST), on 11.720, 9.585. Australasian Serv. is now on 9.630 ONLY dly 0830-0905. Caribbean and L. Am. Serv. is 2300-0045 on 15.190, 11.760. (CBC)

**CANAL ZONE**—NBA, 11.080, hrd 2255-2300 w-c.w. time sig; send PREPARED QSL to Naval Radio Station NBA, Balboa; c.w. time sig sked



Claes-W. Englund has served during the past year as president of the DX-Allians, Sweden, a union of Swedish DX clubs founded in 1956. As of June, member clubs numbered 33. The DX-Allians sponsors a DX program for its member clubs over R. Finland, 6.120, every THIRD FRIDAY of the month at 2100-2130 GMT.

0455-0500, 0955-1000, 1655-1700, 2255-2300 on 147.88 kc., 4.448.5, 11.080, 17.697.5; NBA, Summit, 18 kc., sked 24 h.p.d. except maintenance WED. 1300-1900; VLF time sigs. (Hauser, Okla.)

**CANARY IS.**—Tenerife, 7.295, gud w-moderate QRM frm 2300 to 0011 s-off; at c-d gives complete ID, fq, then plays Anth.; LISTED 250 w. (Berg, Conn.)

**CENTRAL AFRICAN REP.**—R. Bangui, 5.982, vy gud frm 2158 tune-in to 2315 s-off; got clear ID. (Berg, Conn.)

**CEYLON**—R. Ceylon, 15.265, hrd 0145 w-variety mx; noted on 17.820 at 0915 w-"Lightest and Brightest" session, then mx. (Sanderson, Australia)

**CHINA**—Kunming, 10.222.5, Yunnan Prov., noted at this reading, fair level 1300 in native. (Cox, Dela.) R. Peking, 11.295A, hrd 1355 in Chinese prgmg, mx. (Rowell, Minn.)



COLOMBIA—HJKJ, 6.160, "Emisoras Nueva Granada," Bogota, QSL'd w-ltr in Sp., signed by Jesus Alvarez Botero; also enclosed nice sun pennant. (Stephenson, Okla.) HJFW sent colorful pennant. (Howard, Mo.) A NEW Colombian has been noted on ANNCB 6.105, mentioning "Circuito Todelar;" unable to get exact ID; heavy QRM from XEQM, Mexico. (Newhart, N.J.) Rptd by Ekblom, Finland, hrd 0250, seemingly anncg "Radio Vision, Medellin."

CONGO REP.—In mid-Aug., on occasion of Independence Day in this country, R. Congo, 4.843, was noted on EXTENDED sked; logged 2321 w-mx, talks; s-off 0002; poor to fair level w-het and QRM from HJGF, 4.845. (Berg, Conn.) R. Brazzaville, 5.970, noted 0520 w-N-E; hrd on 15.440 at 0430 w-N-Fr. (Howald, Calif.)

CZECHOSLOVAKIA—Using a GONSET converter to his car radio this summer, Sunderstrom, N. J., noted excellent sig frm R. Prague, 9.550, while driving in mountainous terrain on U.S. Route 60 east of Charleston, W. Va. Stevens, Pa., notes R. Prague on 15.410 to N. Am. w-Mailbag 0045-0100, excellent level but w-QRM.

DENMARK—Copenhagen, 9.520, hrd 0200-0230 in ENG.; severe QRM. (Wilt, Ohio)

DOMINICAN REP.—R. Caribe noted MOVED to MEASURED 6.210, 9.485, checked 0230-0300 and later. Much better sig than when on 6.089A, 9.505A. (Niblack, Ind., others) Accdg to TIME magazine, power on SW is 50 kw. (Riggs, Calif.; Buchanan, Mo.)

DUTCH NEW GUINEA—Biak, 6.070A, hrd 1100 w-mx, Dutch nx. (Sanderson, Australia)

EGYPT (U.A.R.)—R. Cairo, 11.670, hrd 0330 w-Ar. nx, mx to Sudan. (Sanderson, Australia) Gud 0410 w-Ar. chants in "Voice of Arabs" prgm. (Buchanan, Mo.)

ENGLAND—N. Am. Serv. of BBC is sked now 1100-1115, 15.310; 1415-1815, 21.675; 1600-1815, 25.840. (BBC) GOS noted on 6.050, 7.280 w-spectral b-c to Antarctica, Falkland Is. 2200-2230 on TUE. (Young, England)

ETHIOPIA—R. Addis Ababa, 5.060, often hrd 1940-2000 w-mx, anncmts in ENG. (GDX-aren)

FIJI IS.—VRH6, 5.980, Suva, observed 0930 w-talk, mx, nx; gud sig in Australia. (Sanderson)

FINLAND—By now, R. Finland should be TESTING a 15-kw. xmtr on 11.820 to Eu. arnd 1545-1945. (Ekblom, Finland) OIX4, 15.190, Helsinki, noted in ENG. 1600-1613 on FRI.; usually has bad QRM. (Stevens, Pa.) Hrd on 17.800 at gud strg 1610 w-interview in ENG.; mx 1615; SINPO 44444. (Young, England)

GERMANY (EAST)—R. Berlin International, 11.765A, hrd w-ENG. to N. East arnd 2300-2330 c-d w-heavy QRM. (Roeseke, Argentina)

GERMANY (WEST)—DMQ15, 15.275, Cologne, noted w-TEST xmsn to W. Afr. 1840-1855, featured waltzes. (Roeseke, Argentina)

GREECE—Central Stn of Greek Armed Forces, Athens, audible on 6.150 at 0430 s-on w-N-Greek, then pop mx. (GDX-aren) R. Athens, 17.780, noted 1730 w-N-E. (Wilt, Ohio)

GUAM—Latest sked for NPN on 484 kc, 4.955, 8.150, 13.530, 17.530, 21.760 is 0555-0600, 1155-1200, 1755-1800, 2355-2400; address Commanding Officer, U. S. Naval Communications Station NPN,

Navy No. 926, FPO, San Francisco, Calif., U.S.A.; hrd 1155 on 4.955. (Hauser, Okla.)

HAITI—4VWI, 9.773A, Cap Haitien, is widely rptd w-improved level, better modulation following installation of a NEW 2.5-kw xmtr; at times may operate low as 9.770; also uses 6.000 and later, possibly will use fqs of 11.835 OR 11.850 and 21.520. (Saylor, Va.)

HOLLAND—Latest sked frm R. Nederland lists wkdy xmsn to N. Am. in Dutch 0130-0320, 11.755, 9.715, in ENG. 0130-0220, 9.590, 6.025; SUN. Dutch 0130-0345, 11.755, 9.715, ENG. (HAPPY STATION PROGRAM), 0200-0330, 9.590, 6.025.

HUNGARY—R. Budapest, 9.833, hrd 0115-0400 in several langs, including ENG.; man and woman anncrs. (Stephenson, Okla.)

INDIA—AIR noted 1000-1100 w-ENG. to NE Asia, 15.105, 17.705, 21.605; to Australia, N.Z., 17.765, 15.165. Hrd in ENG. to SE Asia 1330-1430 on 17.705, 21.605. (Pearce, England)

INDONESIA—YDF3, 11.795, hrd 1123 w-N-E to 1125; SINPO 44323 in Mo. (Howard) Gud sig in N.J. 1100-1200 w-ENG.; anncrs 9.585 in parallel (but actually is closer 9.593—Ed.); QRA is given as P. O. Box 157, Djakarta (Bohac)

IRAN—R. Tabriz often can be hrd 0200-0400 w-Persian mx; nx in native 0300. (GDX-aren)

ITALY—R. Roma, 21.560, noted 1535-1555 in ENG. to S. Afr. (Wilt, Ohio)

IVORY COAST—Balbi, Calif., notes R. Abidjan, 4.940, 0630-0730; now has NEW s-on sig and Anth.; irreg on 7.215, also every SAT. 0630 s-on, strg; IDs, "Ici Abidjan, Cote d'Ivoire."

JORDAN—Amman, 11.812, noted 1415-1510; strg 1430 w-chimes, ID in Ar.; QRM'd by VLB11, 11.810, frm 1510 onwards. (Balbi, Calif.)

KATANGA—Accdg to Hederstrom, Arctic Radio Club, Sweden, Radio UFAC can be hrd w-pop mx dly 1900 followed by "Back to the Bible" 1930-2030 s-off on 4.980. (Berg, Conn.)

KENYA—Nairobi, 4.885, hrd 1948 w-pop mx; SINPO 32333 in Britain. Kisumu, 4.804M, noted w-N-E 1802, closed 1831 w-"GSTQ." (Young)

KOREA (NO.)—R. Pyongyang, 6.250, hrd opening ENG. 1330 w-bell IS; fair to gud in Calif. (Riggs)

LEBANON—R. Beirut, 8.010A, noted 2020 w-talk in Ar., vocal mx; 2154 N-Ar., closed 2159; noted another day 1620 w-Ar. vocals, 1850 Western mx. (Pearce, England)

LIBERIA—ELWA, 11.825A, Monrovia, recently was logged in ENG. arnd 0630 at 40 dbS over S9 level. (Golden, Calif.) Noted on 15.085A on SUN. w-TEST xmsn 1915-2000. (Wilt, Ohio)

LUXEMBOURG—R. Luxembourg, 6.090, hrd 0443 w-piano IS before s-on 0445; followed w-religious prgm in Ger., Polish, Fr.; hrd to 0555 tune-out; fair-gud rptn in Mo. (Buchanan)

MALGACHE REP.—Stn rptd on 3.290 is Tananarive, MOVED frm 3.315; 5.010 is parallel and prgms are in Fr., Malgache. (Ridgeway, S. Afr., via RADX)

MALI FED.—R. Mauritania, 4.855, St. Louis, noted 2115 w-N-Fr. and Western variety mx. (Sanderson, Australia)

MEXICO—XESC, 15.205, hrd 0545 w-chimes, Sp. nx, mx. (Sanderson, Australia)

8/15/60

Dear Mr. Sundstrom:

This Card will confirm your reception

of Station Swan in radiophone transmission

Date Aug 1-8 1960 Time .....

Frequency 6.0 MC **THANK YOU**

POWER 7½ kw Signed Horton Heath  
Commercial Mgr.

(Swan also broadcasts on 1160 kc, 50 kw.)

This "prepared" QSL card was used by Thomas Riley Sundstrom, Stockton, N.J., to verify R. Swan, 6.000. Power was listed at 7.5 kw., and QRA was given as G.P.O. Box 1247, New York 1, N.Y., U.S.A.

MONACO—Try for Trans World Radio on 7.140A arnd 2000; QRA is Evangeliums-Rundfunk Wetzlar/Lahn, Postfach 467, Germany. (GDX-aren)

MONGOLIA (INNER)—R. Huhehot, 6.974, fair 1125 parallel 9.093 w-native prgm, woman anncr; weaker on latter fq. (Cox, Dela.)

MORROCCO—RNM, 11.735, Rabat, can be hrd 1800-2400 but w-QRM frm Moscow; ENG. 1800, N-E 1815. (GDX-aren, others)

MOZAMBIQUE—CR7BU, 4.924, logged 1925 w-pop mx; 4-note tones 1930; bad QRM in Britain. (Young)

NEW CALEDONIA—R. Noumea, 6.035, hrd 0730 w-Fr. nx, mx. (Sanderson, Australia)

NEW ZEALAND — R. New Zealand, ZL4, 15.280, hrd 0330-0430 w-mostly mx, both pop, classical. (Stephenson, Okla.)

NYASALAND — Rcd verie-ltr stating xmtr is 2.5 kw., air-cooled; the Zomba stn opened March 7, 1960, operates dly 1600-1900 on 3.955; last hr in ENG.; QRA is Federal Broadcasting Corp., P. O. Box 529, Blantyre, Nyasaland, engineer-in-charge is T. F. Williams. (Hederstrom, Sweden, via Berg, Conn.)

PAKISTAN—R. Pakistan, 9.605, 7.010, Karachi, hrd 1915-2000 in ENG. (Wilt, Ohio) Noted w-N-E 1445 on 15.160, 11.674. (Pearce, England)

PARAGUAY—ZPA1, R. Nacional de Paraguay, 5.985, hrd 0215-0300, anncg 5.975 and asking for rcptn rpts; 3 kw. (Hederstrom, Sweden, via Berg, Conn.) Noted in Argentina 1200-1245 w-Vienna waltzes. (Roeske)

PERU—OBX4M, 5.980, Lima, R. Panamericana, hrd 0235 w-N-Sp.; CWQRM. OAX4V, 5.995, R.

America, noted 0300 w-ID, N-Sp.; anncd "R. America, La Voz del Nuevo Mundo." (Ekblom, Finland) OAX4K, 9.545, gud level 0330 but w-heavy QRN. (Riggs, Calif.)

PHILIPPINES — FEBC, 11.920, Manila, "The Call of the Orient," hrd w-N-E 1545-1600, SW Mailbag answering rcptn rpts on a FRI.; ENG. ended 1630, followed by Russian to 1700; s-off 1705 w-Nat. Anth.; has QRM frm RTF, Paris. (Bohac, N.J.)

PORTUGAL—R. Clube Portugues, 6.080, hrd w-talk in Pt. 2250; pop mx 2255; IS 2300, then gong, ID by man; cont'd in Pt. talk. (Berg, Conn.)

RHODESIA—Afr. Serv., 4.828, noted 1855 w-"Music of Other Lands" session; s-off 1900, after ID, w-"GSTG." (Young, England)

RUANDA-URUNDI—Usumbura is still on the air; try 1630-1930 c-d on 6.195; N-Fr. 1800; mostly tam-tam prgmg; rcd QSL and request for tape rcdg of rcptn; 3 kw.; QRA is B. P. 1400, Usumbura. (Hederstrom, Sweden, via Berg, Conn.)

SAUDI ARABIA—R. Mecca, 11.950, noted 0348 at weak level w-IS on flute; Anth. 0350, ID in Ar. 0351, then had chants. (Berg, Conn.)

SENEGAL—Accdg to anncmt, Dakar is using 11.895, 7.210, 15.385 (100 kw.) w-N-E arnd 2030. (MALMO DX-aren) Gud level on 15.385 in Ohio 2030 w-N-E. (Wilt) Hrd lately on 11.895 at 2104 anncg as "R. Senegal" and NOT as "R. Mali." (Boice, Conn.)

SOLOMON IS. (BRT.)—VQO2, 5.960, Honiara, hrd 0930 w-mx, talk on Red Cross, nx. (Sanderson, Australia)

SUDAN—R. Omdurman, 11.855, observed opening in Ar. 0415. (Rowell, Minn.)

SWAN IS.—R. Swan, 6,000, 7.5 kw., is widely rptd hrd in various parts of the world. Metcalf, Fla., says annces as "Voice of the Antilles, the Leeward, Central, and South America serving 15,000,000 people in 15 counties." Cox, Dela., says is HRD on 19.980M, NOT 19.990; gud sig 1420 w-mx, man and woman in Sp.

SWEDEN.—R. Sweden, 17,840, hrd on MON. 1420 w-DX prgm; usually hvy QRM. (Stevens, Pa.)

TAIWAN (FORMOSA) — "Voice of Free China," 17,785, Taipei, hrd closing 0159 in ENG. to N. Am. (Rowell, Minn.) Hrd on 15.225 at 1005-1050 in ENG. (Wilt, Ohio) Hrd on 11.925 w-Request Mailbag 1430-1500, strg level in N.J. (Bohac)

TANGANYIKA — Dar-es-Salaam varied after 15 days; NEW QRA is Box 9191. (Berg, Conn.) Hrd in Britain on 4.785 w-N-E in progress 1820; anncd for "2nd Prgm." (Young)

THAILAND.—Sked frm R. Thailand says ALL OVERSEAS XMSNS are now on HSK9, 11.910; H. Serv. is now on 830 kc. MW, 4.830, 6.070, 7.140. (Berg, Conn.)

TUNIS.—R. Tunis, 9,630, noted in Australia 0600 w-N-Ar., Fr. Lesson, mx. (Sanderson) Hrd on 5.985A arnd 0600 in Ar. at gud level in Va. (Saylor) Logged on this channel opening 0430 w-Nat. Anth., ID, then Ar. mx; closed 0800. (Jahn, Germany, via GDX-aren)

TURKEY.—TAV, 17,820, Ankara, hrd to S. Am. in Sp. 2240-2300; SINPO 34434. (Roeske, Argentina)

UNION OF S. AFR.—Springbok Radio, 3,356, hrd 2115 w-dance mx, nx, wx rpt. (Sanderson, Australia) Current sked from SABC shows Springbok Radio carries the General Motors Late Late Show in ENG. FRI. 2200-SAT. 0300, making xmsn continuous frm 0300 FRI. s-on to 2200 SAT.; should make it easier to log this one; try 3,356, 4,945. (Newhart, N. J.) Hrd in Britain on 4.945 at 1820 w-rdgs; followed 1830 w-"In Town Tonight" session; SINPO 34343. SABC, 25,800, hrd w-N-E 1705. (Young)

URUGUAY.—R. El Espectador, 11,835, Montevideo, hrd 2300 w-N-Sp. ("Reporto Esso")

U.S.A.—TEST transmissions of Army Radio Station WAR, Washington, D.C., are conducted by the U.S. Army Communications Agency in connection w-operation of the Army Command and Administrative Network. Detailed information on these tests, including frequency of transmission, transmitting power, operation frequencies, and other similar technical details are not available for public dissemination, acdgd to Kenneth W. Thomas, Major, Signal Corps Adjutant, in a ltr to Thomas Mount, N.J. (NNRC) Re KGEI, San Francisco (Belmont), Calif., target areas are Latin America (now operating five hrs dly on 17.795); Asia, Australia, and New Zealand (to be activated), and South Africa (projected), according to the new owner, the Far East Broadcasting Co. (Berg, Conn.)

VATICAN — HVJ, 21,515, hrd 1600-1630 (MON., WED., SAT.) in ENG. (Wilt, Ohio) Gud sig noted on 15.120 in ENG. dly 1815. (KBLP)

VIETNAM (NO.) — Hanoi, 15,023M, noted 1215 in lang at strg level; ID 1230, then had man, woman in lang; gud sig most days in N.C. (Fer-

guson) Hrd in Mo. 1330 w-native mx, anncd by woman. (Buchanan)

VIETNAM (SO.)—Saigon, 4,810, noted 1000-1400 in lang; parallel 11.950, 9.754, 7.245; 4.810 is NEW fq, formerly was on 4.730; fair level in Calif. (Balbi)

VENEZUELA.—R. Sucre, 4,960, noted 0135 w-"Revista de la Noche" session. (Ekblom, Finland)

YEMEN.—R. Sanaah, 5,986, hrd in Ar. frm 1645 s-on to 1900 c-d. (Ridgeway, S. Afr., via RADX)

YUGOSLAVIA.—R. Beograd, 7,200, fair 0510 w-Ar. prgm; CWQRM. (Buchanan, Mo.)

## AT FADE-OUT

F L A S H !—An architectural and engineering design contract for VOA's powerful mid-African relay stn outside Monrovia, Liberia, has just been awarded to Page Communications Engineers, Inc., Washington, D.C. The installation will have six 250-kw. and two 50-kw. xmtrs to give VOA effective coverage of Africa and supplemental coverage of parts of Central Eu., M. East, besides permitting relay arnd the world to other VOA stns of b-c originating in VOA's Washington, D.C., studios. Agreement was reached in Aug. on use of a 350-acre receiver site and a 1,400 acre xmtr site near Monrovia. By now, surveying crews should have begun work at the location. Two 1,750-kw. diesel electric generators to provide power for the Liberian relay stn already have been completed, and contracts for construction of the eight xmtrs are about to be let. Preparation of the site for VOA's East Coast facility, planned for completion by the end of 1962, is on schedule. To be located near Greenville, N.C., the stn will have six 500-kw., six 250-kw., and six 50-kw. xmtrs, and is designed to be the largest and most powerful SW b-c stn in the world.

SUNSPOT COUNT FOR AUGUST—As hrd frm HED5, 9,545, Berne, Switzerland—1 to 5—total 174; 6-54; 7-57; 8-57; 9-76; 10-94; 11-156; 12-207; 13-235; 14-236; 15-252; 16-244; 17-232; 18-225; 19-217; 20-202; 21-177; 22-168; 23-130; 24-113; 25-131; 26-140; 27-109; 28-98; 29-97; 30-96; 31-84. AUGUST AVERAGE — 131.0. PREDICTED — SEPT. 103; OCT. 101; NOV. 99; DEC. 97; JAN. 95; FEB. 93.

—Grady C. Ferguson, North Carolina

AFGHANISTAN.—R. Kabul is now on 15,385 to Eu. in Fr. 1830, ENG. 1900-1930. (SCDXERS) Noted 1905 w-N-E. (Pearce, England)

ANGOLA — R. Clube de Benguela, CR6RF, 9,502, hrd arnd 0610 w-pop mx; ID 0629, two gongs; s-on believed 0600. (Berg, Conn.) Weak stn hrd on 5.137 at 0530 w-CWQRM, seemingly in Pt., but only partly readable, is possibly R. Clube de Mexico. (Cox, Dela.)

ANTIGUA—Boice, Conn., recently hrd a stn on 3.255 at 2314 w-ID in ENG., "You are tuned to Radio Antigua." This Leeward Islands stn featured pop mx; all-ENG.; anthem or march was played and stn left air 2349; severe aircraft QRM.

ARGENTINA — LRU, 15,290, Buenos Aires, noted 1103 w-ID for "Radio El Mundo;" 1109 had

ID by woman who then gave N-E; asked for rpt; 1130 pop mx in Sp. (Ferguson, N.C.) LRA observed on IRREG sked, MOVED HIGHER to 11.729A arnd 2300. (Niblack, Ind.)

AUSTRALIA—VLB11 has moved to 11.760 frn 11.710 for ECNA beam 1214-1315. (Stevens, Pa., others) VLA15, 15.180 (MOVED frn 15.160) noted 0600-0945; VLG7, 7.190, noted 0745-0945 w-prgms formerly carried on 11.760. (Balbi, Calif.) VLY25, 25.735, noted 0230 w-N-E to 0240 ID, then mx; hrd another day 2345. (Ferguson, N.C.)

BARBADOS—In Sept. on a SAT., Cox, Dela., logged Bridgetown on 7.547M at excellent level frn 2045 w-pop dance tunes; s-off 2200; this stn is on the air quite IRREG.

BELGIUM—ORU4, 21.510M, hrd 1950 w-ID, then messages in lang to Congo; off 2020; gud sig in N.C. (Ferguson)

BOLIVIA—D. Cooper, Ga., has rcd word direct frn Nuevas Mision Tribas (New Tribes Mission), Cochabamba, that the mission has a stn on the air dly on 4.035 at 1130-1300, 2030-2100; another nearby mission uses 4.035 channel 1030-1130; sometimes, New Tribes Mission is ALSO on the air at "NIGHT," but this is an exception rather than the rule. If stn is hrd, contact the Rev. Neil Rog-gow, Cajon 522, Mision Nuevas Tribas, Cocham-bamba, Bolivia. Roeske, Argentina, rpts R. Camiri, 9.250A, hrd in SUN. ONLY xmsn 1730-1745 w-pop mx; R. Colquiri, 5.900, noted 2100-2130 w-Bolivian pop mx.

BRAZIL—QRA for R. Nacional de Brasilia is Caixa Postal 442, Brasilia, D.F., Brazil. (Riggs, Calif.) R. Brasil Central, 9.755, Goinia, noted MOVED here frn 9.735, strg 0000; ID 0007 and cont'd in Pt. (Berg, Conn.) R. Bare, Manaus, hrd w-gud sig to s-off MON. 0305 on 4.895. (Roth, Conn.)

BRT. GUIANA—ZFY, 5.981, hrd s-on 0910 w-prgm preview; "Indian Song Time" 0915; all-ENG.; gud sig in Mo. (Buchanan)

BRT. HONDURAS — R. Belize, 3.300, noted 0205-0430 in ENG. (Howald, Calif.) BBC news relay 0400.

BRT. NO. BORNEO—R. Sarawak was noted on NEW channel of 6.060 recently 0930-1430 s-off at strg level in Calif.; ENG. Lesson 1015, BBC nx 1300; however, due to QRM, announced would return to 4.950 outlet. (Balbi)

HIS BIG THRILL!—"SAT., Sept. 3, I had a surprise that really knocked me for a loop! I just happened to be tuning by 7.295, fq for Canary Is., at 0011, and all of a sudden I hrd an anncr giving fq, call the 'works.' in ENG., then in Sp. Darned if he didn't sound familiar. He was. It was ME! The stn was playing a tape which I sent reporting my Aug. 9 reception, and there I was listening to it, just as I'd spoken it into the mike! The funny thing was that I just happened to be there at the right time; talk about fate! Why don't more people get in on this hobby? There's absolutely NOTHING like it!"—Jerry Berg, Conn.

CANARY IS.—"La Voz de la Isla de La Palma," 7.390, hrd arnd 2100 w-powerful sig; varied mx; 2200 N-Sp., then more mx; s-off is 2302A after ID,

Anthem; leaves air w-words, "Viva Franco; Arrriba Espana!" Is located on ISLAND of La Palma and at the city of Las Palmas which is on another island — Santa Cruz de Tenerife. (Berg, Conn.) Also hrd by Roth, Conn., and Cox, Dela., who MEASURED fq as 7.388.

CLANDESTINE — R. Socialiste, 6.995M, Albania, hrd in Albanian 2234-2300 s-off w-nx and talks by man; good, clear sig. R. Free and Fighting Algeria, 6.428, excellent 2225 w-Ar. talks, mx. (Cox, Dela.)

COLOMBIA—R. Bucaramanga, 4.845, now has ENG. b-c; hrd by Schwartz, Conn., 0331-0355 w-Colombian mx and anncmts in BOTH ENG., Sp.; ENG. consists of greetings, ID, and fq; asks for rpt and questions about Columbia; s-off 0402.

CONGO REP.—R. Brazzaville is on NEW sked to N. Am. of 2315-0200; N-E 0115. Hrd on 21.500, 17.720 at 1330, 1500 w-N-Fr. (Balbi, Calif.) R. Congo, 4.845, Brazzaville, hrd 2145-2200 s-off w-Afr. mx and Fr., man and woman anncrs; weak level; LISTED 4.843. (Cox, Dela.)

CONGO (THE)—At press time, news dispatches indicated Leopoldville is first "on the air," then "off the air." However, in early Sept., Cox, Dela., was hearing OTH, 9.210, back on normal fq (frn 9.206A) and seemingly with normal power again; excellent 1940 w-pop tunes; outlets on 6.295, 9.384, 4.760, are no longer hrd by COX and are presumed closed down.

CUBA—Cuban outlet noted on 15.180 c-d 2243, seemingly airing sporting events, public affairs in Sp.; gave call of "CMWB," which may be MW; noted another day 1630 tuning. (Niblack, Ind.) Hrd 0100 carrying a Castro speech; another day (SUN.) frn 1800. (Howald, Calif.)

FIJI—The Fiji Broadcasting Commission is installing TWO 10-kw. SW xmts to be completed by the end of 1961; will have fq range frn 3 to 9 mc; present 250-w VRH5, VRH6 xmts are on loan frn P. O. Dept. to TEST high-angle radiation which has proved successful, and these aeriels will be employed at new stn. (Cushen, N.Z.; Berg, Conn.)

GILBERT AND ELLICE IS.—Output of VSZ10, R. Tarawa, has been INCREASED to 3 kw. on 6.050; sked SUN. 0445-0530, FRI. 0730-1000.

GREECE — R. Athens now has Fr. 1920-1930, ENG. 1930-1940 on 15.345, 17.778. (SCDXERS) Hrd in Greek on 11.718 at 2300-2330. (Rowell, Minn.)

HAITI—4VEH, 21.515, Cap Haitien, hrd on a recent SAT. 2230-2400 fade-out parallel 4VWI, 9.770A; hrd TUE. 0300 on 9.770A w-"Listeners' Post" session w-strg sig. (Balbi, Calif.)

INDIA—AIR, hrd on 21.605 in ENG. to Asia 1400 tune-in to 1430 c-d; anncd parallel fq as 17.705. (Boice, Conn.)

IRAQ—Baghdad, 3.315M, hrd 2158 w-pop mx; ID 2200 in ENG. and left air; bad CWQRM. (Young, England)

JORDAN—Amman, 9.530, strg level arnd 2100 w-ID in Ar. by man, then N-Ar.; QRM'd. (Cox, Dela.) By now MAY HAVE MOVED to 9.545. (Berg, Conn.)

KATANGA—R. Katanga, 11.865, noted 0500-0600; N-Fr. 0500; woman anncr in Fr.; fair level

in Calif. (Riggs, Balbi) Press rpts list power as 20 kw. (Riggs)

**KOREA (SO.)**—Balbi, Calif., notes Seoul to WCNA 0530-0630 now on HLK6, 11.925, REPLACING 17.890, parallel 15.125; xmsn to Hawaii 0730-0830 is now on 15.125 ONLY.

**MALAYA**—R. Malaya, 7.200, hrd 1100-1530 in all-ENG. session; "national" nx 1400. (Balbi, Calif.)

**MALTA**—A stn to RELAY BBC prgms to N. Af. in Ar. is under construction on the Island of Malta; should be on air soon. (SCDXERS)

**MEXICO**—XEYU, 9.600, was noted on a SAT. w-ENG. Lesson 0415-0430. (Howald, Calif.)

**MOZAMBIQUE** — CR7DE, 9.622M, hrd frm 0510 w-usual ENG. prgm of mx, fair sig; Moscow was on 9.620 then. (Cox, Dela.)

**NIGERIA**—Lagos, 4.990, observed 0455 w- "talking drums" come-on, opened 0500 in ENG. (Rowell, Minn.)

**PAKISTAN**—Karachi, 9.603M, hrd frm 1955 w-classical mx, ENG. ID by woman 1959, the s-off; excellent sig in Dela. (Cox)

**PORTUGAL**—Hrd in ENG. session 1345-1430 on 21.495, 17.880. (Pearce, England)

**RHODESIA**—Lusaka, 4.911, hrd at weak level frm 2150 w-man in ENG.; c-d 2200. Lusaka, 3.346, hrd at weak level 0410 w-pop mx; ID in BOTH vernacular, ENG. by man; poor level by 0430. (Cox, Dela.)

**SENEGAL**—When ID in ENG. now, Dakar announces as "the National Broadcasting Station of Radio Senegal." (Berg, Conn.)

**SINGAPORE**—BBCFES has REPLACED 11.930 w-11.820, hrd opening 0910, parallel 15.435; BBC N-E 0915; BBC N-E noted 1100 on 11.955, 9.690, 9.725, 7.120. (Balbi, Calif.)

**SWAN IS.**—ALL R. Swan b-c on 6.000 apparently now are in Sp. w-sked of 1300-1500, 0300-0530. (Stanbury, Ont.) Hrd in England on 19.990 w-N-E 2230, N-Sp. 2240. (Illingworth via SCDXERS)

**SWEDEN**—R. Sweden, 11.810, Stockholm, hrd in ENG. 0147-0215 s-off, w-nx, "Guest Star," DX nx; SINPO 43343; QRM frm Sp.-spkr. (MacKenzie, Calif.)

**THAILAND**—HSK9, 11.910, noted w-N-E 1030. (Boice, Conn.)

**TURKEY**—TAT, 9.515, Ankara, noted still to N. Am. in ENG. 2315-2400. (Boice, Conn.)

**UNION OF S. AFR.**—Springbok Radio, commercial service of SABC, noted on NEW 7.185, strg 1430-1500, parallel 9.720.

**VIETNAM (SO.)**—VTVN, Saigon, hrd w-N-E at dictation speed 1345 on 7.260; gud level but-w-ham QRM; non-stop mx after nx arnd 1400. (Riggs, Calif.)

**WINDWARD IS.**—WIBS, 9.550M, St. George's, Grenada, logged 1925 w-ID by woman annrc, then "ping-pong" drum IS to 1930; carrier left air 1935; hrd UNDER Prague's carrier. (Cox, Dela.)

**PRESS TIME FLASHES—GOA (PT. INDIA)**—Roth, Conn., logged Emissora de Goa at 1900-1930 on 17.835 in ENG. w-N-E read by YL 1900-1905, Pt. mx, ID 1930, "You are tuned to Emissora de Goa;" splattered by WDSI on high-fq side. INDIA—AIR, 9.530, Calcutta, noted w-native mx 0000-0015 s-off w-annrcmt in ENG. (Roth, Conn.)

**F L A S H !** — R. Australia in late Sept. RETURNED to 11.710 from 11.760 for the ECNA beam dly 1214-1315.

**DEADLINE—PLEASE SEND YOUR TOP-NOTCH ITEMS TO REACH ME BY THE FIRST DAY OF ANY MONTH FOR "WT" SECTION.** Send ONLY "RARE CATCHES" TO REACH ME BY NOV. 8 for "AT FADE-OUT" in DEC. DXH. Thanks for your FB cooperation! QRA is Ken Boord, 948 Stewartstown Road, Morgantown, West Virginia, U.S.A. See YOU next month? . . . 73 . . . K. B.

## TRANSLATOR TOPICS

(Continued from page 13)

Newcastle, Wyoming group, which operates four VHF translators, bringing signals to Newcastle from KFBC-Cheyenne, KTWO-Casper, KOTA-Rapid City, and KDUH-Hay Spring. At this date Montana filings total nearly 30, leading the other states by a healthy margin.

## TRANSLATOR CALENDAR

(Each month DXing Horizons will list important dates for filings, changes, hearings, and meetings, in this spot, for handy-quick reference.)

(Prior to) October 15—Meetings to be held on state levels to determine wisest course of action for a "Volunteer Allocations Board."

October 31—Deadline to file Form 347-A for temporary authorization to continue operation of VHF Translators.

November 13—First week of United Fund Drive throughout western states for financing VHF Translators.

February 1, 1961—Deadline to file Form 346 for construction of modification of existing translators.

October 31, 1961 — Deadline to complete equipment modifications to existing VHF Translators, conforming to newly adopted FCC regulations.

## INDIVIDUAL DISPLAY ADS

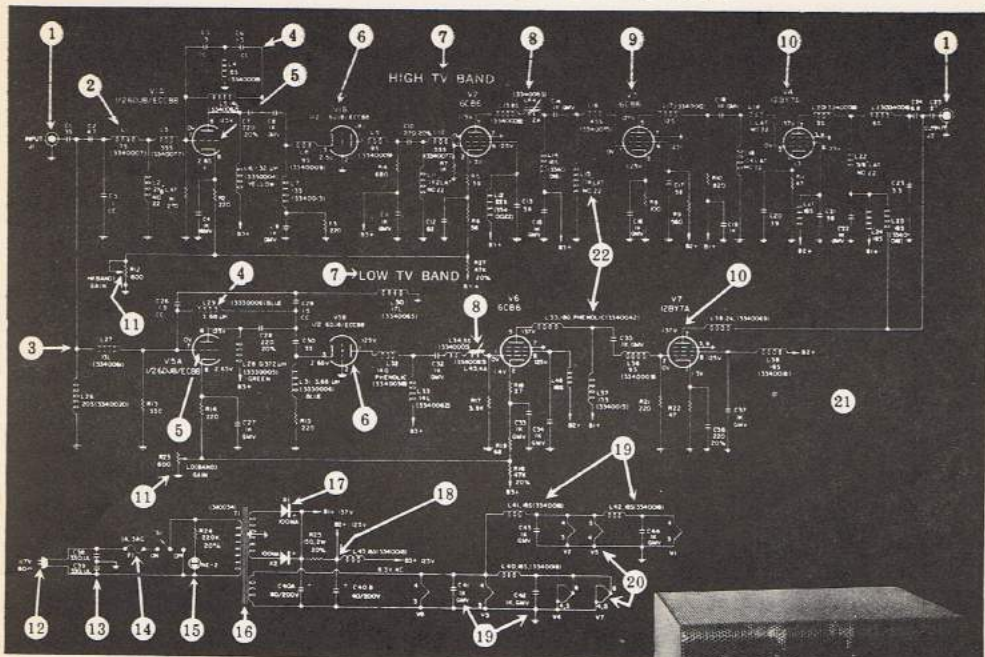
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- 17 Solid state rectifiers for longer life, full wave configuration.
- 18 Dual filtering network for stable, hum-free operation.
- 19 Heater filter networks prevents feedback in heater circuit.
- 20 Parallel heaters simplify servicing, increase tube life.
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