

MARCH 1950  
40 CENTS

# DX King HORIZONS

TV - SHORTWAVE - FM

WELCOME SHORTWAVERS!

VOLUME ONE

NUMBER THREE

"Late February Release... Data on HOT NEW TV Tubes" - Page 13

## 417A Booster Progress Report

In April we hope to fill three pages in the very front of DXing HORIZONS with data on the unit we have had more correspondence on than any six other articles. Here is what we have learned to date. "The 417A in cascade, needs entirely different neutralizing for each two channel change (i.e. from seven to eight is OK, but seven to nine sends our unit into self oscillation). OK, say you, either gang tune the neutralizing control with the RF (417A) stage, or tune it separately. This is not so good, our engineer tells us, so he has gone to Grounded Grid construction, which as an amplifier design, provides no gain (in fact the circuit operates at less than unity gain, meaning "there is loss"). However, GG does establish an excellent low noise figure, which is what we want. Our current design unit couples the 417A plate output to a 6CB6 which is broadbanded over the entire channel 7-13 range, and swamped for flat response. We are not tuning the 6CB6 which lets us out of gang tuning.

Does it sound good? It should, this we call the Ultimate Booster for high band VHF work . . . and we think you will too!

## SPECIAL REPORT . . .

### Unusual Mid-Winter Ground Wave

FOG . . . Chicago reported visibility cut to three miles, Springfield, Illinois, visibility down to one-eighth mile, St. Louis . . . down to five-sixteenth's mile. From January 30th through February 1 and 2, fog and still air, with temperatures in the low 30's nestled in the nation's mid-section. And TV and FM . . . VHF and UHF signals alike, escaped their fringe areas to travel 200-600 miles, in an unusual winter DX session. (See TV Report, page 35.)



WEHT (50—Evansville) 250 miles 1800 CST, Jan. 31. (Hidley, Chicago)

## YOUR COVER

The publishing staff feels especially proud of its first shortwave department. Proud because we know the information to be found in the various shortwave sections is more complete, accurate and up to date than any magazine . . . in fact any publication, has ever been before.

Do you know why we are so certain of this boast!

Simply because we have the very best man in the field directing the operation.

Put the best man on the job, and you always get the best results.

In this case the best man is, has been, and will continue to be . . . Kenneth R. Boord . . . known to most all readers as KEN. KEN became interested in SW radio in the days of the crystal set. And through the years (since the early 30's . . . which from the looks of his photograph means he began mighty young!) his interest, knowledge, and skill have grown with the hobby. And today, through the pages of DXing HORIZONS, he is ready to lead YOU . . . and YOU . . . and YOU on a tour of the world, via the magic of shortwave radio!



### Weather Chart Synopsis

The two outer circles indicate barometric pressure lines. The entire area inside the innermost of the two circles enjoyed a flat top pressure of 1024 millibars. The circles with horizontal and vertical lines indicate heavy fog areas. Vertical lines, fog inside the 1024 millibar region, horizontal, fog in the 1024 millibar zone (over Ohio, W. Pa., etc.) note reports, page 35, for area affected by DX conditions.



# At Sign Off

## UHF STUDY PENDING

A special \$2,250,000 technical look see at UHF television may be the most important television study ever undertaken in this country. If the results are favorable, there can be little doubt all television will move to the ultra highs in the coming decade.

The FCC, in its budget requests for 1960, is asking for this sum, with which it hopes to find out once and for all... "Is UHF television, when properly engineered, capable of covering the same range of VHF transmitters." The FCC, in announcing the proposed study, also made known that the past years of talks with the Military has not produced any conclusive results towards getting more VHF space for television. The Military apparently does not want the UHF television range in exchange for VHF spectrum space. Thus the FCC is faced with the same old problem... a mixed UHF-VHF system, a UHF only system, or a VHF only system (with many shoehorned stations and sub-standard mileage separations).

Before the FCC is willing to give up UHF as a lost cause, they will spend the two million dollar plus amount to test the effectiveness of a good UHF signal from a high power transmitter, received on UHF receivers built with all of the sensitivity today's engineering can provide. In a sharply worded statement the FCC lambasted the television industry for not giving UHF the attention it feels it deserves, and for assertedly selling UHF short by not "trying to make it work." Here the FCC is pointing at the receiver manufacturers who have failed to develop UHF converters or tuners with RF stages, and efficient design, capable of fringe area reception.

## NEW YORK CITY... TEST AREA

The FCC statement said in part, should it receive the money asked for, it will begin paper work to establish two high power UHF transmitters (1,000,000 watts or more) in the "toughest reception area in the country... New York City" (Ed. note... They haven't seen the mountainous west!) with the two high power transmitters running during 1962, 100 custom built UHF receivers will be scattered around the city for test readings. The test receivers will have the best sensitivity today's technology can provide (using parametric amplifiers). And the very best in high gain antennas, and low loss transmission lines will be used to guarantee the best possible signal to the receiver. Under these conditions, picture quality, signal strength, and propagation conditions will be carefully recorded at each set.

## FCC TO SUPERVISE

The FCC states that under the emergency conditions it feels prevails, it must step into the UHF question and make tests before it finally decides on

the merits of UHF as nation-wide television service. The FCC will contract out the construction and engineering of the special transmitters and receivers, and employ an independent research firm to conduct the tests. And the FCC will watch... closely... LIKE BIG BROTHER.

## TEXAS MOVES

Radio Station WACO has requested the FCC to move Channel 12 to Waco. KWIX now operates on Channel 10 there. Moving 12 to Waco will involve much Texas channel shifting, if approved.

KPAC (4) Port Arthur has received FCC O.K. to move transmitter from site 16 miles north of city to spot 27 miles northeast of same town... and nearer Lake Charles, La.

## WRAY-TV... TRANSMITS 30 HOURS PER YEAR

Talk about luck... WRAY-TV, off the air (but still holding license) since mid 1954 (due to lack of advertising revenue in Princeton, Indiana, market) has returned for a 30 hour period every winter to dust off equipment, and put on local telethon. During this year's January 31 telethon, the big fog set in the mid-west, and DXers who never hoped to see WRAY were surprised and delighted to find its signal (with dozens of others in the UHF band) rolling 200-400 miles from the station!

## CANADIAN PROGRESS

Nine applicants line up for Toronto's Channel 9, where hearings will begin March 14. Applicants include four radio stations, many newspapers, etc.

Elsewhere in Canada the Winnipeg Channel 7 case went to R. S. Misener and Associates who promise to have a 325 kW. station on the air by year's end. In Vancouver, Channel 8 went to Vantel Broadcasting Company, who promise a 180 kW. station, also due on, by year's end.

Montreal has a hearing scheduled for March 7.

In other Canadian decision, CHEK (6) Victoria, B. C. has been granted permission to up power from 1.8 kW. to 100 kW., with antenna at 1,555 feet MSL. A new Channel 8 satellite is planned at Oliver, B. C., to rebroadcast CHBC with 110 watts power from a 1,346 foot antenna.

## VHF BOOSTER-REPEATER DECISION DUE

Silence has fallen on the FCC offices where study is being given to the nearly 100 comments filed on the proposed licensing of VHF booster-repeaters. No hint yet as to what action the FCC will take, although a careful look at the recommendations received from the field indicate most groups filing comments want the FCC to maintain tight control on the boosters. Perhaps the FCC thoughts on the subject are best contained in the comment "The television broadcast service is established primarily for maximum power originating stations designed to cover large areas. Any other uses of the spectrum space is secondary." Boosters are secondary occupants... and they will undoubtedly end up with secondary rights.

## TV-SHORTWAVE-FM

**DXing HORIZONS**

"A monthly publication devoted to active Shortwave listeners and Television-FM long range enthusiasts throughout the world. DXing HORIZONS is the copyright title of Robert B. Cooper, Jr., registered 1960."

"DXing HORIZONS is compiled for the 100,000 active Shortwave listeners, 25,000 weak signal long range TV-FM enthusiasts, and the 3,000 operators of TV translators, VHF boosters, and master distribution systems. Advertising rate card upon request. DXing HORIZONS accepts advertising only from bona fide manufacturers and distributors of new electronic equipment, parts and assemblies. *DXing HORIZONS is the only magazine in its field . . . readership interest and acceptance guaranteed.*

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**SUBSCRIPTION INFORMATION****Canadian-U.S.A. Rates:**

One Year.....\$ 4.00  
Two Years..... 7.00  
Three Years..... 10.00

**Airmail** — One Year..... 7.00

**Foreign Rates:**

One Year..... 4.00  
Two Years..... 7.50

Full subscription information . . .  
inside back cover.

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THE FASTEST . . . MOST

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SHORTWAVE-TV-FM

WEAK SIGNAL AND

DXing NEWS

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ANYWHERE!

NOW MONTHLY,

TIMELY AND

FASCINATING.

HOW FAST CAN

YOU ACT!

A DXing HORIZONS Exclusive!

## We Test Build The Heath GC-1

Prepared in Conjunction with  
CLIFFORD PRICE, W6ERE \*  
Engineer, KTRB, Modesto, California

(\*DXing Horizons Consulting Engineer)

It is a rare occasion indeed that a magazine less than three months old is able to scoop the industry in the manner this report does. To say we are proud is an understatement. To say we are pleased is likewise an understatement. The truth is we are both proud and pleased, to unveil the newest entry into the general coverage shortwave receiver field . . . the *Heath GC-1*.

### YES . . . IT IS A KIT

Mainly because that is what Heath is famous for. And because it costs less this way. The Heath GC-1 is the world's first fully transistorized battery operated receiver covering the entire spectrum from 550 KC to 30 megacycles, with many of the receiving provisions previously found *only* in expensive communications receivers. In fact there are some circuit parts used in the GC-1 which are not yet available on the market. This includes the Clevite 3 kc. ceramic filter . . . a device second only to the famous Collins Mechanical Filter, in selectivity features. The Clevite Filter is not only not on the market yet, but it was announced with specifications by the manufacturer only in January! But more about the filter and how it works in this circuit a little later. One of the first points brought up with a kit unit . . . especially a brand new kit unit not yet in mass production . . . is "Are all of the parts with the unit," "Did the holes line up," and finally, "How long did it take to put the unit together." Quite frankly the answer to the last

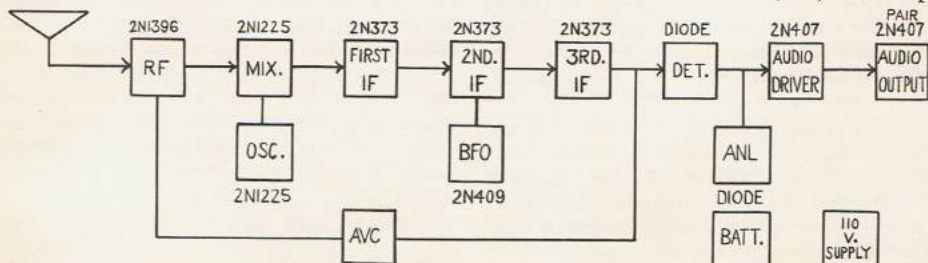


"The GC-1"

question will depend entirely upon your prowess with a midget soldering iron, and your knowledge of transistor circuitry. Engineer Price spent 20-25 hours skill wiring our test unit. It might be done in less, but this is not likely. Two more hours, with a well calibrated signal generator, were required to align the GC-1. Attesting to the engineering design work which must have gone into the unit, each and every hole lined up perfectly (no reaming!) and every part fit as the manual said it should. But enough for now of the unit's mechanics . . . let's see what it does.

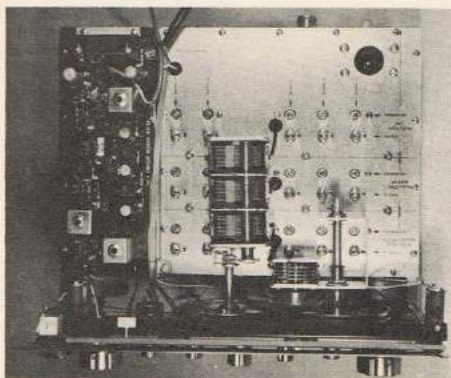
### TURN IT ON

. . . and 12 volts of B voltage surges through the circuitry. No warm up time required with transistors so we immediately hear noise from the speaker. Now, the controls: volume, and receiver on and off combined, main tuning, bandspread tuning (for the amateur bands), BFO on and off, AVC, ANL, a spring loaded dial lamp switch which automatically shuts off when you release pressure (to "remember" for those who might forget and leave the light on when the receiver is off, draining the battery cells needlessly), antenna trimmer, band-switch . . . all on the front panel. The manufacturer says the unit requires a whopping 12 volts at 35 MA, and this they say will keep

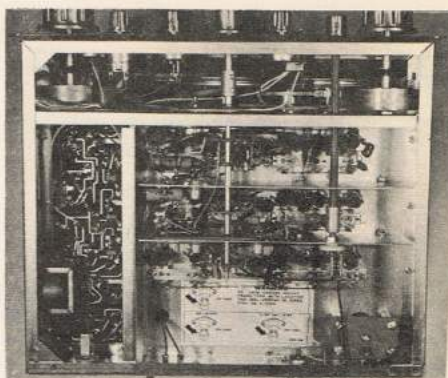


GC-1 BLOCK DIAGRAM





"Cover off — GC-1 innards — Circuit Board and Transistors on the left."



Under Chassis — GC-1 Circuit Board at left — IF, RF tuning sections mid-center.

batteries (four B type) operating 400 hours with "normal intermittent service, use." Already we can see dreams of DX-peditions and summer outings to the far corners of the world, or to the lake, with the GC-1 in hand! And you can carry it in one hand . . . all 17 pounds! (Handle on top, or on the side.) It has its own telescoping rod type antenna should you not care to take along a length of wire or a dipole for your favorite SW service band. Oh yes, a 110 VAC pack is available for under ten dollars.

#### WHAT ABOUT THE PRICE

A good question before we go any further, we admit. Priced just under \$100.00 American! Complete, ready to roll, in kit form.

#### GENERAL SPECIFICATIONS

The Heath GC-1 is a ten transistor superhet general coverage receiver with calibrated general coverage, and calibrated bandspread (for the amateur bands). A Single conversion unit, it uses a 455 kc IF. Band A covers 550 kc-1650 kc, band B covers 1650 kc to 4.5 mc/s, band C covers 4.5 mc/s to 9.0 mc/s, band D covers 9.0 mc/s to 20.0 mc/s, and band E tunes 20.0 mc/s to 30.0 mc/s.

3 kc selectivity is afforded (6 db down) with the Cleviste Ceramic "Transfilters" in the IF chain (see block diagram). Two Cleviste TF-01A filter units give IF selectivity comparable to four tuned stages of IF.

Some of the nice things we noticed in the design: separate coils are used on each band. Each band (five listed above) has a low end trimmer and a high end trimmer, which makes for nice linear response across the whole band (if the trimmers are aligned properly). After alignment we found the bandset *main tuning*

*knob* was as close to being on as can be found up to the \$300 class of communications receivers (this by actual comparison!). The BFO operates through a variable voltage diode, which, when properly designed, can be the ultimate in BFO stability.

#### WHAT IMPRESSED US

With the unit constructed, aligned and perking we found much to our surprise it appeared to have super sensitivity. So for comparison we made some checks with a well aligned and "in daily use" Collins 75A2. On ten meters, where sensitivity should first show signs of dropping off . . . the GC-1 stood side by side with the 75A2, right down the line! We could hear nothing on one we couldn't hear on the other (and vice versa, of course). Not having a microvolter handy we can't give you any actual threshold of sensitivity figures, but they would be good. The antenna matching trimmer seemed very adequate, trimming anything we had coming into the shack with a lead in wire. Of course there is almost no warm up drift after the first split second, with the transistors. The audio output is claimed to reach 400 milliwatts and we believe it! The AVC kept the worse polar flutter we could find on Radio Moscow and the BBC well within listening limits. The selectivity on the crowded amateur bands was a joy to work with, separating stations with the greatest of ease, and no "popping" as found with many crystal and mechanical filters. The signal to noise ratio was also well within acceptable limits.

#### ANYTHING NOT OK?

To be perfectly honest (which we are) we did come across four points which we believe  
(continued on page 14)



# TV-FM DX Via The Aurora

By RONALD A. BOYD

Box 464

Truro, Nova Scotia, Canada

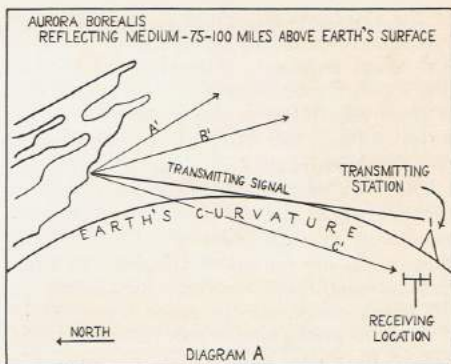
Several years ago TV DXers began to notice strange interference on their screens, particularly when their antennas were pointed northward. It soon became evident that this reception was associated with the aurora or northern lights. Indeed it was an entirely new form of DX propagation, now referred to variously as aurora reception, aurora skip, and aurora flutter. In the spring of 1956 the first aurora loggings of TV DX audio were made, but it seems that no FM DX has yet been logged by this mode. However, considering the results obtained by amateur radio operators, it seems FM DXers may have a whole new field awaiting their exploration.

Like the aurora itself TV video received via aurora skip is difficult to describe in words. On a vacant channel it appears as a rapidly changing jumble of horizontal lines and bars, some wide, some narrow, similar to co-channel interference, but much more irregular and unstable, and continually flickering. Under some conditions there may be a diagonal component which can be varied with the horizontal hold control. At least one DXer has been able to receive identifiable pictures. When received over a local or fringe station, aurora flutter shows itself as anything from a weak flicker in the picture to a total loss of detail and synchronization, depending on the relative strengths of the local and DX signals, the direction of the station, and the directivity of the receiving antenna.

## SIGNAL STRENGTH

The signals vary in strength from the weakest detectable to the strength of strong sporadic E skip. The average strength does not usually change abruptly but gradually over a period of a few minutes, though at times it may increase very quickly. There appears to be a relationship between the visible aurora and the signals received. As a general rule whenever there are visible aurora there is aurora flutter and vice versa, provided it is night and the sky is clear. Also an increase in the brightness of the visible aurora appears to cause an increase in aurora DX signal strength.

The highest frequency that can be received does not cut off as abruptly as with sporadic E skip; reception usually spreads over the whole low band (channels 2-6). If there are moder-



**AURORA REFLECTION . . .** The transmitted signal reflects from the rapidly oscillating Aurora surfaces (to the north) and back towards the south, providing reception close to the origination point, as well as over distances of 200-1,000 miles. C1 indicates a returned signal. A1 and B1 reflect off the Aurora into space.

ately strong signals on channel 2 there will very likely be at least weak signals on channel 6. If signals up to channel 6 are strong there may be signals on channel 7 and above. It should be noted that for aurora reception the best antenna heading is almost always northerly. To observe aurora DX you should rotate your antenna from east through north to west and back to the point of strongest or clearest reception.

The sound accompanying aurora flutter is also difficult to describe. It is blurred and very unstable with abrupt changes in momentary intensity, although the average loudness, like video strength, usually changes gradually. Sometimes through the garble indistinct audio can be heard. It is usually too muffled to understand but some times it is readable. *It is important to notice that weak signals often produce the best audio.*

## CARRIER INJECTION

One limitation to TV DX via the aurora is modern receivers are of the "inter-carrier" type. This means a picture carrier must be present in order for the reception of audio. In aurora reception the video carrier may at times be too weak or unstable to produce good audio. If traces of audio can be heard, considerable improvement in the sound may be noticed if a stable signal on the picture carrier frequency is supplied. This signal is most easily obtained by placing a shortwave receiver or signal generator near the TV set, turning both on, and sweeping across the generator or SW receiver dial until an area is located where strong interference is produced



on the TV screen. *Now*, tune carefully through this whole area until a spot is found where the TV sound improves. Note that this method also intensifies the noise and with certain dial settings may bring in the audio of the next lower channel. But don't give up with one or two unsuccessful tries; it doesn't always work.

Older TV receivers had split sound systems in which audio and video were handled independently. If such older sets are sensitive, these are better for aurora DX than the inter-carrier type. A radio receiver which covers the TV bands would also be much better than a TV for receiving audio only. Similarly, FM DX via the aurora should be much more easily picked up than TV DX. Those equipped for FM DXing would do well to watch carefully for aurora reception.

Aurora reception is the result of the signal from the transmitter being reflected back toward the receiver from the region of the aurora curtain. Rapid variations in the reflecting area cause the signal to be very unstable. The angle between the paths of the signal to and from the reflecting area usually seems to be quite small since the aurora are undoubtedly several hundred miles distant while transmitter and receiver may be quite

close together. The angle is further decreased due to the fact that transmitter and receiver are not likely to be equidistant from the aurora. In some instances transmitter, receiver, and aurora may be approximately in line. The lower distance limit for aurora reception would appear to merge with the limit of tropospheric reception. While most aurora reception is in the 250-500 mile range, the upper limit is probably 1,000 miles and quite possibly greater.

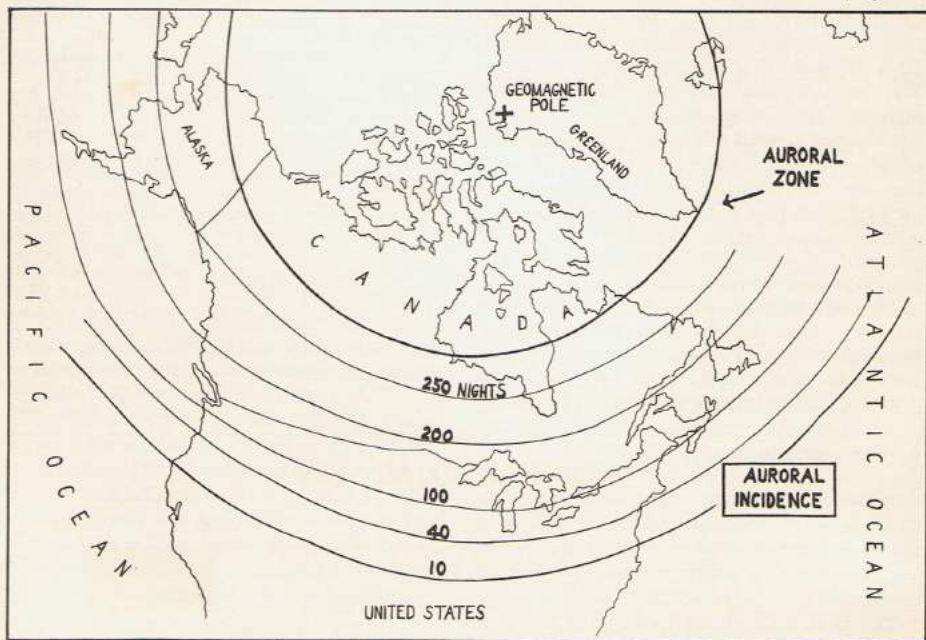
#### AURORA FLUTTER

Aurora flutter should not be confused with the sporadic E skip sometimes associated with aurora displays. The latter seems quite similar to ordinary sporadic E skip, the signal normally following closely the shortest path via the ionosphere between transmitter and receiver (not bounding back from the aurora to the north).

#### WHAT CAUSES AURORA?

The aurora are caused by charged particles ejected from disturbed areas on the sun ionizing the rarefied gases of the upper atmosphere. Aurora activity closely follows the sunspot cycles. The current cycle, the most intense

*(continued on page 30)*



#### AURORAL INCIDENCE

Arcs indicate the number of nights Auroral DX can be expected in 1960, at various North American DX locations. Present VHF Allocations table and (far right) ONE possible solution to additional VHF channel space.



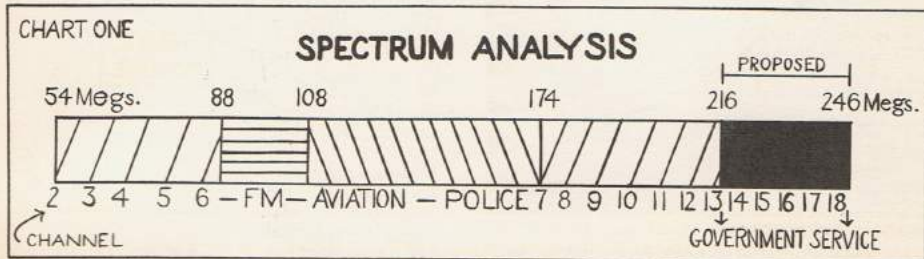
# The TV Allocations Scramble

When the FCC lifted the television freeze in the summer of 1952 there were 108 operating television stations in the United States. Today there are 566 operating VHF-UHF television stations. In addition to the 566 operating stations, 99 other stations have construction permits, which technically speaking means they will someday be on the air. But even this great improvement in operating and granted stations is not enough . . . for there are still many areas of the U.S. which have no grade A or B television service. And there are regions where television reception is possible on only one channel; and nearly a dozen heavily populated areas which have only two stations operating . . . one short from having representative programs from each of the three networks. The freeze, enacted in 1948, had one purpose in mind. The FCC realized that using only the 12 VHF channels there would not be enough spectrum space to give television service to every area of the county. The freeze put a halt to the building of television stations while the FCC studied the problem. Following four years of study the FCC stated they were once again ready to accept applications for new stations . . . in a spectrum consisting of 82 television channels . . . the former 12 VHF and 70 brand new UHF channels. The results were almost immediate . . . overnight hundreds of applications were received. Every town wanted television. But it soon became apparent the VHF-UHF mixture process was not working. Receivers were equipped for VHF reception. A UHF tuner, or converter, cost the viewer additional money . . . plus an additional antenna. And UHF tuners were far from adequate. Reception dropped off quicker . . . fringe areas were closer to the station, and a UHF station trying to compete with one or more VHF stations had to fight not only for advertising to stay on the air, but they also had to fight to sell converters and tuners to a public

which appeared to be indifferent to the whole situation. The problem has been much more complex than the limited space here allows for description, but note it as a problem that still has our FCC stumped for a solution. And the problem has a double edge . . . both economic and technical in scope.

## CURRENT PROPOSALS

The FCC is entertaining several possible directions they can take out of this dilemma. One involves the swapping, with the military, space in the current UHF TV range for additional VHF channel spots in the range just above Channel 13. With UHF television neither an economic nor technical success, it is likely the UHF space from Channel 14 to 70 (470 megacycles to 806 megacycles) will partially, or as a whole, be swapped for additional VHF space. Currently all of the space in the radio spectrum between the upper VHF limits of television (Channel 13, 216 megs.) and the lower UHF limits (Channel 14, 470 megs.) is in use by various governmental and military services. And neither of these two groups, which are allocated space much in the same way a TV station is granted a channel, are willing to give up their space unless they receive something of equal value in trade. That "something" is the majority of the UHF television range. Skull sessions between military and FCC heads have been underway for months. In fact an announcement to the outcome of these talks can be expected daily. What may happen if these talks are successful, is this. Those operating UHF stations will get first crack at applying for the new VHF channels. As the military vacates the space (as an example) between 216 and 246 megacycles, TV will move in. The change will not occur overnight however, as a great deal of equipment modifications will be needed on the part of the military . . . and "we all know how long a move such as this could take." Rough estimates are five years . . . perhaps ten, for a complete changeover. As the space is made available, the television stations will move in and begin operations. In the meantime all receivers manufactured after a certain date will be required to have provisions to receive all VHF channels (Channels 2-18 or 2-25). To the antenna manufacturers this will mean modifications of existing "all-channel antennas," adding five more channels. The changes will be slight, as compared to a combination VHF-UHF service. Currently developed tuners can be adapted to the new VHF



Present VHF Allocations Table and (far right) ONE possible solution to additional VHF channel space.



spectrum with only minor modifications. No separate tuner will be needed . . . and there will be little, if any, additional cost to the consumer. Thus the move to add additional VHF channels will not be confronted with the two evils of a VHF-UHF service . . . economic and technical inequalities.

#### DX WISE

To the DXer the new VHF spectrum space will make DXing much more profitable. With new stations on the air, and somewhat less crowded conditions of the VHF spectrum (there will probably be some shifting of existing allocations to spread stations out on the same channel, thus alleviating some of the co-channel interference problems now present on the VHF range), DXers should profit considerably by the proposed changes. Additionally, careful scrutiny of the new VHF spectrum in its early days will give DXers a chance to provide some exciting new propagation data on the new channels.

#### CURRENT ALLOCATIONS

Realizing that any such move entails a tremendous amount of physical as well as paper work, we should be aware that we must "make do with what we have" for at least several years in the future. Thus a second FCC proposal to "showhorn in" additional VHF stations in the 12 existing channels may receive some temporary attention. The FCC plan is to put VHF stations on the air in areas of the midwest, south and west on channels where the existing mileage separations for stations on the same channel are, not met. This will mean a temporary (up to several years) crowded spectrum with stations as close as 160-175 miles operating on the same channel. The FCC has not yet officially announced where "shoehorning" may take place, but it is generally accepted that cities with only one VHF television station, and with a population in excess of 100,000, will be the first targets.

#### STILL ROOM LEFT . . . BUT NOT MUCH

Under the 1952 allocations order in which both VHF and UHF channel allocations were made (Note . . . the FCC allocates a channel to a city or area . . . it then is up to a local group in the allocated region to apply for the use of that channel), there are still some vacant VHF channels available for anyone wanting them. Most of these channels are in remote areas, or set aside for educational use. Nonetheless, the allocated channels are there, and ready for occupancy. The following multi-listing brings to print the first comprehensive review of allocations and grants ever published. You will want to save this for future reference.

#### TRANSLATORS

Even though the FCC proposes to remove the UHF spectrum from television service, it is generally believed the UHF range set aside for translators (Channels 70-82) will remain in the TV service as this is a non-commercial special type of service not subject to the usual UHF television economic problems.

#### CHANNEL ALLOCATIONS

These allocations have been made by the FCC but have not been filed for by individuals or groups in the area listed. These channels are still available for station operation. A star (\*) indicates an educational reserved channel.

#### CHANNEL 2

Little Rock, Arkansas\*

State College, Mississippi\*

Anaconda, Montana

Portland, Oregon

Vermillion, S.D.\*

Nashville, Tenn.\*

Amarillo, Texas\*

Denton, Texas\*

Ketchikan, Alaska

Hilo, Hawaii

#### CHANNEL 3

Douglas, Arizona

Miles City, Montana

Ely, Nevada

Gallup, New Mexico

Salem, Oregon (KSLM grant turned in to FCC)

College Station, Texas

San Angelo, Texas

Vernal, Utah

Cheyenne, Wyoming

Juneau, Alaska\*

Lihue, Hawaii

#### CHANNEL 4

Boise, Idaho\*

Hardin, Montana

North Platte, Nebraska

Boulder City, Nevada

Reno, Nevada (KAKJ grant turned into FCC)

Dickinson, North Dakota

Fairbanks, Alaska

Seward, Alaska

Hilo, Hawaii\*

#### CHANNEL 5

Goldfield, Nevada

Walla Walla, Washington

Weston, West Virginia (UHF WJPB, Channel

35, Fairmount, W. Va. to shift to Channel 5)

#### CHANNEL 6

Kingman, Arizona

Durango, Colorado

Miles City, Montana\*

Ely, Nevada

Minot, North Dakota\*

Price, Utah

Casper, Wyoming (KSPR left the air)

#### CHANNEL 7

Jacksonville, Florida

Galais, Maine

Butte, Montana\*

Winnemucca, Nevada

Jamestown, North Dakota

El Paso, Texas\*

Spokane, Washington\*

#### CHANNEL 8

Phoenix, Arizona\*

Pueblo, Colorado\*

Saulte Ste. Marie, Michigan

Duluth, Minnesota\*

Kalispell, Montana

McGill, Nevada

Gallup, New Mexico\*

Devils Lake, North Dakota

Brookings, South Dakota\*

Walla Walla, Washington

Laramie, Wyoming\*

#### CHANNEL 9

Alturas, California

Savannah, Georgia\*

Coeur D'Alene, Idaho

Garden City, Kansas

Aplena, Michigan

Iron Mountain, Michigan



Bozeman, Montana\*  
Havre, Montana  
Tonopah, Nevada  
Santa Fe, New Mexico\*  
Eugene, Oregon  
San Antonio, Texas  
Sheridan, Wyoming

CHANNEL 10

Hancock, Michigan  
Sault Ste. Marie, Michigan  
Helena, Montana  
Miles City, Montana  
Elko, Nevada  
Las Vegas, Nevada\*  
Gallup, New Mexico  
Roswell, New Mexico  
Silver City, New Mexico  
Portland, Oregon\*  
Pierre, South Dakota  
Pullman, Washington\*

CHANNEL 11

Yreka, California  
Tallahassee, Florida\*  
Lawrence, Kansas\*  
Alma, Michigan\*  
International Fall, Minnesota  
Billings, Montana\*  
Havre, Montana  
Missoula, Montana\*  
Grand Island, Nebraska  
Santa Fe, New Mexico  
Williston, North Dakota  
Lexington, Tennessee\*  
Rawlins, Wyoming

CHANNEL 12

Coeur D'Alene, Idaho  
Nampa, Idaho  
Iowa City, Iowa\*  
Orono, Maine\*  
Brainerd, Minnesota  
Helena, Montana  
Silver City, New Mexico  
Huron, South Dakota  
Alpine, Texas  
Sheridan, Wyoming

CHANNEL 13

Flagstaff, Arizona  
Yuma, Arizona  
Fayetteville, Arkansas\*  
Eureka, California  
Bowling Green, Kentucky  
Calumet, Michigan  
Bemidji, Minnesota  
Lewiston, Montana  
La Grange, Oregon  
Charleston, South Carolina  
Laredo, Texas  
Richfield, Utah  
Rock Springs, Wyoming

The following stations have been granted FCC approval to operate (on the following channels) but are not yet on the air.

CHANNEL 2

KVIT, Santa Fe, New Mexico

CHANNEL 3

KHQL, Sterling, Colorado  
WSIL (now on 22), Harrisburg, Illinois  
New Station, Escanaba, Michigan  
WGNI, Wilmington, North Carolina  
WIPM, Mayaguez, Puerto Rico

CHANNEL 4

WTMA, Charleston, South Carolina

CHANNEL 5

KXGN, Glendive, Montana  
KDSJ, Lead, South Dakota  
KORN, Mitchell, South Dakota  
KJXT, Lubbock, Texas

CHANNEL 6

KUAT, Tucson, Arizona  
KOPR, Butte, Montana

CHANNEL 7

KRSD, Rapid City, South Dakota

CHANNEL 8

KGTU, Athens, Georgia (Educational)  
WEGS, Waycross, Georgia (Educational)  
KALA, Wailuku, Hawaii  
KSAC, Manhattan, Kansas (Educational)  
KOMC, McCook, Nebraska  
KSWB, Elk City, Oklahoma

CHANNEL 9

KGUN, Flagstaff, Arizona  
KULR, Kalispell, Montana  
KXAB, Aberdeen, South Dakota  
KVKM, Monahans, Texas  
KVOG, Ogden, Utah

CHANNEL 10

KREY, Montrose, Colorado  
KBLR, Goodland, Kansas  
WPTT, Augusta, Maine  
KMOX, Minot, North Dakota

CHANNEL 11

KPPS, Des Moines, Iowa (Educational)  
KGLD, Garden City, Kansas  
KHMA, Houma, Louisiana

CHANNEL 12

KCND, Pembina, North Dakota  
KVNU, Logan, Utah

CHANNEL 13

KSLE, Monroe, Louisiana (Educational)  
WVMI, Biloxi, Mississippi  
KSMO, Missoula, Montana  
KALF, Alliance, Nebraska  
KERA, Dallas, Texas (Educational)



"The OLD BUZZARD Himself". Barney Rauch surveys his Peoria, Illinois DX antenna system which has done much for his TV station total of 282 stations logged.

# SHORTWAVE STATION REPORT

## DXing HORIZONS SALUTES:

### 4VEH, Cap Haitien, Haiti

It is indeed both a privilege and an honor to dedicate the initial issue of the DXing HORIZONS Shortwave Station Report to our "old friends" . . . the wonderful personnel . . . both past and present . . . of Radio Station 4VEH, "The Evangelistic Voice of the West Indies," located at (Box 1), Cap Haitien, Haiti. In particular, of course, I'm thinking of the Rev. M. E. (Mardy) Picazo, Manager and Chief Engineer, and of his good wife, Rachael—along with Kent Ragsdale, engineer; Mrs. Kent (Linda) Ragsdale; DX-ers Corner and QSL Secretary; Miss Miriam Stockton; Josef (a native employee), and the rest of the 4VEH staff.

4VEH is "the International Radio Voice" of the Oriental Missionary Society, 850 N. Hobart Blvd., Los Angeles 29, California, USA, an internationally-known organization with missionary work in the Far East, Europe, Africa, and Latin America, which is now utilizing this radio station "TO REACH AROUND THE WORLD WITH THE GOSPEL!"

Recently, 4VEH has been operating on ONLY 4VEC, 6.000 mc/s, 500 watts, and 4VWI, 9.770 mc/s, 500 watts. The 15.360 mc/s "late" ENGLISH session (MON.-TUE. 0300-0400 GMT) has been dropped for the time being.

A "tentative" NEW schedule is being worked out for this spring—and as soon as it is released, it will be forwarded to DXing HORIZONS. It will include considerable changes in "evening" programming—especially of the ENGLISH sessions.

The Rev. Mr. Picazo has been working with Clarence Moore at Elkhart, Indiana, during the past four months on construction of NEW transmitters for 4VEH, but returned to Haiti with the completed transmitters early in February. They in-

stop using 4VEC, 6.000 mc/s for a while because our big diesel engine that produced the electric power was broken down and our little Whitty engine could not carry BOTH transmitters. Now, ONLY 9.770 mc/s is in use."

However, it is expected that the NEW transmitters will be in use within the next few weeks. PLEASE be on the alert for TESTS of the NEW equipment!

4VEH's versatile secretary, Miss Stockton, is now on "home leave" (since just before Christmas) and is visiting with her parents in Etridg, Tennessee. A few days before Christmas, Miss Stockton and her parents visited with Ab Saylor (a long-time and valuable reporter to 4VEH) and his family in Quantico, Va.; Floyd Backus and his family, Richmond, Va., and with several officials of the NEW-ARK NEWS RADIO CLUB in New Jersey. Miss Stockton will return to Haiti in August, 1960.

Current schedules—in part—for 4VEH include ENGLISH for the West Indies and North and South America at 0945-1100 (SUN. 1015-1130); 1300-1500 (SUN. 1230-1400); 2000-2215 (SUN. ONLY), and 0100-0300 (MON., TUE., SUN.). Some of these transmissions also may be heard in Europe and the South Pacific. Among the features broadcast by 4VEH are BULLETIN BOARD (a program preview and station news) on SUN. 0230; MAILBAG, and DX-ers CORNER.

4VEH identifies (ID) as follows:

ENGLISH—"You are tuned to the Evangelistic Voice of the West Indies."

### FLASH!!!—Special DXBC Schedule Easter Week by 4VEH Dedicated to DH-SWD-Monitors

At press time, arrangements had just been completed for a SPECIAL DX BROADCAST, to be DEDICATED TO MONITORS of the SW Dept. of DXing HORIZONS, from 4VEH, Box 1, Cap Haitien, Haiti, on 9.770 mc/s (and, perhaps, ALSO 6.000 mc/s), at 2330-2400 GMT, SATURDAY, APRIL 16, and REPEATED at 0930-1000 GMT, MONDAY, APRIL 18. A very special QSL card will be sent by the station to all SWLs who send a CORRECT REPORT DIRECT TO 4VEH. PLEASE make your report detailed enough to be of value to 4VEH's personnel. Thanks! The b/c will feature your SW editor, Ken Boord, at the organ, and Ken's guests will be members of his church choir—the Spruce Street Methodist Church, Morgantown, W. Va.—of which Mrs. Mabel Howard is director—with a program of Passion Week and Easter favorites.

Confirming with thanks your reception report of

#### "Evangelistic Voice"

of the West Indies

BOX 1, CAP-HAITIEN, HAITI

4VEH	4VWI-9770 Kcs	4VWI
	400 Watts	
4VE	_____ Kcs	4VEC
	_____ Watts	

Name Ken Boord, Morgantown, West Virginia

Date 1037-1045 GMT; January 12, 1960

"If the SON therefore shall make you free, ye shall be free indeed." The Bible - John 8 : 36

#### 4VEH QSL Card

clude a NEW 5 kW transmitter to operate in the BCB on 1,040 kcs.; a 2.5 kW transmitter for use in the 31- and 49-meter bands and a 2.5 kW transmitter for the higher SW bands.

Mrs. Ragsdale recently sent this message to Alan Roth, Connecticut, a DH Monitor: "We had to





The Rev. M. E. (Mardy) Picazo, Station Manager and Chief Engineer, is shown at the transmitter of 4EVH. By this time—or very soon—4EVH will have new SW and BC transmitters of higher power on the air.

**FRENCH**—"Ici la Voix Evangelique des Antilles."

**SPANISH**—"Escucha Ud. La Voz Evangelica de las Antillas."

The interval signal (IS) for all services is two phrases of the well-known hymn, "Amazing Grace," by John Newton.

Best wishes go to 4VEH and to its devoted personnel from your SW Editor, as well as from the monitors and other readers of DXing HORIZONS, for continuous success in their Christian endeavors "to reach around the world with the Gospel!"

—KEN BOORD, SW Editor

## ATTENTION . . . ALL DXers!

Whether your interest be SW, TV or FM, your respective department editors want to hear from you with reports, descriptions of your equipment, and photos of you, your equipment, and any worthwhile DX topic. Make it a point today . . . to support the favorite column(s) of your choice with the material other DXers want to know, read, and see!

## FREE MAGAZINES!

Have a long range DX fan for a buddy? Does he receive DXing HORIZONS? He can you know . . . DXing HORIZONS will mail a free complimentary issue to anyone who has not yet received a copy. Send the name and address of your Shortwave, TV or FM DXing friends to Circulation Department, Box 3150, Modesto, California, U.S.A.

## WORLD UNIT VOTES PLAN TO AVOID CONFLICT ON SHORTWAVE BANDS

The New York Times of Sunday, December 13 last carried this interesting special dispatch from Geneva, Switzerland:

"A plan to unscramble the jammed shortwave broadcasting lanes has been approved here by a radio conference of the 101-member International Telecommunications Union.

"Originally proposed by the United States, the plan is hailed by experts as the first advance in twelve years toward making better use of shortwave broadcasting in the 13, 16, 19, 25, 31, 41, and 49 meter bands.

"Listeners will have a better chance of tuning in on the programs they want instead of getting the cacophony caused by conflicting stations, it is said.

"Since nations use shortwave broadcasting to try to get their messages across to the rest of the world, agreement on a formula for an orderly division has proved impossible so far.

"The new plan recognizes that all nations, big and small, can get into shortwave broadcasting as they see fit. But it provides for a coordination procedure so that conflicting schedules can be known in advance and adjusted voluntarily.

"All countries are to send to the union's international frequency registration board in Geneva four times each year schedules showing the frequencies and the hours they plan to broadcast. The schedules will be plotted on a master chart by the board's eleven independent experts.

"The board will determine from the master chart where and at what times schedules will conflict. It will then notify the countries concerned and, when possible, suggest changes.

"While the countries will not be obliged to heed the suggestions, they will be obligated to notify the board of the action they take.

"One of the board's main assignments under the plan is to try to find room on the air for the newly developing countries.

"The plan will be incorporated into international radio regulations being hammered into treaty form by more than eighty nations. A movement by the Soviet bloc to limit the plan to a two-year trial period was overwhelmingly defeated." —K.R.B.

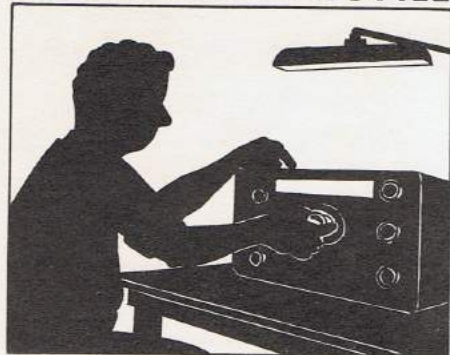
## SHORTWAVE STATIONS

Shortwave editor Ken Boord asks that you place him on your mailing list to receive program schedules and other station material, to aid in preparing his popular "World at a Twirl." Address your program schedules, etc. to DXing HORIZONS Shortwave Editor, 948 Stewartstown Road, Morgantown, West Virginia, U.S.A.

Subscribe TODAY . . . DXing HORIZONS  
Your best source for weak signal news!



## SHORTWAVE PROFILE



Mr. August Balbi  
Los Angeles, California, U.S.A.



Mr. DX himself, August Balbi, at his listening post in Los Angeles. August has long been known as the dean of SWL's and is a most methodical DXer.

With deep respect and admiration, it is a distinct privilege to dedicate the initial issue of the Shortwave Department of *DXing HORIZONS* to the Dean of active SWLs, a pioneer in the field of international shortwave DXing, the most methodical DXer whom I have ever known, and a true gentleman . . . my good friend and long-time consultant and adviser . . . Mr. August Balbi, 1414 South Wilton Place, Los Angeles 19, Calif., U.S.A.

At August's Listening Post, you'll find his "trusty" HAMMARLUND HQ-129X (1947 model); a HALLICRAFTERS SR-20 (1942); a RME DB-20 preselector (1942), and his *piece de resistance* — a custom-built 15-tube HOLMES — manufactured in Los Angeles (1936), equipped with a 15" Jensen high-fidelity speaker. He uses a 100' L-type one-piece-wire antenna, 40' high, oriented SE to NW. He has a tape recorder to record SW transmissions.

Of the receiving equipment he has used in more than a quarter of a century of highly successful SW DXing, August comments:

"The HOLMES is the most powerful short-wave receiver, with the best tone, I have ever had. My first receiver, back in 1933, was an all-wave MIDWEST — truly the best-looking piece of 'junk' ever sold as a shortwave receiver! I *did* hear VL2ME, Australia, on a Saturday (March 1934) on it and verified that station. Next, I had a 10 AW PATTERSON, a good receiver for that time, but with no calibration! — just 1-100 markings on the dial; it had lots of harmonics, 'to boot!' My best antenna was the RCA 'Spiderweb' (1938).

"My top 'catches' verified were S. S. KANIMELA, a 50-watter aboard a ship which had

regular broadcasts and which plied between Sydney, New South Wales, and Perth, Western Australia, operating on about 6.010, at 1400 GMT during a heavy rainstorm in April 1938; call was 9M1. Next, was Johannesburg, South Africa, on 6.010, before it was destroyed by fire back in 1935 (heard in March of that year); it was of very low power; call was ZTJ; I was one of the fortunate few who received a verification from this one.

"Third, was a 2.5-watter, located at Vancouver, B.C., Canada, VE9CS, heard irregularly with fair signal but always with a terrific fade, on 6.100 (logged June 1935). There are several others which I consider 'rare catches' — they include Java's PLV, Malabar, 9.415.

"My first 'veri' was from XETE, 9.600, Erickson Telephone Company, Mexico City, Mexico. This one was logged in November 1933." Of all the verifications he has received, August considers the best-designed were those of Warsaw, Poland; Martinique, and the British Malayan Broadcasting Corporation, ZHP, Singapore, 9.690 (logged July 1938).

August was an early member of the *International Short Wave Club*, East Liverpool, Ohio (1933); this club is now the ISWC, London; he was co-editor of *Globe Circler* (*IDA-International DXers Alliance*); has long been a member of the *Universay Radio DX Club* and a member of its advisory committee; he has belonged to several local shortwave groups,

(continued on page 30)



## TECH NOTES

### Greatest Thing Since the Cascade Tuner — The Frame Grid Tube

The Amperex Tube Manufacturing Company, of Holland, is about to be descended upon by tens of thousands of requests for a line of VHF-UHF tubes which will probably revolutionize television DX reception, FM DX reception, and the field of VHF amateur radio. Amperex calls their new tube development "Frame Grid Tubes." But whatever it is called, it spells quality . . . a factor long missing and overdue in USA tube construction. Amperex has taken the sloppiness out of miniature tube building, and given it a precision of construction found only before in hand constructed units. In addition to the extra care, Amperex has redesigned the grid section of the 7 and 9 pin miniature tubes, resulting in greatly lower noise figures, considerably higher trans-conductance (responsible to a large degree for gain) and much longer tube life. On top of this, the first released "net costs" for the new tubes show them to be only slightly higher than the standard tubes of the competition.

#### A COMPLETE LINE . . . TO DOUBLE TV-FM RANGE!

"DH" readers know of our current construction project, the high band (7-13) ultimate booster, using a 417A type tube (see inside front cover for progress report). We noted the extremely high transconductance of the 417A (25,000 MHOS) made it an ideal tube for use in very low noise first RF stage applications. We noted the current series of 6BQ-BK-BZ 7 series tubes has transconductance figures averaging from 6,100 MHOS to 9,000 MHOS. These tubes, by comparison to the 417A, are very noisy and create impassable barriers to very weak high band signals, and to a certain extent, low band signals.

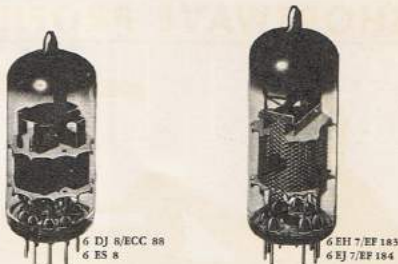
All readers will be delighted to learn that the Amperex 6922/6DJ8 Frame Grid mentioned briefly last month promises to make real improvements in the operation of conventional TV and FM receivers. The 6922/6DJ8 has a transconductance of 12,500 MHOS . . . giving it a much lower noise figure, and considerably high gain than conventional 6BQ-BK-BZ 7 series tubes. Best of all, the 6DJ8 is a direct plug in replacement in the tuner for almost every 6BQ7, 6BK7, 6BZ7 ever used in a mass produced TV tuner! Improvement to such a degree that you can notice it immediately is now available to you by merely purchasing the 6DJ8 series tube, and replacing your current tuner front end with the 6DJ8. Experimenters will want to be sure the following requirements are met in the circuitry of your tuner front end.

#### TYPICAL VALUES — 6922

Plate voltage (Amperex recommends 90 volts)  
Plate current (Amperex recommends 15 MA)  
Filament (6.3 volts . . . 365 MA)  
Grid circuit impedance (300 OHMS)

#### TUBES ARE SCARCE!

Quoting from George Elliott, Manager of Distribution Sales at Amperex, "Due to the great demand for this tube type, it is difficult for us to



advise you which (Amperex) distributors have them (6922) in stock. We do know that they all have orders with us and shipments are being made as fast as the tubes become available."

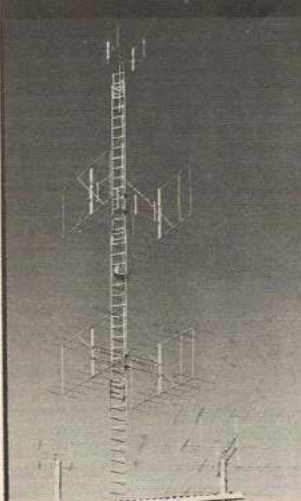
DXing Horizons suggests enthusiasts contact the Barry Electronics Corporation, 512 Broadway, New York 12, New York where Mr. K. Gensler assures us he has a supply of 6DJ8/6922 tubes at a paulty \$3.50 each.

#### OTHER FANTASTIC TUBE DEVELOPMENTS New IF tubes promise to be the best!

Amperex has not stopped their research with improvement of TV type front end tubes. Actually the design improvement program began at the Philips Electron Division of Philips Company, Holland. The previously mentioned 6922 was developed to take advantage of all of the low "tube noise" advantages in VHF work. The Philips Company worked on the assumption a 10 microvolt signal was the lowest level usable outside noise being what it is. With this in mind they designed a tube (the 6922) to work with signals down to that level. Then they redesigned television IF amplifier strings and AGC systems to assure that such low signal values would receive proper amplification, and control, before reaching the detector stage. For the IF amplifier string, Philips developed two tubes . . . the 6EJ7, a Frame Grid "sharp cut off pentode," and the 6EH7, a frame grid "remote cut off" pentode. Amperex, on tentative tube data sheets, notes this function for both tubes, "enables the construction of simplified broad band amplifiers with high stability. The higher gain per stage in many instances reduces the number of tubes required in the television IF strip." In other words the prime consideration in the development of these tubes was to cut down present 3 (or 4) IF stage receivers to 2 IF stages with no loss in gain or stability. Undoubtedly this is the course the tubes will take in the U.S.A., however, the alert DXer will take his 3 or 4 IF stage receiver, and through conversion data to be supplied in DXing Horizons, replace each current 7 pin 6CB6 with a 9 pin 6EJ7 or 6EH7, and effect an equivalent increase in IF stages of 3 or 4 (making IF strip gain equal to 6 or 8 6CB6 stages!). Obviously, here at last, in conjunction with the 6922, is a set of tubes designed with the DXer in mind. DXing Horizons has been promised engineering samples of the 6EH7 and 6EJ7, and as soon as they arrive, work will begin on a circuit for conversion use, by weak signal enthusiasts. The tubes will not be available for consumers until this summer however. Suffice to state at this time we fully expect fantastic results. Incidentally, that all important factor, trans conductance, measures like this for the tube types discussed. 6BC6 — 6200 MHOS, 6EH7 — 12,500 MHOS, 6EJ7 — 15,000 MHOS.



# SITCO



A Typical SITCO Installation

## Heavy Duty Quads and Yagis

Designed by SITCO for Translator off-the-air pickup, Community TV and extreme fringe area requirements.

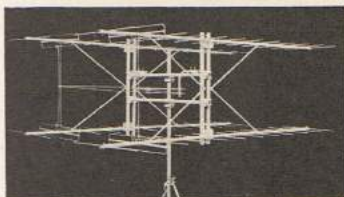
The Sitco Models 94 and 102 Quad Mount Antenna Arrays are designed to produce high gain, high front-to-back ratio and large aperture to weak signals. A completely balanced system which reduces noise pick-up and greatly improves the signal-to-noise ratio.

NOW, all Sitco element ends are machined to reduce static leakage. The signal-to-noise ratio is increased at sites where signal levels are low.

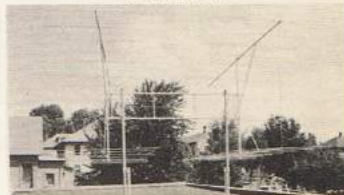
CONTACT YOUR  
SITCO JOBBER

Manufactured By:

**SIMPLICITY TOOL COMPANY**  
2850 N. Mississippi Ave. Portland 12, Oregon



Model No. 102-HD 48-element Quad  
VHF Hi-Band



Model No. 94-HD 32-element Quad  
VHF Lo-Band

### THE HEATH GC-1

(continued from page 4)

can be improved upon, without raising the price of the unit. We have no doubts whatsoever this unit has received thousands of hours of design testing at Heath. And because our unit was one of the first 50, we suspect ours is from a pilot run designed to test customer acceptance (we accept!). However, there are a few bugs, which should be worked out.

- 1) The volume control does not shut the audio all the way off. This is a design problem. In transistor circuitry the impedance of the audio stages (into which the volume control works) is a very low impedance. Nothing like the megohm values of tube circuits, and herein lies the problem . . . the volume control pot does not go all the way to zero OHMS. It stops at 25 OHMS, which is not low enough to cut off the audio. Of course you can crank down the RF gain control, but this we believe is not as it should be. End point one.
- 2) If the unit is dial strung according to the manual, the bandspread calibration will not line up. As an example, setting it up on 75 meters, we could trim the high end trimmer and make it calibrate on the nose at 4,000 kc, and then the low end trimmer and it would calibrate at

3,800 kc. But then it would be off 15 kc at 3,900 kc! *Something* is not linear. We suspect the calibration was set up using a different bandspread condenser, originally, and then a change made after the aligning-wiring book book was released.

- 3) The image rejection does not measure up to the 30 db claimed by Heath. In fact on ten meters 15 db is the best we could do. This is a continual problem of single conversion receivers, which may . . . or may not be able to be licked.

- 4) BFO injection on our unit did not appear to be adequate. In fact it could have been quadrupled and still been lacking! This could be simply cured we feel.

But other than these points, we feel the Heath Company of Benton Harbor, Michigan has done an outstanding job with a unit which will probably open a lot of design(ing) eyes in the coming year. Everything is shifting to transistor design and why not shortwave receivers! We invited a half dozen area hams to view our test unit, and all went away mumbling to themselves that they would certainly stand in line to buy one, when Heath decides to release the unit for mass production (a step perhaps already underway).



# WEAK SIGNAL INDUSTRY

## Gardiner, Montana

A town of 600 people, in which an estimated 140 television sets are operating. DXing Horizons asked the people of Gardiner to write a brief history of their organization, which established a VHF booster for Gardiner.

"The history of the Buffalo Mountain TV Repeater Station is an interesting one, full of the story of pioneering, a lot of hard work, and even a little heartbreak. The winter of 1956 found Gardiner, a Yellowstone National Park border town, in an isolated TV area, with very poor radio reception, and no theatre.

In November of '56 Fred W. Huber, after weeks of patient probing, located a TV signal near Gardiner . . . slight, but encouraging. Soon 150 townspeople gathered to form the Gardiner Community TV Association. They were, to say the least, an inspired group with visions of the wonders TV would bring to their families. In December of '56 a VHF booster was purchased and installed . . . and programs came from KID (Idaho Falls) . . . almost by magic. But magic had little to do with the reception.

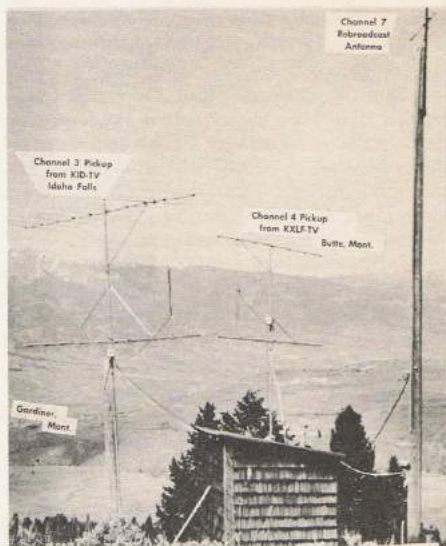
A Kohler portable power plant which furnished the power to operate the booster was 7 miles from town. And these were no ordinary 7 miles! Donovan Salisbury was employed to service the plant with gasoline each day. In the winter snow piles to a depth of 5 to 7 feet in the area. A jeep was the solution much of the year, but when the heavy snows came the jeep gave away to a pack horse, with the gasoline strapped to the saddle.

A contract was let in April of '57 to the Pole Line Construction Company, and an equipment house was installed at the 7,800 foot booster elevation, and provided with public power from the local utility. A time clock now secures the equipment at the termination of the day's program."

The Gardiner Community TV Association is a non-profit organization with funds derived solely from public donation. To date \$5,000 has been spent for installation, repair, and equipment. In this small, mountain isolated town, of 600 population, and no direct TV reception, they depend on the repeater station to bring them the news of the country, the sports events, opera music, and all of the other information provided by the world circling invention—television.

## INSTALLATION AND EQUIPMENT

The town of Gardiner lies at the north, and original entrance to Yellowstone Park. Reception of two television signals is now possible, through VHF booster-translators. KID-TV (3) Idaho Falls, Idaho comes 140 air miles, while KXLF-TV (4) Butte, Montana, travels 115 air miles, to the Buffalo Mountain receiving site. In the picture of their receiving site, which lies at an elevation of 7,000 feet, the receiving antenna at the left (two



Buffalo Mountain Receiving Site

10 element Channel 3 yagis) feeds a Westbury pre-amplifier mounted on the pole, under the antenna, and then to the shack where the signal is fed through a Blonder Tongue NCS Converter, a Jerrold driver and final amplifier, and then (now on Channel 7) to the tall mast at the right to the rebroadcasting yagi. The estimated retransmitted signal power is one-half watt input to the yagi. The KID receiving antenna faces slightly south of southwest and in line of sight faces the side of Bunsen Peak, elevation 8,600 feet, inside the park. It is believed this 8,600 foot peak is reflecting the KID signal to the Buffalo Mountain receiving site. Between the KID transmitter (at 4,700 feet) and the Buffalo Mountain receiving site the KID-TV signal must cross the continental divide (elevation 8,000-8,500 feet), in addition to traveling 140 miles.

The second signal comes from KXLF-TV, Butte. The center antenna is a twin stack Channel 4 yagi directed over the great circle path to the KXLF transmitter, 115 miles. The KXLF signal drives a Jerrold Line Amplifier, and then to the shack, into a Benco CA4 second pre amp, and Benco CO-49 converter, a CA9 amplifier, and a HCA 9 final amplifier. The channel 9 converted signal (from 4) drives a Channel 9 yagi for re transmitting (out of sight above the Channel 7 retransmitting antenna), with an estimated power of one-third watt. The

(continued on page 30)



# STATION REPORT

## CKCK-TV, Channel 2 Regina, Saskatchewan, Canada

100 kilowatts of visual power radiate in all directions from the 658 foot tower of our station of the month . . . the first television station to take to the airwaves on the plains of Canada. CKCK-TV began operation on Channel Two on July 28, 1954, and although our records are not complete for this date, there is every indication it was seen along the Great Lakes on this date . . . by an active DXer of that time. With a staff of 17, CKCK's initial operation consisted of filmed and kine shows between 5 P.M. and 12 midnight. CKCK, as do most other Canadian stations, makes use of the famous indian head test pattern.

CKCK joined the CBC microwave net system in the late spring of '58, bringing live CBC programing to Saskatchewan for the first time.

### DX REPORTS AND CKCK-TV

According to promotion manager William Rees, chief engineer E. A. Strong has had it as his policy from July 28, 1954, to handle long distance reports within the scope of the engineering staff. The chief engineer makes it his practice to reply with a copy of the CKCK QSL card, including certain information concerning the technical operation of the station.

### DX RECORDS

According to the CKCK engineering records, 26 states have been heard from via the DX route, in addition to the provinces of Quebec, Ontario, and British Columbia. Additionally DXing HORIZONS is familiar with DX reports as far east as Nova Scotia and as far north as Yellowknife, Northwest Territory, for CKCK-TV.

### "ROMPER ROOM"

Under relaxing BBG regulations CKCK initiated in October of this past fall morning pro-

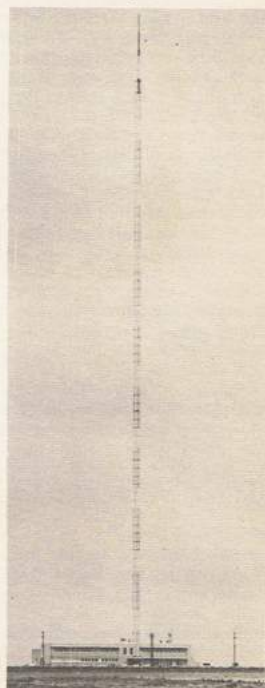
gramming of an educational nature. Unlike United States regulations, the Canadian regulations do not currently provide for any educational channels in the allocations plan. But station licenses, to maintain their licenses, must provide several hours of educational-informative programming per day. CKCK has chosen to partially fill this obligation, with Romper Room, now telecast to the kindergarten set each morning.

### CKCK RECEIVED VIA SOME UNUSUAL MODES

CKCK is perhaps ideally located for the most recently discovered and least understood form of VHF wave propagation . . . auroral-Es. On nights of particularly heavy auroral activity, with both the visible northern lights and hazy sliding of auroral backscatter on the television screen, E Skip type reception along the Canadian border in east-west directions has been known to carry the CKCK signal as far east as Nova Scotia . . . obviously beyond the E Skip 1,500 mile single hop distance. Such auroral Es usually occurs after 11 P.M., EST, and almost always affects just a handful of stations and observers . . . along the border area. Through concentrated study this spring DXing HORIZONS hopes to shed some light on this strange form of DX reception.



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# International DXing Horizons



## LATIN AMERICA MONTH

Two points of information occupy this month's IDX notes. Both concern our immediate neighbors to the south in Central America.

### YSU-TV

The following are excerpts from a communique delivered to the Modesto IDX news desk by our friendly postman. "I am chief engineer at YSU-TV here in San Salvador, and I am constantly receiving letters from people who receive our signal at distant points. Most letters come from Central America and Mexico. For your information YSU operates on Channel 4 with a power of 70 kw ERP, from a 6,000 foot hill. (Hill? That's a mountain in California!!! . . . Ed.)

"I wanted to report reception of our signal from points outside Central America. Mr. Liveschultz of Lakeland, Florida has seen us on his set, even though his antenna is only a set of rabbit ears. He first saw YSU-TV from 1200-1500 EST on August 12. He saw us again from 2000 to 2100 EST on August 26th. He sent along photos taken on his receiver of our signal. On August 11th we were seen by Vanguard Electronics in Daytona Beach, from 1145 to 1345. Jack Vinson of Marlin, Texas saw YSU-TV from 1700 to 1800 CST, with his 15 element low band yagi array. However, I believe the most interesting report comes from Rodolfo D. Hasperue of Mar Del Plata, Argentina. He reports YSU reception from 0100 Argentina time

until our sign off on October 28, 1959. He saw our complete late newscast and then our complete late movie." OK . . . so there you have it gang. YSU in San Salvador, El Salvador is obviously putting out quite a signal . . . go get'em! Incidentally, YSU to Mar Del Plata, Argentina would be trans equatorial scatter reception, over a path nearly 5,000 miles long! Mar Del Plata is southeast of Buenos Aires, on the Atlantic seacoast of Argentina.

### A NEW MEXICAN MYSTERY

An E Skip opening between Central California and the Mexican plateau region January 23 brought in XEZ (mountain top relay above Mexico City) on Channel 3, at 1,850 miles, and a new one to us (here in Modesto), a Channel 6 relay for XEW. After much cross checking of building permits we have narrowed the location of the relay to Acapulco (the land of fun and sunshine!) A letter air mailed to XEW chief engineer Jose de la Herran has not been gone long enough to be answered as this is written. Check the late news on page 1 for possible late information. For the time being we will assume the relay is in the mountains above Acapulco. DXer David Beal of Tucson reported frequent very weak Es from such a station this past August . . . so it is not brand new in operation. Beal never saw enough to be sure of what he was seeing however. We had a class B signal from 1750 to 1910 PST January 23.



XEJ-TV, Juarez, Mexico  
Channel 5



YSU-TV, San Salvador, El Salvador  
Channel 4



HIT-TV, Ciudad, Trujillo, Dominican Republic  
Channel 4



WAPA-TV, San Juan, Puerto Rico  
Channel 4

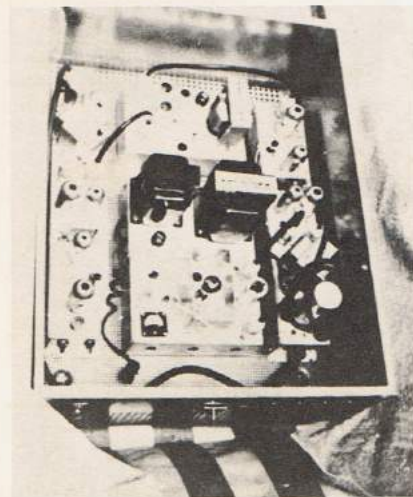
"The really rare ones . . . from the Caribbean and Central America. DXing Horizons thanks to DXers Ruland (Florida), Broomall (Georgia), Middleton (Florida) and Rauch (Illinois) for use of their prize photos."



# BRING THIS SIGNAL



## M.A.R.S. ONE WATT (Plus) AMPLIFIER SYSTEMS



Complete — aligned and assembled. Ready to install on your new system or as a replacement for older systems. A complete high output amplifying system with conversion. The RX-17 uses two BT proven quality MCS amplifiers with M.A.R.S. Converter CX-30 and Metered Final (F-17).

The system is capable of one watt PLUS output with as little as 50 microvolts input.

The unusual range of automatic gain control enables complete pre-adjustment to accommodate ANY useable signal level.

Metered output eliminates guesswork for fast — efficient operation.

### AVERAGE VALUE SPECIFICATIONS:

Gain: 110-120 DB.  
Conversion Accuracy: .005%  
AGC: 40 DB.  
Input Range: 50 Microvolts to 5000 Microvolts  
Output: One Watt Plus  
Power: 115 Volts AC 60 Cycle (140 Watts)  
Cables: Low loss input and output cables and baluns to match 300 OHM line are included.  
Installation: Can be done by anyone in a short day.  
Price: \$957.00



## M.A.R.S. CRYSTAL CONTROLLED CONVERTER CX-30



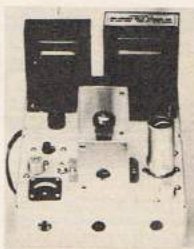
**RELIABILITY . . .**  
The world's most reliable converter-amplifier units, with 10,000 hours tube life in premium quality Amperex 6922 Tubes. The CX-30 is the heart

of any amplifier system which requires the highest accuracy in conversion, and maximum reliability. Input may vary from 1,000 Mu to 100,000 Mu at 75 OHMS. One-half of the second 6922 is reserved for possible use with a coding on-off system.

### AVERAGE VALUE SPECIFICATIONS:

Gain: 15 DB on Low Channels  
10 DB on High Channels  
Conversion Accuracy: .005%  
Power: 115 VAC, 60 Cycle — 17 Watts  
Input: 1000 to 100,000 Mu at 75 OHM.  
Tubes: Premium Quality Amperex 10,000 Hour 6922's.  
Price: \$195.00

## M.A.R.S. ONE WATT FINAL TV AMP. F-17



Mountain top locations require the very best in equipment . . . and when you need 10,000 hour reliability, high output, and broadcast quality amplification . . . M.A.R.S. equipment is for you. Maintenance calls are held at the lowest rate in the industry with M.A.R.S. equipment . . . and the F-17 amplifier.

### AVERAGE VALUE SPECIFICATIONS:

Gain: 26 DB over Each Input  
Band Width: 6 MC (Plus-Minus) One DB.  
Power Requirements: 115 VAC, 60 Cycles, 70 Watts.  
Output: One Watt Plus

9 Volts at 75 OHM  
13 Volts at 300 OHM (Through Balun)  
80 DB above One Millivolt.

Meter: Switch and Meter to Monitor Plate Voltage and Relative RF Voltage.  
Tubes: Premium quality Amperex 6922's and 6360's (10,000 Hour Rating)  
Price: \$395.00

IF AND WHEN VHF BOOSTERS BECOME LICENSED, THIS F-17 UNIT WILL PROVIDE A QUALITY PICTURE UP TO 40 MILES.

The following chart shows channel conversions available. The shaded areas should be avoided if possible.

### CHANNELS

	7	8	9	10	11	12	13	
CHANNELS	2	126	132	138	144	150	156	
	3	114				138	144	150
	4	108	114	120	126			
	5	98	104	110	116	122	128	134
	6	92	98	104	110	116	122	128
	Trap							

# HERE

with

## M.A.R.S. Amplifier Systems



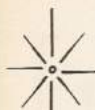
"Vallytown  
USA"



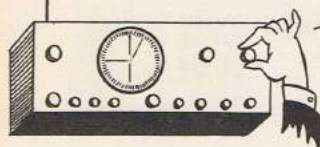
**MID AMERICA RELAY SYSTEMS, INC.**  
601 Main Street

Rapid City, South Dakota





# THE WORLD



## AT A TWIRL

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

I extend a hearty welcome to old friends of the SWL fraternity . . . and to new ones as well! I'm glad to have you with us! May our association be a long and mutually beneficial one!

If you've never been a shortwave listener, you've truly missed out on a big thrill—the boom of Big Ben striking the hour in London . . . weird Arabic chanting from the banks of the Nile . . . the haunting call of Australia's "Laughing Jackass" (the Kookaburra bird) . . . the stirring shout of a Swiss yodel . . . the soft chirps of a mechanical nightingale from fabled Baghdad! For the whole world is literally at your very fingertips through the medium of this modern-day miracle—*shortwave radio!*

And . . . it's comparatively easy!

Certainly, shortwave DXing is more of an art today than ever before. With so many of the larger nations overcrowding the bands with "powerhouse-like" multiple transmitters, propagandizing in many languages most of the day and night, you really *have* to "fish" for many of the lower-powered, DX (*long-distance*) stations—but this makes the hobby even *more fascinating, more challenging!* And *the necessary skill can be acquired!*

While the ranks of SWLs in the United States have never been as great as in other lands—where millions depend on shortwave radio day by day for timely news and entertainment—it has always had quite a following here—more so, I sincerely believe, than the "available" statistics reveal.

A "New crop" of SWLs comes along all the time. This has been particularly true during the past few years—largely in the teen-age group—many of whom have become interested

in "tuning to the world" as a result of Radio Contests sponsored by the Boy Scout journal, BOYS' LIFE, under the editorship of my good friend, Harry Harcher. Further, many youngsters become SWLs *today* as a stepping-stone toward becoming full-fledged amateurs (hams) *tomorrow!*

### VOICE OF AMERICA CONTEST PROVES SW IS HERE TO STAY

The results of the SWL Contest conducted by the VOICE OF AMERICA in November 1959 shows that shortwave radio is truly here to stay! There were 65,000 letters received and 15 prizes—5 RCA, 5 ZENITH, 5 ADMIRAL portable transistor all-wave radio receivers—were awarded. Winners were from India, Ceylon, Burma, Pakistan, The Philippines, Turkey, Indonesia, Iceland, Nigeria, South Africa, Brazil, Great Britain, the Canadian Armed Forces (Europe), and one was from "behind the Iron Curtain"—Prague, Czechoslovakia!

—AUGUST BALBI, Los Angeles, California

International shortwave radio is glamorous! Moreover, it is educational. It provides a most satisfying hobby.

To some, perhaps, it's the "feeling of power"—to be able to reach out to the uttermost corners of the earth at the flick of a switch and the turn of a dial! To other folks, it fills a desire to be "in" on the ground floor, so to speak—to get the news ahead of the broadcast-band listener or the TV viewer.

It's truly a boon to the shut-in—and last, but surely not least, it *offers endless opportunities to promote friendship and goodwill among the peoples of the earth!*

Whether you listen to the international shortwave broadcast bands, the amateur



(ham) bands, or both . . . whether or not you ever become a full-fledged amateur operator . . . truly, shortwave radio knows no boundaries! Yes, indeed, it is "armchair traveling" at its very best!

And now, let's visit the Listening Posts of DH monitors around the world to see "what's cookin'." Schedules are listed in GMT (subtract 5 hours for EST, 6 hours for CST, 7 hours for MST, and 8 hours for PST.) Let's go!

ADEN—The Aden Bdcstag. Serv., 7.170, Aden, hrd in England amid QRM "evenings" in all-Ar. xmsn; sked 0630-1000, 12-2100; 18-2100 relays BBC news and BBC's Ar. Serv., sent QSL cd. (Pearce)

AFGHANISTAN—C/s of R. Kabul is YAK. (ISWC) Hrd in Sweden w/ENG. to Eu. 1900-1930; EN 1905 on 9.705. (GDX) In Jan., was widely rptd TESTING on anncd 9.573 at 1300-1330, but lately has been "missing" there. Tests completed, changed freq.? (Ferguson, N.C.; Niblack, Ind.; KBLP, others) "Reprtly," is using 9.786 in ENG. 1900-1930. (Roth, Conn.) Asks for rpts to Technical Dept. of R. Kabul, Afghanistan. According to DW's DX b/c, "Siemens & Halske, West Germany, installed a SW xmtr system near Kabul. Xmtrs are for b/c to Eu., Af., and the F. East. The system includes a 50 kw xmtr, a 10 kw xmtr, several standby xmtrs, 4 directional antennae, and 2 nondirectional antennae." On veri card, R. Kabul lists 7.285 for Eu., but when last hrd was on anncd 7.155 w/ENG. 1900-1930 (En 1905); also listed 11.730 for S. E. Asia 1500-1530 in ENG.

ALBANIA—ZAA, 7.157, R. Tirana, noted 2130-2200 w/ENG. (DSWC) Hrd on 7.157, 7.852A at 1900 in Ar. (Pearce, England)

ALGERIA—R. Algeria, 11.835, noted 0735-0750. (GDX) Noted on 9.685 arnd 1940 in Ar. (Niblack, Ind.) The 6.145 outlet is quite strong sig at 0530 s/on, including N. Anth. (Niblack, Ind.)

ANDORRA—Andorradio, 6.305, hrd 2100-2300 s/off w/many nice musical programs—such as "L'Heure du Jazz," "Mosaik Andorradio." Also noted 1630-1700, 0710-0730. "This is becoming one of the most popular SW stns." (DSWC) R. Andorra is now on 5.890A to avoid QRM from R. Bucharest, Rumania. Has NEW "morning" program weekdays 0545-0700; sked is weekdays 0545-0800, 1100-2300; SUN. 0900-2300. (R. Andorra via SCDXers) Excellent level in Ind. arnd 0600. (Niblack)

ANGOLA—CR6RZ, 17.795, Luanda, Emissora Oficial de Angola, noted w/N in Pt. 2220, s/off 2230 w/"A. P." (MONITOR, ISWL, England) Same noted in Kansas. (Freeland via AMSWLC) R. Clube de Huila, Sa da Bandeira, VR6RH, 5.024, hrd a couple of times 2100 with piano solos; complete ID 2129 in Pt. followed by "A. P." and off 2131. (Berg, Conn.)

ANTARCTICA—On Jan. 1, OR4RU, 24.715, stn of the Belgian Antarctic Expedition near the So. Pole, was hrd w/New Year's greetings to families in Belgium 1230-1400. (Uthoff, Germany, via GDX)

ARGENTINA—LRX1, 6.120, Buenos Aires, R. El Mundo, noted 2300 w/musical program. R. Nac.,

LRA32, 9.690, Buenos Aires, observed w/EN 0500 s/on to 0510; music 0516, talk to 0520; ID 0530, 0545 w/ENG. program. (MacKenzie, Calif., Backus, Va., Freeland, Kans., via AMSWLC)

AUSTRALIA—VLW9, 9.610, Perth Wn. Australia, usually is good level arnd 1300 when has ABC news. ENCA beam from R. Australia, Melbourne, is now over VLB11, 11.710, replacing 11.810, at 1214-1315 daily; RADX is SUN. 1300; the WCNA daily beam is still hrd over 11.810, with RADX on SUN. 1600. (KBLP) VLM4, 4.920, Brisbane, Queensland, observed in ENG. as EARLY as 0800, as LATE as 1000; vy good sig in Wash. State, but bothered on lower sideband by commercial T/T outlets. (Palmer) The NEW EXPERIMENTAL xmtr, VLY, 25.735, Melbourne, has been hrd in Calif. at weak to fair level 0000-0200, parallel VLD, 21.540. (Balbi) Reported hrd in Japan, N.Z., England. (RADX) VLI6, 6.090, Sydney, New South Wales, logged 1102-1115 w/ABC news. (Whitaker, Ind.)

AUSTRALIAN NEW GUINEA—VLT6, 6.130, Pt. Moresby, S3-9+ but w/heavy QRN 0830-0845 on a SUN. with religious service in ENG.; relays ABC from MW 9PA. (KBLP) Hrd 0900-1200 w/news, comedy, play, music; good sig; all-ENG. (Urbelis, N. Y. State, Freeland, Kans., via AMSWLC) Weak in Calif. when checked 0810. (Howald)

AUSTRIA—S/off 0900 on OEI30, 5.985. (GDX) This one observed s/on 0658 w/ID by man in Ger., ENG., Fr.; said, "This is Austria Calling"; program of native choral music followed; excellent sig, but much weaker by 0750 recheck. (Cox, Dela.) Noted s/off 1900 on 9.670A w/Ger., ENG., Fr. anncmts; said TEST xmn is 1700-2000 CET (1600-1900 GMT) on 9.670. (Pearce, England)

AZORES—CSA97, 4.865, Ponta Delgada, still vy strong 2000-0000 s/off. (DSWC) Excellent level 2230 in Pt. (Roth, Conn.)

BARBADOS—In early Jan., ZNX32, 7.547, Bridgetown, was hrd arnd 2105 w/rpt on cricket game; closed 2118; another day closed 2153. (Ferguson, N.C.) This station is used ONLY vy IRREG for sportscasting. (Ed.)

BECHUANALUND — According to NNRC, ZNB, Mafeking, has been observed 1100-1200 on 5.900, 8.230; NE 1110-1125.

BELGIAN CONGO—OTH, 9.210, Leopoldville, RCB, logged in Fr. arnd 1712; QRM'd on lower sideband by T/T outlet. OTM2, 9.383A, Leopoldville, RCB, hrd arnd 1715 in Fr., Flemish, and w/classical music. (Palmer, Wash. State, via URDXC) (KBLP) Elisabethville has MOVED from 5.933 to 5.951, tuned 1950 w/native vocals; final ID by woman 2002, then s/off w/musical number; CWQRM at times. (Cox, Dela.)

BELGIUM—ORU, 17.845, Brussels, excellent level 1952 tune-in and to 2100 tune-out in Flemish, Fr.; parallel on 17.860, but weaker there. (Callarman, Texas) ORU now varies with NEW nice cd in attractive colors. (DW) Balbi, Calif., rpts 11.855 has REPLACED 11.850 at 2315-0100 to N. Am., parallel OTC, 9.655.

BOLIVIA—CP5, 5.975, La Paz, R. Nac., hrd 0010-0030 w/pop recordings, Bolivian folk songs; ID by man in Sp. as "R. Nac., La Paz." (DSWC) A NEW stn on SW is R. Universidad, Potosi, 1 kW, 9.605, 1230-1400, 1500-1730, 2000-0200. (SWDXers) Another NEW stn noted daily arnd



0000 on 9.290 is Camire; commercial; ID 0220, 0245 w/"Transmitedora para uds. The UNID Bolivian stn on 9.198 is R. Guavira, Santa Cruz de la Sierra, possibly TESTING on SW/MW; anncd 9.200; hrd QSA4. (Roga, Brazil, via GDX) QRA is R. Guavira, Casilla 84, Santa Cruz de la Sierra, Bolivia. (GDX)

**BRAZIL**—ZY26, 6.035, R. Globo, Rio de Janeiro, noted 0005-0030 w/sportcast in Pt., pop songs. (DSWC) R. Timbira, 15.215, Sao Luiz, noted 2200 w/ENG. program especially for listeners in USA, Eu.; called "Music of Brazil." (DSWC) ZYR83, 9.635, R. Aparecida, good sig 2315. "Emissoras Associadas de Sao Paulo" on SUN. 1300-1415 b/c a special program of classical music from the Municipal Theater, Sao Paulo, over ZYB7, 6.095, ZYB8, 11.765, ZYB9, 15.155; also over R. Cultura, ZYR57, 9.745; is titled "Mercedes-Benz Morning Concert"; anncd in ENG., Fr., Ger., Pt.; rpts asked to "Radio Difusora de Sao Paulo," Sao Paulo, Brasil. (Henley via ISWC) R. Em. Paransense sent ltr in ENG. for reception of ZYS43, 9.545; said s/off 2205. (GDX, others) PRA8, R. Clube de Pernambuco, noted operating in the 25-m. band 0105 tuning on 11.862M, probably MOVED here to avoid SBC, Berne, 11.865, Switzerland; is on IRREG sked. (Nblack, Ind.) A NEW stn, I.T.A., S. Jose dos Campos, Sao Paulo, noted TESTING on 17.725 at 0015 parallel 11.725; 7.5 kW. (Tavares, Brazil, via BDXC)

**BRT. GUIANA**—ZFY, 3.255, Georgetown, R. Demarara, noted 0230-0255 w/ENG. variety program of vy good quality; strong level w/intermittent QSB; readability fair to good in Ont., Canada. (White) Vy good on 5.981 outlet arnd 1000-1100; features "morning" music, devotionals, EN, commercials. (KBLP)

**BRT. HONDURAS**—BHBS, 3.300, Belize, noted 0200 in ENG. (Boggs, Mo.) is "powerhouse level in Ont., Canada, arnd 0035-0115 checks when was 10 db over S9. (White)

**BULGARIA**—R. Sofia, 9.700M, excellent 1930 and 2130 w/EN, commentaries to Eu. (KBLP) Noted 0100 w/EN in beam to N. Am. (Boggs, Mo.) Logged in Australia 2300 w/music, news, fair level. (Sanderson)

**BURMA**—The BBS, Ragoon, 9.540, 1100-1415 daily; also 0100-0200, 0530-0700 daily except MON. (Sked from BBC via SCDXers) ZK2, 4.795, hrd vy well w/native music arnd 1200-1500, QSA/K3-4, CWQRM. (GDX)

**CAMBODIA**—Currently, "Radiodiffusion Nationale Khmere," No. 28 Av. Preah Moha Ksatey, nong Ksamak, Phnom-Penh, Cambodia, runs 4 xmters—7.182, 1 kW; 6.090, 1 kW; 4.907, 1 kW, and 1,410 kcs., 10 kW. The F. Serv. includes FRENCH 1330-1345, 1930-1945 (N), 7.182, 6.090, 0400-0500 (except THUR., SUN.), light program, and THUR., SUN. "request" program, 7.182, 6.090, 4.907, 1,410 kcs. ENGLISH 0300-0330, Stn officials say that "owing to the Communist Chinese's help," RNK will greatly improve its installations. TWO NEW xmters are already installed—ONE of 15 kW is TESTING "every morning" (local time) in the 19-25-, and 31-m. bands (w/recorded Cambodian music); and ONE MW xmt of 20 kW which soon will REPLACE the 10 kW xmt on 1,410 kcs. R. Cambodge, 7.182A, hrd 1410-1430 in Fr., pop music. (DSWC)

**CAMEROON (FR.)**—R. Cameroun, 4.975, Yaounde, operates now SUN. 0530-0730, 1400-2200; SAT. 0530-0730, 1500-2200; other days 0530-0730, 1700-2100; on 9.663, SUN. 0700-1400; SAT. 0700-0730; other days 0700-0730, 1115-1400. (Buettner, German, via ISWC) R. Yaounde, 4.977, and R. Garoua, 5.010, observed to PAST 2200 on 1-1-60, probably to celebrate the country's "new independence status." Quite a bit of noise from the natives could be heard. (Cox, Dela.)

**CANADA**—CBNX, 5.970, St. John's Newfoundland, hrd 0930 QSA2-3, QRM'd by HI4T, Dominican Rep., from 0945 (HI4T begins programming now 0958A). (GDX) CBC's Northern Serv., SW TEST xms effected last fall, are on 11.760, 1200-1230 except SUN.; 15.320, 1515-1545, 2200-2230 daily; 11.720, 9.585, 0300-0400 daily. (CBC via DSWC, GDX)

**CANARY IS.**—EAJ8AB, 7.295, S. Cruz de Tenerife, R. Club Tenerife, hrd to close 2357. (MONITOR, ISWL, England) EAJ8AB runs only 250 watts; closes SAT. 0100. (Adolfsson, Sweden, via SRK)

**CAPE VERDE IS.**—CR4AC, 3.949A, S. Vicente, R. Clube Varlavento, logged 2300. (MONITOR, ISWL, England)

**CEYLON**—The Commercial Serv., R. Ceylon, Colombo, is sked 0130-0330, 15.265; 1245-1630, 6.004, 9.520; send rpts to G.P.O. Box 1510, Terlington Sq., Colombo, Ceylon. (ISWC) Lately, the 15.265 outlet has not been relaying BBC news 0200 as formerly but, instead, has had "Ceylon Home News" to 0210. (Roth, Conn., KBLP) Logged 0245 with recordings, frequent time checks, commercials. (Boggs, Mo.) The Native Serv. on 15.120 is fair to good in W. Va. from 0130 s/on in Asiatic dialects. (KBLP) In Calif., this one is fair to good most days, similar level there to the 15.265 outlet. (John, Marjorie Gibson)

**CHILE**—CE960, 9.600, Santiago, R. Pres. Balmaceda, hrd with native-type music 2230-2300. (DSWC) CE1174, Sangiango, has MOVED to 11.740M, noted on several checks arnd 0130. (Nblack, Ind.)

**CHINA**—Hupei, 3.940, hrd 1510-1525, Chinese music; on same freq. as R. Hong Kong. (DSWC) Szechuan, 7.225, hrd 1616-1630 w/Chinese theater. (DSWC) R. Peking noted w/ENG. 1900-2000, 2030-2130, 9.457, 7.080; observed on 15.060 at 0830-0930, another day also 0930-1030 in ENG. (Pearce, England) Backus, Va., reports Chinese spkr on 9.992 hrd 1245 as Yunnan. (AMSWLC) R. Peking varies correct rpts in about a month. (DW) Peking's H. Serv. observed on 7.370, 1416-1428 w/Chinese, bad QSB; unusable PAST 1429. Hrd on 9.020 excellent level in longpath sig arnd 0000, all-Chinese; on 9.065 at same time but not parallel 9.020. (Palmer, Wash. State, via URDXC) R. Peking now noted using 9.780A with EN 1600, fairto good. (Balbi, Calif.) A Chinese outlet on 5.011A logged 1223 with woman in dialect is believed Nanning; Peking, 4.620, weak 1230 with woman in Chinese. (Cox, Dela.)

**CLANDESTINE**—"ZPX14, La Voz del Movimiento 14 de Mayo, por la libertad Paraguaya en el Ano de la libertad del Paraguay," hrd on 14.250 at 0230-0245 w/talks, music. (E. Tavares, Brazil, via SCDXers) "Radio Free Africa" noted 1730-1740 s/off w/drums, ID in Ar. (no ENG. noted) on 17.890V. (QUERY: Is there any way to get a



report to this one, please?") (Roth, Conn.) Purportedly is located in Egypt and financed by the Naser Gov't; noted in Wash. State daily 1700-1740 w/native drums at s/on, s/off; Kiswahili language; has political speeches, L. Am. flavor recordings; after initial speech, plays Harry Belafonte's recording of "Home, Sweet Home" (Af. calypso song); at 1715, is "ruined" by Lisbon s/on 17.895. (Palmer) R. Liberacion, 6.088, hrd arnd 0000 and later w/long-winded speeches, primarily concerning Venezuela, although also mentions other L. Am. countries; talks are repeated each hour or so; very strong sig in N.J.; talks are by man OR woman (?) w/"a Gravel-Gertie-like voice, hi!" (West) I presume this is in Sp. (Ed.) For some months, a Rumanian-spkg anti-Communist stn has been hrd, often UNDER JAMMING QRM, 2230-2300 on 6.055, 7.040, 0100-0200; 6.075, 6.115, and 0330-0430, 5.950; hrd in Germany. (SCDXers)

COLOMBIA—HJEX, 6.054, Cali, R. Pacifico, has daily program FOR OVERSEAS LISTENERS called "His Majesty of Bambuco," featuring native music 0430-0500. (SCDXers) NEW is R. Vision, Medellin, TESTING 6.105; hrd in Stockholm 0010-0115. (Blomkvist via SRK)

CONGO REP.—R. Brazzaville now observed on NEW freq. of 15.190M in Fr. when tuned 2200. (Niblack, Ind.) Is using NEW 15.200 in Serv. to Afr. at 1810-2300, REPLACING 5.970. (WRHB) If not found on 15.200, try 15.190. (Ed.) R. A.E.F. noted to 1855, then R. Brazzaville from 1900 on 9.45, R. Inter-Equatorial, w/ENG. to 200.

COSTA RICA—TIHB, 6.006, San Jose, R. Reloj, hrd 2230. (MONITOR, ISWL, England) TIFC, 6.947A, San Jose, Faro del Caribe ("Lighthouse of the Caribbean"), parallel 6.037, noted 0400-0500 in ENG. (Boggs, Mo.)

CUBA—COCW, R. Rebelde, Havana, is now on 6.370; s/off 0500. (SCDXers) COBZ, 9.025, Havana, R. Salas, rptd w/ENG. religious program 0300. (Roth, Conn.)

CYPRUS—BBC's East Mediterranean Relay Station, 11.720, Limassol, has EN 0700. (Saylor, Va.) Hrd on 6.120 from 0330; ENG. dictation-speed and regular news from GOS to 0345, then goes into Ar. (Berg, Conn.)

CZECHOSLOVAKIA—R. Prague loved 0205 in Sp. on NEW freq. of 7.338M, good level but too close to CHU, 7.335, Ottawa, Ont., Canada, (Niblack, Ind., Ferguson, N.C.) Boggs, Mo., rpts R. Prague 0300 on 11.740A, 11.840, 9.660A, 9.550, 7.340 in ENG. to N. Am. Pearce, England observes Prague s/on 0830 for Australia-N.Z. on 11.840, 15.285, 21.450. TESTS WITH NEW ANTENNA SYSTEM found on 7.307, instead of 7.185, at 1530-2200; strong s/on in Czech 1530, ENG. 1900-1930, 2000-2030 (also hrd parallel on 9.550), 2100-2130 (also over 6.055, 9.550, 11.795 in parallel; Pearce) Hrd s/on in ENG. with musical session 1215-1245, 9.504, 11.725, 15.285. (Pearce)

DAHOMY—R. Cotonou, 4.870A, s/off 2200 SUN. w/"L. M." (Roth, Conn.) Weak 0530-0630 in Calif.; would "place" freq. as 4.875. (Balbi)

DENMARK—R. Denmark, 0ZF7, 15.165, noted w/ENG. 1530-1500 (not daily). (Pearce, England) Hrd to N. Am. 0130-0230, 0300-0400 on OZF5, 9.520. (Ed.)

DOMINICAN REP.—R. Santiago can be hrd as EARLY as 2200 on NEW 6.300 freq.; s/off seems to be 0200A now. (Boice, Conn.) HI1J, Voz de

Oriente, Macoris, is good on 6.025 arnd 0000; annces on the hour w/call; says it "covers all of Macoris, the Dominican Republic, AND THE USA!" (Berg, Conn.) HI15B, 4,890, hrd s/on 1100. (DW)

DUTCH NEW GUINEA—RONG, 7.190, Biak, hrd in Sweden almost daily 2300, starting in Malaysian; after short newscast, has wonderful guitar or dance music to 2330, then call in Dutch. (GDx)

ECUADOR—HCPT5, 6.029, Cuenca, La Voz del P. Socorro, hrd 2240. (MONITOR, ISWL, England) HCLS3, 4.810, R. Coro, hrd 0338-0358 s/off w/L. Am. music, commercials! ID 0357; SINPO 33333. (GDx) HCJB, 11.915, Quito, "La Voz de Los Andes," is excellent arnd 1200 in W. Va. Hrd in Ind. on 15.115 at 0205 with "Back to the Bible" session. (Whitaker)

EGYPT—R. Cairo, 11.670, hrd 0620-0700 w/ mostly non-stop music; 0630 EN at dictation speed; parallel 7.060A (7.050, perhaps?—Ed.). (DSWC) F. Serv., 12.030A, has Fr. 1900-1930; ENG. 2130-2230 s/off. (Buettner, Germany, via ISWC; others) Observed on 15.430 2000-2300 in Ar.; strong to fair level in Calif. (Balbi) At press time, Ferguson, N. C. flashed that R. Cairo has been logged on 17.690 at 1700-1900 (ENG. 1800-1830, Fr. 1830-1900). EN hrd on 17.915 at 1330, then commentary, music to 1400 when ENG. session ends. (Pearce, England)

EL SALVADOR—YSS, 9.555, San Salvador, hrd from 2210 w/music. (MONITOR, ISWL, England)

ENGLAND—Advance sked rcd direct from the BBC list N. Am. Serv. 1200-1215, 17.810, 1415-1815, 17.810, 1445-1545, 25.670, 1600-1815, 26.080.

ETHIOPIA—R. Addis Ababa was logged on MEASURED 6.182 w/ENG. ID 1625; weak sig with heavy QRM. (DH Correspondent in the Near East)

FINLAND—Via aerogram direct from Tor-Henrik Ekblom, DX-Editor and Secretary, FINLANDS DX-CLUB, Poste Restante, Helsinki, came this up-to-date information on press day:

The FDXC now does ALL ENG. b/c from the Finnish Broadcasting Co., Helsinki. This includes—(1) "AROUND THE WORLD," a DX program for SWLs, xmt'd the 1st and 3rd Fri. Each month 1600-1630 to Eu. over OIX7, OIX5, OIX4; same session SAT. 1130-1200 to N. Am., OIX5, OIX4 (from March 21-Sept. 22, Fri. 2030-2100, OIX5, OIX4). (2) "MUSICAL MAILBAG," a musical request program xmt'd the 2nd, 4th, and 5th Fri. each month 1600-1630 to Eu., OIX7, OIX5, OIX4, and SAT. 1130-1200 to N. Am., OIX5, OIX4 (from March 21-Sept. 22, Fri. 2030-2100, OIX5, OIX4). (3) "FINLANDIA MIXTURE," a program for everyone about Finland, xmt'd EVERY MON. 1800-1830 to Eu., OIX7, OIX5, OIX4, and EVERY TUE. 1330-1400 to N. Am., OIX5, OIX4 (from March 21-Sept. 22, EVERY MON. 2230-2300, OIX5, OIX4). "All detailed and correct reception rpts are verified by QSL cds of FBC and the FDXC."

SWLs are requested to mail rpts as well as comments concerning these programs to: THE FINNISH BROADCASTING COMPANY, DX-EDITOR, HELSINKI, FINLAND. Xmt'rs of FBC are at Pori, a little town on the western coast of Finland—OIX7, 6.120, 15 kW; OIX5, 17.800, 15 kW, and OIX4, 15.190, 100 kW (hrd best in USA-Canada—Ed.). Noted in Calif. over OIX4, 15.190,



1602-1630 tuning; ID in ENG. 1630; sig went "downhill" soon afterwards. (John, Marjorie Gibson)

FRANCE—RTF, 17.850, Paris, noted 1300-1315 w/EN. (DSWC) (Daily? Confirm, please.—Ed.) There is a Fr. Lesson in ENG. Serv. daily on 7.160; has nice programs for ENG. listeners SAT., SUN. 1400, 7.240. Write Eng. Serv., RTF, 118, Avenue des Champs-Elysees, Paris VIII, France. (Whitaker, Ind., via ISWC) Hrd on 21.580 w/interviews, commentaries in Fr. 1815-1845, apparently on and off at those times. (Callarman, Texas) Hrd on 21.580 in Fr. at strong level 1820. (Howald, Calif.) Observed on NEW 9.620M channel arnd 0645 w/IS, then "foreign" lingo. (Niblack, Ind.) Hrd in Australia on 6.200 (Paris-Inter) at 0645 w/music, N/Fr. RTF, 9.680, hrd 0600 w/Fr./N, world, local, then music. (Sanderson)

GABON—R. Libreville has completed TESTS; sked on 5.025, SAT. 0545-0615, 1730-2200; SUN. 1730-2100; other days 0545-0615, 1730-2100; on 7.272, SUN. ONLY, 0700-1300. (Buettner, Germany, via ISWC) Recently MOVED "down" to 5.025, hrd 2105 w/jazz music, excellent sig. Hrd on a SAT. to 2200, all pop music w/final ID by woman anncr; s/off w/"Ici Radio Gabon" than as "Radio Libreville." (Cox)

GERMANY (EAST—DDR)—R. Berlin-International, 11.755 ("meant for 11.765, perhaps"?—Ed.), ENG. hrd 1630-1700; rcd QSL cd. (Pearce, England) Hrd daily on 9.730, 6.115, 7.300 in ENG. 1800, 2000, 2200; Mailbag feature on FRI. Hrd in Ger. 1500 w/N on 11.765. (Roth, Conn.; Balbi, Calif., via AMSWLC)

GERMANY (WEST—FED. REP.)—RIAS-Berlin, 6.005A, noted 1505 w/pop music. (MALMO DX-aren, Sweden) Hrd in Conn. w/Ger. program, good light and jazz music 2230-2300; N on the hour. (Berg, Roth) DX b/c from DW are on this NEW sked (from 2-8-60—SECOND MON. of the month)—0810-0820, 11.795, 15.275, 21.650; 1710, 11.795, 15.405; 1840, 15.275, 17.815; 2340, 9.735, 11.945. Noted over 11.945 at 0400 w/N, followed by Ger.-ENG. Beginner's Language Course. (Boggs, Mo.)

GHANA—ZOY, 4.915, Accra, hrd 0600-0615 w/EN. (DSWC) S/on 3.366 at 0530 w/drums IS, followed by devotional services and home news 0600-0615; at 0615 takes BBC news from London; news again 0700, 0730; s/off 0745; 4.915 parallels. (Saylor, Va.)

GREECE—R. Athens, 11.718, s/on in Greek 1815 to close 1843; re-opened 1900. Anncg as "The Voice of Greece," hrd daily 1730-1745 w/EN on 17.778, 15.345 (anncd as in parallel, but not hrd in Conn.) (Roth) Both channels hrd in England. (Pearce)

GUATEMALA — TGNA, 5.952.5, Guatemala City, parallel TGNB, 9.668A, noted MON.-FRI. in ENG. religious release 0300-0400. (Boggs, Mo.) TGWB, Guatemala City, was hrd for a few days in Jan. on 6.199, but is now back on regular 6.180. (West, N. J.)

HAITI—4VHW, 6.200, Port-au-Prince, R. Haiti, noted w/dance music 2325. (MONITOR, ISWL, England). From Stewart C. West, Union, N. J., comes this valuable up-to-date info on some other Haitian broadcasters: R. Caribe, 6.015, Port-au-Prince, is a NEW xmtr that parallels 4VAB, 1,145 kcs., MW; s/on 1030; SAT. s/off hrd 0505; SUN. s/off is 0318 (MON. GMT); carries "La Voix du

Republic d'Haiti" parallel 4VB, 5.980A, at 1200. This xmtr WAS on 6.025 arnd Christmas, but LATELY has settled down on 6.015. 4VO, 6.093, R. Lumiere (Radio Light), Cayes, is a NEW one being hrd from this MISSIONARY "voice." Hrd best in N. J. at s/on 1030 and arnd s/off at 0230. Info rcd direct from the Rev. David N. Hartt, C. E.—4VO xmtr lacks only a few parts to be completed; powers at present are 4VI, 760 kcs., 1 kW; 4VU, 3,322, 50 watts; 4VO, 6.093, 200 watts. A BOOSTER STN is being planned for Jeremie, Haiti. Sked SUN. 1150-0230 continuously; MON.-SAT 1030-1300, 2200-0230. R. Lumiere is interested ONLY in coverage of Haiti, and thus ONLY Fr. and Creole are employed. The Rev. Mr. Hartt is seeking all available information on the possible development of a "PRACTICAL" mountain-top unattended FM relay stn powered by solar cells to use for links to Jeremie and Port-au-Prince (over the mountains). (If any reader has the desired info, please send it along to West at 1087 Azalea Road, Union, New Jersey, to be forwarded to the Rev. Mr. Hartt. Thanks! (Ed.) 4VU, 3,322, with ONLY 50 watts, gives surprisingly good reception during "darkness"; antenna is a "Lazy H" and QRA is Radio Lumiere, Box 71, Cayes, Haiti, W. I.

HOLLAND—R. Netherland, 11.730, 9.590, 6.020, Hilversum, observed w/ENG. to N. Am. now at the NEW TIME of 0130-0220. (Boggs, Mo., Balbi, Calif., others) On 25.610 logged w/"HAPPY STATION PROGRAM" at fair sig strength 1600. (Howald, Calif.) Incidentally, the "HAPPY STATION PROGRAMS"—prepared and presented by my good friend, Eddie Startz since the PIONEER DAYS of SWR (1928)—are sked SUN. to F. East, 1030-1200, 21.565, 15.220, to Eu. 6.020; to India, Af., 1600-1730, 25.610, 21.480, 17.775, to Eu. 6.020; to Spain, S. Am., 2100-2230, 15.220, 11.730, to Eu. 6.020; and MON. to N. Am., 0200-0330, 9.590, 6.025. (Info direct from Startz) PAODR, most northern Dutch amateur at Groningen, hrd on anncd 7.085 w/usual SUN. program of religious songs, organ music 1004-1102 s/off; antenna TESTS; gave calls in Dutch, Ger. (Pearce, England)

HONDURAS—HRTL2, 6.035A, R. Tegucigalpa, hrd 0102 w/ID, then N. Anth. (GDX) Re Honduras outlet on 5.995, this Sp-spkr DEFINITELY gives calls of "HR1, HRP," noted on several checks w/nice sig 0300. (Niblack, Ind.) HRDX, 4.940, Tegucigalpa, Voz de Suyapa, observed 1300, also arnd 0400. (Stark, Texas) HRQN, La Voz del Atlantico, Puerto Cortez, is on the air daily 1500-0300 on 4.880, w/500 watts, according to verie-ltr.

HONG KONG—R. Hong Kong rptd hrd in Chinese arnd 1300 on 3.940. (Plunkett, Ireland, via SCDXers) B/c in Chinese 2300-1600 over ZBW3. Hrd once w/QSA/K 5-6, no QRM; started with 15-second interlude of music as TEST; s/on 2300, gave call in Chinese, played soft music and had Chinese songs; 2230 had ENGLISH LESSON, then further musical session. (GDX)

HUNGARY—R. Budapest, 9.833, good level 1945 w/woman in ENG., but w/heavy QRN, CWQRM. When opens 0000 to N. Am., annces freqs. of 11.905, 9.83(3), and 7.200; begins w/EN. (KBLP)

INDIA—VUM, 4.960, Madras, noted 1608-1615. VUD, 4.960, Delhi, hrd 1630-1645 w/Indian music, songs; 1600 EN, commentary. (DSWC) AIR, 11.710, Delhi, noted w/EN 0231A. (Boggs, Mo.)



AIR, Delhi, s/on 1330-1430 s/off w/ENG. to S. E. Asia, 11.705, 21.605 (audible to good on BOTH in W. Va.—Ed.) VUD, 17.810, Delhi, found w/EN 0430, fair level in Calif.; has ENG. 0330-0415 in this beam. (Balbi) VUH, 4.988, Hyderabad, logged in Dela. w/IS 1230, then s/on in native; after news by man, at 1245 featured native-type music; weak to fair. (Cox)

INDONESIA—A NEW Indonesian stn hrd on 3.905 often starting 2230 with news in native that ends 2245, followed by "wonderful" guitar or dance music; QSA/K 4-5; closes 2331 w/Nat. Anth.; Indonesian stns on 3.935, 3.975 also v/good arnd 0000. (GDX) Hrd on 9.593A, Djakarta, 0230 w/ENG. (May be beamed to N. Am.—Ed.) Djakarta, 11.797A, excellent arnd 11.00-12.00 in ENG., and sometimes is still good sig when has further ENG. session beginning 1430. (KBLP) The ONLY Fr. session from Djakarta now is 1700-1800 over YDF8, 9.865, YDF2, 11.785, for Eu., N. Af., M. East. (Jager, Germany, via WRHB) YDF8, YDF2 (11.785M—Cox, Dela.) are used for ENG. to Eu.-N. Z. 1900-2000. (Cox, Dela.; KBLP)

ISRAEL—Current sked of "Kol Zion" ("The Voice of Zion"), Tel Aviv (relayed from Jerusalem). From April 1, a daily program to E. Af. will be INAUGURATED in ENG., Swahili, and Amharic. Last year, "Kol Israel" TESTED 11.845 for E. Af., results were very satisfactory. "Kol Israel" also announces PLANS to add a 250-kW xmtr to its Ar. Network in 1960. Tel Aviv's "unlisted" and "unannncd" outlet of 9.730A has SHIFTED SLIGHTLY to 9.727 where it was tuned recently from 1923 in language, parallel 9.009A and at stronger level in Dela. (Cox)

ITALY—RAI has Fr. for Canada daily 0050-0100, 15.400, 11.905; asks for rpts to Box 320, Rome, Italy. (Langevin, Canada, via ISWC) sked for ENG. b/c is to ECNA 0030-0050, 11.905, 15.400; to WCNA 0305-0325, 11.905, 9.575; to Australia-N. Z. 0900-0940, 21.560, 17.800, 15.325; to N. Af. 0920-0940, 15.120, 11.905; to UK, Ireland 1820-1840, 6.010, 9.575. (ISWC) Hrd on 21.560 w/excellent sig during short—1840-1900—I. xmn to C. and S. Am. (Callarman, Texas) Observed on 9.575, 6.010 w/ENG. for UK, Ireland 1820-1840. Hrd w/ENG. for Malta, Af., 11.905, 15.120 at 0920-0940. (Pearce, England) Logged on 15.325 at 0900 w/EN, music. (Sanderson, Australia)

IVORY COAST—Noted well most days from fade-in arnd 2030 to s/off arnd 2230 w/"L. M." On a recent SAT., however, was on the air to 2358 s/off. (Boice, Conn.) Hrd regularly on 7.215A, also SUN., from 0715 onwards; N/Fr. 0730; powerful sig but fades out 0830; on SAT., still hrd 0630-0800, parallel 4.942A channel which is at poor level then in Calif. (Balbi)

JAMAICA—Recently, the freighter, "BOSTON TRADER," MAEB, was hrd weakly on 2.752; it was anchored at the time at Kingston, Jamaica. (Stanbury, Ont., Canada, via URDXC) Hrd in Dec. but NOT LATELY was the Jamaica Broadcasting Corporation, Kingston, in ENG. over 20.770A, 1900-2015. (Rother, Conn., others) Hrd in Kans. w/BBC news relay, music 1800-2000; also a Cable & Wireless, Ltd., stn near Kingston was hrd on 7.930 at 2245 w/strong sig. (Freeland via AMSWLC)

JAPAN—JOB20, 9.525, Tokyo, has ENG. 0600, nice level in Va. (Saylor) In the ECNA beam, R. Japan has not been doing so well lately over 17.855, but by 0100 reception improves greatly;

same goes for parallel 15.325 outlet. (Updike, Mo.) Hrd on JOZZ, 6.055, w/pop musicals 0930-1100; SINPO 43353 in Sweden. (Ericson via GDX) FEN, 6.160, Tokyo, often hrd in Sweden from 2320A. (GDX) Hrd in Mo. on 11.750 w/music 1330-1400, then EN. (Boggs)

JORDAN—According to ltr from the Installation Officer, Amman is most likely to TEST freqs. of 6.020 (already TESTED!), 7.290, 11.920, 15.440, 17.840, and/or 21.530; xmtr on 6.020 is 7.5 kW at present, feeding a two-stack omnidirection antenna; this spring, a 100 kW xmtr will come into operation; later in the year, directional antennae will be completed. (Kleijn, Holland, via GDX) Rptd widely TESTING on 6.020 arnd 2000 w/frequent calls in BOTH ARABIC and ENG.; asked for rpts to the Hashemite Broadcasting Service, Box 909, Amman, Jordan; hrd LATE as 2145, but with severe QRM from 2115 when R. Nederland opens on 6.020. (Pearce, England, others)

KASHMIR—R. Kashmir, 4.860, noted 1530 w/EN (probably relayed from AIR—Ed.) (MALMO DX-aren, Sweden)

KENYA—Kenya Bdcstg. Serv., Nairobi, noted 0350 tune-in w/talk, prayer, instrumental music, then BBC news 0400 on 4.885. The 4.885 outlet is noted in Australia 1730 on a SAT. w/"Saturday Night Theatre" feature, news 1800, then music. (Sanderson) The 4.855 channel of VQ7LO was logged from 1956 w/native music and s/off 2000 w/"GSTQ" (instrumental); not parallel 4.885 which closed a few seconds later w/CHORAL version of "GSTQ." (Cox, Dela.)

KOREA (NO.)—R. Pyongyang, 2.850, hrd 2310-0045 w/Russian and music; later has gymnastics similar to Peking, Hanoi. (Uthoff, Germany, via GDX) Hrd on 6.195 arnd 0700, also on 6.250, but not parallel. (Roth, Conn., via AMSWLC) H. Serv. observed on 6.195 at 1030-1035A w/IS on xylophone (sol-mi-fa-sol, do-me-fa-sol) at 1030; Korean language. (Palmer, Wash. State)

KOREA (SO.)—HLK5, 9.649A, Seoul, noted 1045-1500 w/ENG., Japanese, Fr. (DSWC) HLK50, 2.510, Seoul, hrd 2340. (MONITOR, ISWL, England) HLK5, 9.640, hrd 1400 in ENG. (Boggs, Mo.) Good sig then in Conn. (Roth) NEW xmsn 0730-0830 observed on 15.258A; EN 0730; Korean 0800; s/off 0830; call is HLK7; HLK6, 11.740, has REPLACED 11.920 at 1600-1700; EN 1600; Korean 1630. Is right on top of VLC11, 11.740, Melbourne, Australia, causing slight QRM; fair to good level in Calif. (Balbi)

KUWAIT—R. Kuwait, 4.967, noted often in Denmark 1800-1900 s/off w/all-Ar. program. (DSWC) "At long last, have rcd first reply from R. Kuwait"; QSL cd came for reception of the NEW 4.967 channel; all-Ar. xmsn hrd to 1900 (sometimes as LATE as 1930) s/off. (Pearce, England)

LEBANON—R. Beirut, 8.000V, noted 1645 w/Ar. vocals; 1700 talk in Ar. Another day noted 1500-1800 tune-out; all-Ar. 1600-1700 (appeared to be BBC's Ar. Serv.); closed w/march-anthem 2200. (Pearce, England) Logged 0716 w/Ar. chanting to 0724, when ended abruptly; Ar. annmcs again 0725 and had Ar./N to 0728 when gave ID in Ar., ENG., Fr.; after a strange instrumental melody, stn closed. (Beaver, Colo., via NNRC)

LEEWARD IS.—R. Antigua, 3.255, logged through CWQRM 2310. (MONITOR, ISWL, England)



**LIBERIA**—ELWA, 11.995 (anncd), hrd WED. ONLY to N. Am arnd 0200-0300. (Dalton, W. Va.) Boggs, Mo., lists freq. for this xmsn as 11.980A, and says is ALSO hrd EARLIER on WED.—0000-0100—on 15.198A. NEW high-powered xmtr may be in operation by now. (Ed.) January was "Letter Month" at ELWA; sent souvenir calendar to those who wrote in during that month. (Roth, Conn.) ELWA TESTED its NEW 50 kW Gates xmtr at full power for the first time on Dec. 21 at 1005 "local" time (0920 GMT—Ed.); regular service was to have begun w/the Billy Graham Crusade on Jan. 22.

**LUXEMBOURG**—R. Luxembourg lately has been on 15.335, instead of 15.350, where has clear channel; good 0600-1100. (Bluman, Israel, via SRK) Good on 6.090 from 2130 w/pop music; slogan is "Station of the Stars." (Roth, Conn.)

**MADAGASCAR**—FIQA, 5.010, Tananarive, observed w/classical music from 1535. (MONITOR, ISWL, England) Hrd on 7.260 w/Fr. 1610. (MONITOR)

**MALAYA**—R. Malaya, 6.025, Kuala Lumpur, w/xmtr at Kajang, should have EN 1130, 1300. (Ed.)

**MARTINIQUE**—Good on BOTH 5.994 and the NEWER outlet, 3.315, at s/on 1015. Before settling down on 3.315, experimented for a short time on 2.420. (Stanbury, Ont., Canada) Widely reported.

**MAURITIUS**—This seldom-rptd stn can be hrd in Wn. Australia REGULARLY arnd 1600 on 3.325; using 10 kW, according to veri-ltr. (Cyril Anderson via SCDXers)

**MEXICO**—XEHH, 11.880, Mexico City, has a beautiful signal and fine musical programs arnd 1200-1300, hrd in N. Y. City. (Mast) XEWW 9.500 Mexico City, hrd 0445 w/Sp. news, music. (Sanderson, Australia) XDA232 "desde la Oficina de Radiotelefonias Internacional," Mexico City, noted TESTING on 21.775A at 1840. (Callarman, Texas)

**MONACO**—3AM3, 6.035, R. Monte Carlo, hrd 0700-0730. (DSWC) Noted parallel on these channels SUN. 2205-2300 w/"Request Program for listeners all over the world." (ISWC) N/Fr. 0700. (MALMO DX-aren, Sweden) In cooperation with R. Monte Carlo, "The Voice of Tangier" plans to start xmsns from Monaco sometime during 1960; will be one of the strongest stns in the world. (GDX, others)

**MOROCCO**—VOA Relay Base, 21.455, Tangier, S5-7 to 1800 s/off w/ENG.; on 21.705, S3-6 at 1803 in Slavic language, s/off 1900; hrd on 17.705 at 1943 in Slavic tongue, beset by JAMMING!—s/off 2000. (Callarman, Texas) Listed Ar. Network of RNM (Radiodiffusion Nationale Marocaine), 5.968, Rabat, from the Sebaa-Aioum xmtr, is very good level from 0645; s/on w/ENG., Fr., Sp., etc., then has news and dance music; carries FRENCH—NOT Ar.—on THIS channel. (Berg, Conn.)

**MOZAMBIQUE**—CR7AA, 7.250, Lourenco Marques, R. Clube de Mocambique, ENG. Network, noted 1650. (MONITOR, ISWL, England) The ENG. program is also audible over CR7BW, 3.221, 2.5 kW, 0330-0430; s/on of Pt. on weekdays is now 0445. (WRHB via GDX)

**NEW CALEDONIA**—CD in from R. Noumea states the SW 4-kW xmtr is using a "Delta array" beamed NE/SW; nice cd in black on white; veri message on back was initiated "R. L. L." (Berg, Conn.) Hrd 0800 w/Fr. ID, local and home news

to 0315 ID, then talk, still in progress at 0825 tune-out. (Beaver, Colo., via NNRC)

**NIGERIA**—Kaduna, 3.326, parallel Lagos, 4.990, s/on 0510 w/trumpet IS; ENG. annctm, followed by native program in Afrikaans; news 0600, 0700. (Saylor, Va.) Hrd in Calif. from 0555 tuning w/native-type music, chants; at 0600 ID and anncd local time as "7 o'clock," then had BBC news relay to 0615, w/sig deteriorating shortly thereafter. Hrd from 0540 over Lagos, 4.990, w/continuous martial music to 0600, then had time pips before relayed BBC news; sign fair w/some QRN. (John, Marjorie Gibson)

**NEW ZEALAND**—ZL2, 9.540, parallel ZL7, 6.080, Wellington, noted 0815 w/"Variety Round-up" session; 0840 program summary; 0844 close; 0900 re-opened on same channels for Australia, w/"Magazine Program"—news, sports. (Pearce, England) Surprisingly enough, lately I have had a readable sig as EARLY as 1800 (EN) (Nblack)

**NICARAGUA**—YNMS, 7.660, Leon, covered 2330 tuning by carrier, but tuned again 0200 when was in clear w/regular Sp. programming. (Roth, Conn.)

**NORFOLK IS.**—A PREPARED QSL cd from R. Hoare, VK9RH, operator of Aeradio Stn VZNF, 11.290, includes this data—power 250 watts; antenna "L"; xmtr RCA AT3; stn was hrd 0635 with WX rpt to Australia; QSL rcd after 11-1/2 months! (DW)

**NORWAY**—R. Norway, 21.670, S3-6 at 1840 check w/music; weaker AFTER 1900. (Callarman, Texas) Hrd opening on 11.735 at 0358 w/IS, 0400 annctms in Norsk, ENG. (Palmer, Wash. State) Very good level in W. Va. but w/light QRM-QRN at 1150 w/music; at 1155 man ID in ENG.: "This is Radio Norway," and then anncd in ENG. for next orchestral number. (KBLP)

**OKINAWA**—VOA Relay Base, 7.160, Naha, noted 0700-0730 in ENG. (Pearce, England) Hrd on 15.380 at 1500 w/ID in ENG., JAMMED! (Roth, Conn.)

**OUTER MONGOLIA**—Ulan-Bator Radio is working on NEW freq. of 7.275 at 0800-1500 w/same programs as on 6.345, 10.337A, but is not daily; is on IRREG sked. TESTING? (Tabuchi, Japan, via WRHB) Noted on 10.550 in Russian and w/music 1245. (Saylor, Va.)

**PAKISTAN**—R. Pakistan, Karachi, hrd w/EN 1445-1500, 15.160, 11.674. Uses 21.590 for EN 0800.

**PARAGUAY**—R. Guarani, 15.200M, noted w/commercials in Sp., pop USA music, QSA/K3-4; closed or "disappeared" 2247. ZPA10, 6.015, R. Paraguay, Asuncion, is on the air 1000-1200, 1500-1700, 2100-2400. (GDX)

**PERU**—"R. Junieta, Una Voz en el Centro del Peru," 5.905A, hrd arnd 2300 w/QSA4-5; OAX-Z SW; QTH unknown, possibly in Junin, Huanuco, or Ayacucho; hrd by Roga, Brazil. (DSWC) OBX4C, 15.170, Lima, R. El Sol, fair sig on clear channel w/full ID in Sp. 2230; commercials. R. Nac. del Peru, Lima, observed 2335 w/"Canciones del Peru" over OAX4T, 15.152A. (Callarman, Texas) OAX4R, 9.562, Lima, hrd in Australia 0430 w/Sp. news, music; OAX4T, 15.150, logged 0415 w/similar session. (Sanderson) A NEW stn on SW is OAX7H, R. Puno, Puno, using 5.500A, hrd to s/off 0400. (NZDX TIMES via WRHB)

**PHILIPPINES**—The 30-m. outlet noted UP to 9.732 BEFORE 1330 in Asiatic language. (Stark, Texas) And on 11.920 in Far East languages 2230-



2300 s/off w/ENG. ID every 15 minutes. (Berg, Conn., KBLP) Logged by Cox, Dela., on 3.345 at fair level 1210 w/religious program in language; ID by man 1230. Fades fast AFTER sunrise at reception point. Hrd by Balbi, Calif., on 17.805, DZ16, strong 2100 onwards; EN 2330.

**POLAND**—The Polish Boy Scout Radio Station, Warsaw, is on the air 1330-1500 on 6.850A; programs are in ENG., Fr., Polish—consisting of music, anncmts each half hour. (Lovstrom, Norway, via SCDXers)

**PORTUGAL**—CSB52, 6.154, R. Renascenca, noted in Denmark 2345-0000 s/off w/modern dance music; closed w/religious-type choral music. (DSWC) Hrd in Colo. 2342 w/Pt. talk; gong tone 2345, Pt. anncmts, and sacred music to 2355; off 0001 AFTER more Pt. anncmts and hymn tunes. (Beaver, Col., via NNRC)

**PT. GUINEA**—CMQ, 7.948, Bissau, hrd 2100-2230 w/dance-type music; SINPO 32222. (GDX) Good level in Conn. 2200-2259 s/off; ID: "Aqui Bissau, Emissora da Guinea," every 15 minutes; closed w/"A. P." (Boice)

**PT. INDIA (GOA)**—R. Goa, 4.850, 9.610, now has ENG. 0630-0730.

**REUNION**—R. Reunion was "hrd a moment" recently on 3.395 arnd 1600, but "disappeared" in the CW shortly. (Magnusson, Sweden via GDX) This "is" a rare "catch," hi! (Ed.)

**RHODESIA AND NYASALAND**—FBC, Salisbury sometimes can be hrd on 6.018 between 2015-2105 s/off w/"GSTQ." (FRI. has "Review of Road Conditions" at 2030; all-ENG. and is the Commercial Serv. FBC, 4.911, Salisbury, noted from 2030 w/dance music and ENG. ID; the outlet has not been audible lately. (Cox, Dela.) At press time, Niblack flashed from Ind. a suggestion to try 4.911 AFTER 0400 for Lusaka in ENG. (Commercial Serv.)

**RUMANIA**—At press time, Cox, Dela., flashed that he had just logged R. Bucharest on NEW freq. 9.254, excellent w/EN 0100-0110, then ENG. talks.

**SARAWAK**—R. Sarawak, 4.950, Kuching, strong sig at 1100 w/time pips, ID for "Radio Sarawak," gave local time (by woman anncr) as "7 p.m.," then had "Chimes At Eventide" session to 1115; ID again and gave time as "7:15 p.m." This is the ENG. Serv. (Balbi, Calif.)

**SENEGAL (FR. W. AF.)**—At press time, Saylor, Va., flashed that R. Mauretanie, 4.855, has "power-house-like" sig at 0700 s/on to 0800 s/off; carrier comes on 0645A; opens with strange type of stringed instrument being strummed, has a range of about four notes; N/Fr. 0730. Balbi, Calif., logged R. Mauretanie in EXPERIMENTAL xmsns in early Jan. 0700-0735A on NEW freq. of 9.610, ID: "Ici Radio Mauretanie" by man; IRREG QRM'd by VOA Relay Base, 9.615, Tangier, Morocco. R. Mali noted on 4.955 (instead of 4.950), parallel 7.210, with dance music; s/off 0807. Still on 4.955 at 2120 check. (Cox, Dela.)

**SIERRA LEONE**—SLBS, 3.316, Freetown, s/on 1745; in ENG. from 1800; (Wood, Germany, via ISWC) Anncg as "Freetown Calling," noted 0145-0200 w/home news in ENG. and African dialect; lots of QRN on this one! (Roth, Conn.) Sked daily 0640-0800, 1645-2200: BBC world news 1800 has been REPLACED by SLBS news in Mende, Temne, and Krio, but BBC news can now be heard at 2000, followed at 2010 by SLBS news (ENG.). (SCDXers)

**SINGAPORE**—R. Malaya, 7.260 (probably is the LISTED ZHL7, 7.250 outlet—Ed.), noted at 1130 w/news and music. (Sanderson, Australia) ZHL10, FBS, 5.010, Singapore, noted 1223 w/ENG. music, language; weak but vly clear. At press time, BBCFES, 11.930 (anncd) was excellent level in W. Va. arnd 1030-1100 w/GOS from BBC, London, then from 1100 w/FES. (KBLP)

**SOLOMON IS.**—VQO2, 5.960, Honiara, now hrd almost daily to 1030 closedown; 0945 has local N, WX rpt; 1000 pop music or show; QSA/K4-5; probably NEW 5-kW xmtr is in use now. (GDX)

**SOMALILAND (BRITISH)**—At press time Stark, Texas, flashed that R. Somali, Hargeisa, "is finally getting down where it belongs; is now 9.667A and a low-side het. on TGNB, 9.668, Guatemala, to 1400+; by 1405 was down to 9.666; running abt 20 M.V.; may go from Somali language to ENG. arnd 1515 or 1530." This is a real "toughie" to log! (Ed.)

**SOMALILAND (FRENCH)**—R. Djibouti, 4.780, is noted regularly in the N. East arnd 1700 w/fair sig when QRN permits! ID in Fr. is hrd on the hour, quarter-hour, and half-hour. (DH Correspondent in the Near East)

**SPAIN**—RNE, 6.130, Madrid, noted 2020-2050 in ENG. for Eu. (DSWC) Freqs. of 7.100 9.585 parallel in this xmsn. (Moss via ISWC) Has MOVED from 6.000 to 6.011. (MALMO DX-aren, Sweden) Observed on 9.363A from 0315 w/ENG. to N. Am. (Boggs, Mo., others) Hrd on 15.420 at 2245 in Sp. to L. Am; S8-9 but QRM'd AFTER 2300. (Callarman, Texas)

**SP. GUINEA**—A Sp.-spkg stn hrd on approx. 6.690 at vly weak level by Johannson, Sweden, may be R. Calatrava, 6.670, Rio Muni, listed in WRH but never reported to verify. (SCDXers)

**SUDAN**—R. Omdurman, 11.855A, noted with pre-sig-on activities 0412, and coming on 0415 in Ar. session. This is approx. its ORIGINAL freq. when it first put its xmtr on the 25-m. b. and BEFORE it started to "wander" around the band. (Niblack, Ind.)

**SUDAN (FRENCH)**—R. Bamako, 4.825, logged 2100, weak sig. (MONITOR, ISWL, England) Listed by Balbi, Calif., as on 4.835, weak at 0600 check.

**SURINAM**—PZC, 15.405, Paramaribo, noted w/excellent sig, some ENG. commercials from 2300. (Roth, Conn.) Tuned on a TUE. 0135 and found in ENG., reading listeners' rpts and stating that replies were on the way! Played some pop recordings. Has this one instituted a "Listener's Corner"? And is it now QSL'g? There must be a change in policy, Niblack, Ind., comments.

**SWEDEN**—Strong level in Calif. on 9.620 arnd 0320, and on 11.810 at 0215 check. (Howald) Hrd in Australia over 6.095 with Home Service at 2130 with N/Ger., then musical session. (Sanderson) R. Sweden started a new language course, "Swedish by Radio," in Jan. Course books will be sent free-of-charge from R. Sweden, Stockholm, Sweden. (SCDXers) ENG. to N. Am. now is from 0145 to ECNA, 9.620, 11.810; at 0315 to WCNA, same channels.

**SWITZERLAND**—HER8, 21.520, Berne, S4-8 at 1746-1830A in Fr. programming; better sig AFTER 1900 in Ger. from Beromunster Studio, switching back to Fr. 1920; HEI9, 21.605, S3-7 w/het-whistle w/birthday greetings, requests in It. 1800-1825, left the air 1830. (Callarman, Texas)



SYRIA (UAR)—R. Damascus now uses these freqs. for its H. Serv.—665 kcs., 746 kcs., 5,660, 6,165 (50-20-20-, 20-kW, respectively). (Uthoff, Germany, via WRHB) Hrd on 15.165 at good level during EN 2015-2030 s/off. (KBLP)

TAHITI—R. Tahiti, 6,135, Papeete, hrd w/musical program in Fr., s/off 0730 w/"L. M." (JSWC) Hrd 0445-0500 in Tahitiennne, and 0500-0545 in Fr.; on New Year's Day had a program of "greetings" from other Fr. radio stns around the world—such as Saigon (R. VTVN), R. Noumea, R. Monte Carlo, others. (Palmer, Wash. State)

TAIWAN (FORMOSA)—AFRT (U.S. Armed Forces), 7,215, Taipei, noted 1630 w/jazz music. (MONITOR, ISWL, England) At press time, "The Voice of Free China," Taipei, had excellent sig over 11.815, fair on 15.345, excellent on 17.755, and fair to poor on 7.130 (returned here recently from 7.230A) at 1005 beginning ENG. session: (KBLP) Carries the "Little Dragon" (disc-jockey) Show (ENG.) 1230-1330. Has EN 1030-1040, then recordings. (Saylor, Va.)

TANGANYIKA—What is "believed" to be a NEW outlet of Dar-es-Salaam is noted daily in the N. East on 4.785 at various times arnd 1730, anncg as the "2nd Program of the TBC"; BBC news is relayed 1800. (DH Correspondent in the Near East)

THAILAND—R. Bangkok, 15,380, hrd 0930 to Thai Army in Korea; 1020-1130 ENG., 1145 Chinese to 1155 s/off; reported 0415-0515 to N. Am.; at 0530 in Fr. (JSWC) (Is the 0530 Fr. also beamed to N. Am.—Ed.) At press time, Cox, Dela., flashed he had logged R. Bongkok on 5.299 at 1228 w/man and woman in Thai; weak but vy clear sig, and with no trouble from R. Peking, 5.295. The 7.300 outlet, HSK6, is audible in Dela. PAST 1300; had clock strikes 1300, ID by woman anncr, and freqs. were given.

TOGO—R. Lome, 5,036, hrd 2125 w/music. (MONITOR, ISWL, England) Stn officials list power as 4 kW on "regional Fr." veri card just crd. (Boice, Conn.)

TUNIS—NEW is R. Tunis, reported ID as "Huna Tunis" on 6.108A, s/off arnd 0800; also hrd on same channel arnd 1900, but then under heavy QRM. (Plunkett, Ireland, via SCDXers, others) At press time, Ferguson, N. C., flashed he had noted this one from 2000 to 2119 s/off (another day s/off 2113). Balbi, Calif., flashes that he has logged R. Tunis on 9.630, strong when s/on 0500 w/"Huna Tunis" ID; all-Ar. w/some Wn-type musicals; hrd to 0815; QRM'd by CKLO, Montreal, Canada, same freq.; R. Tunis also hrd by Balbi 1600-2000.

TURK AND CAICOS IS.—Turks Island Radio, VSI, hrd weakly on 2.752 at 2305. (Stanbury, Ont., Canada, via URDXC)

TURKEY—TAV, 17,820, R. Ankara, hrd 1530-1600 w/ENG. to S. Asia. (DSWC) The 9.745, 7.285 channels now offer very good reception "Down Under" in ENG. beam to Wn. Eu. 2100-2145. (Hawthorne, Australia, via RADX) Noted back on TAT, 9.515, to N. Am. in ENG. 2315-2400. (Niblack, Ind., Balbi, Calif., others) WINTER sked of R. Ankara reads—ENGLISH—1500-1530, 17.820 to S. and S. E. Asia; 2100-2145, 7.285, 9.745 to Wn. Eu.; 2315-2400, 9.515 to N. Am.

UNIDENTIFIED—A NEW Mexican xmtr, yet UNID., is being TESTED near 11.730, starting 1456. (Arenlt, Ill., via SCDXers)

UPPER VOLTA—R. Haute Volta, 4,815, is now on REGULAR sked—SAT. 1800-2030, other days 1900-2030. (GDx) Hrdin Sweden s/off 2130 w/"L. M." QSA2-3, QRK2-0, vy QSB, CW and other QRM. (Ture Olsson, GDx)

URUGUAY—CXA71, 9,515, R. Sarandi, noted 2230-2245 w/commercials, music. (DSWC) CXA2, 6,075, Montevideo, R. Ariel, hrd 2252 w/commercial anncmt. (Tavares, Brazil, via DSWC)

USA—According to a newspaper dispatch, work will be started shortly on the first phase of a \$25-million SW b/c center for VOA near Greenville, N. C. The U.S. Information Agency had called for bids for clearing 4,000 acres of commercial pine forest so that construction of its new consolidated East Coast facilities project could be started. (John, Marjorie Gibson, Calif.) WRLU, World Wide Broadcasting System, 1 East 57th Street, New York 22, N. Y., USA, broadcasts to Eu. MON-Sat. 2100-2215, SUN. 1900-2200, 15,380, 17,750. (SCDXers) Also has an "evening" (EST) xmtn to Latin America. "The Voice of the M. T. D.," New York, belongs to the Maritime Trades Dept., 675 Fourth Ave., Brooklyn 32, N. Y., USA; broadcasts EVERY SUN. 1620 over WFK95, 15,700, WEL65, 15,850, WFK39, 19,850. Reception rpts welcomed. (Info DIRECT from stn via SCDXers)

U. S. AFRICA—SABC, 9,523, is putting in a fine sig in Va. arnd 0500 and later, in Afrikaans, says Saylor. He reports Springbok Radio (Commercial Service) can be hrd arnd 0400 in ENG., parallel over 4.945, 7.229; news 0430 and 0500 after clock session which chimes 7 times (for "7 a.m." local time in S. Af.). Pearce, England, notes SABC, 25,800, parallel 15,200, s/on 1100 to 1800 s/off; EN 1115; some days uses Afrikaans rather than ENG. The 25,800 channel usually is quite good in W. Va. arnd 1600-1800 closedown; at least some days has EN 1700 and (on SAT.) this is followed by a fine disc-jockey type request show. (KBLP)

USSR—Ashkhabad, 4,235, noted 1830-1900, Russian. (DSWC) R. Baku, 9,840, noted 1604 w/ID: "Houna Baku." (MALMO DX-aren, Sweden) R. Tashkent, 11,690 (best-heard), 7,100, has RETIMED its ENG. b/c—now 1200-1230, 1400-1430. (Boggs, Mo., Niblack, Ind., KBLP, others) At press time was noted at good strength on 7.100 at 1200 in ENG. Vladivostok, 4,040, hrd in Dela. 2230 w/man, woman in Russian; fair but w/CWQRM; poor by 2255. (Cox) As of Jan. 2, R. Moscow was to b/c a 10-minute DX Program in ENG. on 2nd and 3rd SUN. 0050, 0350 in the program to ECNA, and 0415 to WCNA. At s/on 2300, these freqs. are anncd—11,690, 9,680, 9,590, 9,570, 9,500, 7,390, 7,240, 7,200, 7,180, 7,150. (WRHB; KBLP)

VATICAN—HVJ, 11,685, excellent SUN. 0846 tune-in w/MASS in progress; sig steady at 10-20 dbs over S9 level in W. Va.; (KBLP) Hrd on 15.120 w/EN 1500. (Boggs, Mo.) Logged on 9.464 at 0028 w/IS, s/on 0030 in Sp. to L. Am. at strong level of 40 dbs over S9. (Niblack, Ind.) HVJ, 21,515, hrd opening 1535 w/carillon music, followed by bells; s/off 1600; good strength in Calif. (John, Marjorie Gibson) (Not daily and may be TUE. ONLY? I believe this is in ENG.—Ed.) Roth, Conn., FLASHES that HVJ, the Vatican City Radio, will build some xmtrs in The Philippines in the near future—also in other parts of the world.

(continued on page 31)



## DH SW Abbreviations and Symbols

(It is suggested that you clip this list of DH SW "SPACE-SAVERS" and then keep it HANDY for EASY REFERENCE.—K. B.)

A—approximate(ly). ABC—Australian Broadcasting Commission, Melbourne, Australia (and other cities in Australia). Af.—Africa(n) (type of music.) AFRTS—Armed Forces Radio and Television Service, United States (and relay points). AMSWLC—American SWL Club, Cranford, New Jersey, USA. AIR—All India Radio, India. annc—announcement. anncd—announced. anncmt—announcement. "A. Pt."—"A Portuguesa" (Portuguese National Anthem). approx—approximate(ly). Ar.—Arabic (language or type of music). arnd—around. BBC—British Broadcasting Corporation, London, England. BBCFES—British Broadcasting Corporation (BBC) Far Eastern Station, Singapore. B/C or b/c—broadcast; broadcasted; broadcasting. BCB—broadcast (medium-wave) band. BCC—Broadcasting Corporation of China, Taipei, Taiwan (Formosa). bdcst/g.—broadcast; broadcasted; broadcasting. BDXC—Brazilian DX Club. BHBS—British Honduras Broadcasting Service, Belize, British Honduras. B. W. Af.—British West Africa(n). B. W. I.—British West Indies. C. Am.—Central America. CBC—Canadian Broadcasting Corporation, Montreal, Quebec, Canada. cd—card. c/l—call letters. condx—condition/s. cont'd—continued. cpy—copy. CQ—call to everybody (or anybody). c/s—call sign/s. CW—code (Morse). CWQRM—code (Morse) interference. DH—DX-ing HORIZONS. DHNE—DXing HORIZONS Correspondent in the Near East. DSWC—Danish Shortwave Club. Dom. Serv.—Domestic Service. DW—Deutsche Welle, Cologne, Germany (Federal Republic). DX—long-distance reception. DXBC—DX broadcast. DXR—DX-Radio, house organ of the Radio Club of Sweden (Sveriges Radioklubb or SRK). E.—East. E. Af.—East Africa(n) (type of music). ECNA—East Coast of North America. Ed.—Editor; edited. EN—English news. En.—Eastern (type of music). Eng.—English. Eu.—Europe(an). FBS—Forces Broadcasting Service. F. East—F. East(ern) (type of music). FEBC—Far East Broadcasting Company, Manila, The Philippines. FEN—Far East Network (AFRTS), Tokyo, Japan. FES—Far Eastern Service. FIBS—Falkland Islands Broadcasting Service, Port Stanley, Falkland Islands. FM—frequency modulation. Fr.—French. freq.—frequency. F. Serv.—Foreign Service. F. W. Af.—French West Africa(n). GDX—GDX-aren, house organ of the Goteborgs DX-Club, Sweden. Ger.—German. GOS—General Overseas Service (BBC, others). "GSTQ"—"God Save the Queen" (National Anthem of the British Commonwealth of Nations). het.—heterodyne; heterodyned; heterodyning. hrd—heard. H. Serv.—Home Service. ID—identifies; identified; identifying. info—information. IRC—International Reply Coupon. irreg—irregular(ly). IS—interval signal. Is.—Island/s. ISWB—international shortwave band. ISWBC—international shortwave broadcast(er/ing). ISWC—International Short Wave Club, London, England. It.—Italian. ITU—International Telecommunications Union. JSWC—Japanese Short Wave Club. KBLP—Ken Board's Listening Post, Morgantown, West Virginia, USA. KBS—Korean Broadcasting System, So. Korea. kc/s—kilocycle/s. kW—kilowatt/s. L. Am.—Latin

America(n). "L. M."—"La Marseillaise" (French National Anthem). Itr—letter. M—measured frequency. m.—meter/s (metre/s). m. b.—meter (metre) band. mc/s—megacycle/s; meg/s. mc/s b.—megacycle band. M. East—Middle East(ern) (type of music). MW—medium-wave (broadcast) band. N—news. N. Af.—North Africa(n). N. Am.—North America(n). N. Anth.—National Anthem. NE—news in English. N. East—Near East(ern) (type of music). NNRC—Newark News Radio Club, New Brunswick, New Jersey, USA. nr—near. NZBS—New Zealand Broadcasting Service, Wellington, N. Z. NZDXRA—N. Z. DX Radio Association. NZRDXL—N. Z. Radio DX League. O. Serv.—Overseas Service. pop—popular (music). Pt.—Portuguese. Pt. E. Af.—Portuguese East Africa(n). Pt. W. Af.—Portuguese West Africa(n). QRA—address; location. QRG—wavelength (or frequency). QRK—signal quality. QRM—interference from another radio signal. QRN—atmospherics (static); also, manmade interference. QSA—signal strength. QSB—fade; fades; faded; fading. QSL—verification; veri; verify; confirmation of reception. QSO—contact. QTH—location; address. R.—Radio. RADX—"Australian DXers Calling" (DX broadcast by Radio Australia, Melbourne, Australia). RAI—Radiotelevision Italiana (Radio Italiana; Radio Roma), Rome, Italy. RCB—Radio Congo Belge, Belgian Congo. rcd—received. rcr—receiver. RFE—Radio Free Europe. R. Lux.—Radio Luxembourg, Luxembourg. R. Nac.—Radio Nacional. R. Nat.—Radio National. RNE—Radio Nacional de Espana, Spain. rpt—report. rptd—reported. RRI—Radio Republik Indonesia, Indonesia. RTF—Radiodiffusion-Television Francaise, France (also, some French possessions). rx—receiver. SABC—South African Broadcasting Corporation, Union of South Africa. S. Af.—South Africa(n). S. Am.—South America(n). SBC—Swiss Broadcasting Corporation, Berne, Switzerland. SCDXers—"Sweden Calling DX-ers" (DX broadcast and/or script of Radio Sweden), Stockholm, Sweden. Serv.—Service. sig—signal. SINPO—reporting code (Signal strength; interference; noise; propagation disturbance; over-all merit). sked—schedule/s; scheduled. SLBS—Sierra Leone Broadcasting Service, Sierra Leone. s/off—sign-off. s/on—sign-on. Sp.—Spanish. spkg—speaking. spkr—speaker. S. T. B.—"Star-Spangled Banner" (National Anthem of USA). SW—shortwave. Sw.—Sweden; Swedish. SWB—shortwave band. SWBC—shortwave broadcast; shortwave broadcasting. SWL—shortwave listener; shortwave listening. SWR—shortwave radio. TBT—total broadcasting time. UAR—United Arab Republic (Egvt, Syria). UER—Union Europeenne de Radiodiffusion. UK—United Kingdom. UNID—unidentified. UNR—United Nations Radio. URDXC—Universal Radio DX Club, Vallejo, California, USA. USA—United States of America. U. S. Af.—Union of South Africa. V—varies; varied; varying. veri—verification; QSL; confirmation of reception. verid—verified. veries—verifies. VOA—Voice of America, USA (and relay points). VITVN—Vo-Tuyen Vietnam, Saigon, So. Vietnam. VUNC—Voice of the United Nations Command, Japan and/or So. Korea. VV—Voice of ietnam, Hanoi, No. Vietnam. W.—West. w/—with. W. Af.—West Africa(n). WCNA—West Coast of North America. W. I.—West Indies. W. I. F.—West Indies Federation. WIBS—Windward Islands Broadcasting Service, St.

(continued on page 31)



## TV-FM DX VIA THE AURORA

(continued from page 6)

in the 200 years that records have been kept, peaked in 1958. Since the peak in aurora activity follows the actual sunspot peak, and as aurora are most frequent in spring and fall months, this spring should bring widespread aurora displays with accompanying DX reception. Aurora like other ionospheric phenomena caused by solar radiation tends to recur in 27 day cycles when the same area of the sun is again facing the earth (due to the sun's 27 day rotation period). Aurora reception may occur at any time of the day or night but in my DXing location at Truro, N.S., it seems to be most common from 1600-0200 L.S.T. (local standard time) and least common from 0800-1300 L.S.T. Of course few checks have been made between 0200 and 0600 L.S.T. Reception may last from a few minutes to several hours or for even a day or more at a time.

### AURORA FREQUENCY

At times of sunspot maximum aurora displays are very common in the region extending outward 1,000 to 2,000 miles around the geomagnetic pole which is located in northwestern Greenland (Chart Two). During this period aurora occurs frequently in Canada and the northern United States but are less common farther south and very rare in the Southwest, Texas, and Florida. Aurora DX reception is so common in Canada that I do not always check particularly for it; besides I am unable to DX consistently year-round; but my notes indicate that over the past three years it appeared on the low band two days out of five and on the high band one day in ten or twelve.

Many TV DXers have logged TV audio on the low band via the aurora. Outstanding results have been obtained by DXer Richard Nieman of Buffalo, N.Y. who has received audio from 19 stations including all 12 VHF channels, and he has identified video on channels 2 and 4. Amateur radio operators have made numerous contacts on the 50, 144, and 220 megacycle bands and there seems to be every reason to believe that FM DX is feasible too. UHF DX may even be possible via the aurora. Here lie great possibilities for the alert FM DXer to increase his station total and the opportunity for both TV and FM DXers to observe another form of DX propagation. In spite of its limitations it seems to me that aurora reflection is a mode of propagation whose potential has yet to be fully developed.

## SHORTWAVE PROFILE

(continued from page 12)

and more recently became a member of a "brand-new" club — the American SWL Club.

August has served as *Official West Coast Monitor for Radio Australia* since 1941. He compiled the PHILCO Shortwave Log for many years, and for still many other years, he published his own Shortwave Log.

August contributes to DX sessions around the world—such as those of *Radio Australia*, *Radio Sweden*, *Deutsche Welle* (Cologne, Germany), 4VEH (Cap Haitien, Haiti)—as well as to the *World Radio Handbook*, the radio clubs and of course, to *DXing HORIZONS!* He was the *longest, most consistent, and most valuable* contributor to the *International Shortwave Department of RADIO & TELEVISION NEWS* (now *ELECTRONICS WORLD*) during 1944-1955.

In 1934, the Los Angeles *EVENING RECORD* described August as "the most methodical shortwave dialer in town." The reporter who wrote that piece should see August's Shortwave Log now! *I have seen it! His Log contains page after page for each band, with frequencies listed every 5 kc, and includes all stations he has heard on each individual frequency!*

When I visited August some years ago, "the" veri that "took my eye," so to speak, was that of TI4NRH, "The Voice of Costa Rica," Heredia, Costa Rica, 9.670, established by *Amando Cespedes Maria*, on May 4, 1928. According to the QSL, "TI-4-NRH (then NRH) was one of the original five shortwave stations of the world, establishing Costa Rica on the same level of radio with England, Holland, and the United States of America.

Needless to say, August Balbi has upheld the finest tradition of the serious shortwave listener!

—KEN BOORD

## WEAK SIGNAL INDUSTRY

(continued from page 15)

Channel 4 received signal measures at 125 microvolts, the Channel 3 received signal measures at 150 microvolts, both before amplification.

The transmitting antennas cover an area five miles wide in a valley which runs north-south (Yellowstone River Valley).

### SERVICING-LICENSING

The whole operation can be turned off in 30 minutes driving time, and at pre-determined times by the time clock. A Second Class Radio-Telephone Engineer lives in Gardiner, and he will serve as engineer when VHF repeaters eventually become licensed and legal.



## THE WORLD AT A TWIRL

(continued from page 28)

An item from EPI News Service says that Vatican Radio officials state that the reason for building is that "many Far-Eastern countries cannot be reached at present by our transmitters in the Vatican."

VENEZUELA—YVMZ, 9.530, R. Popular, hrd 0245-0330 s/off w/typical L. Am. programming; QSL recd after 13 days! (DSWC) YVKT, 3.245, hrd w/ENG. session 2300-2400A arnd holidays; USA recordings, folklore program, "This is Venezuela." (Uthoff, Germany, via GDX) R. Rumbos, 4.970, Caracas, fair w/music in Sp. 0620 tune-in; R. Bolivar, 4.900, strong w/music, Sp. anncmts 0145; R. Occidental, 4.940, strong w/music, Sp. language 0147; R. Coro, 4.950, strong w/music, Sp. anncmts 0150; R. Barquisimeto, 4.990, strong w/music, Sp. 0200; E. Ecos del Zulia, 5.040, fair w/music, Sp. 0205; R. Yaracay, 4.860, fair w/music, Sp. 0350; R. Caracas, 4.920, strong w/music and rebroadcast from BBC in Sp. 0518. (Howald, Calif.) R. Barquisimeto is on MEASURED 9.510, and not on LISTED 9.505; checked 0155 w/N/Sp. (Niblack, Ind.)

VIETNAM (NO.) — "Voice of Viet Nam," 9.763A, Hanoi, noted 1415-1500 in Vietnamese w/native-type musicals. (Palmer, Wash. State) The F. Serv., 9.840, parallel 11.840, hrd w/good sig in Calif. in EN at dictation speed 0815-0855 s/off; may not be daily. (Balbi)

VIETNAM (SO.)—R. Hue, 7.205, noted 1350. (MONITOR, ISWL, England) VTVN, 9.754, Saigon, vy strong sig 1500; closed 1600 w/clear ID, but w/lots of QRM. The 9.576 outlet also closes 1500 now, is all in dialects. The 9.624 channel is in Fr. to 1430.

WINDWARD IS.—WIBS, 5.010, St. George's, Grenada, hrd 2135 w/music. (MONITOR, ISWL, England) Logged on 15.085 2300 in ENG.; hrd on 5.010 w/ID 2200. (Boggs, Mo.) Observed 2354 w/local news in progress, read by woman anncr. (Callarman, Texas) This "local" news is oftentimes "very interesting"! (KBLP) Noted on 3.365 w/request session 2320-2345 followed by local news 2346; BBC news relay 2300; parallel 5.010, 15.085. (Urbelis, N. Y. State, via AMSWLC)

YUGOSLAVIA—R. Beograd, 6.150, noted 1830-1900 in Eng. to Eu. (DSWC) Hrd on 15.240 w/EN 1445. (Boggs, Mo.) ENG. hrd 1445-1500, 1545-1600, 15.240, 11.735; 1830-1900, 6.150, 7.200. (Pearce, England)

CLUB NOTES—BRAZIL—The Brazilian DX-Club, Lopes Trovao, 118, apte. 303, Niteroi, Rio de Janeiro, Brasil, publishes "Brazilian DX-News" ONLY for contributors and DX clubs. (WRHB) DENMARK—The Danish Shortwave Club has just begun its fourth season; it started in Nov. 1958 with six members and in January 1960 had reached the 167th-member mark. Membership in this club is 20 IRCs per year. Members who AIRMAIL rpts to this club will receive the "Kortbølgenyt" ("Shortwave News"), its monthly house organ, in return BY AIRMAIL. NEW QRA of DSWC is Barfredsvej 53, FredericksHAVN, Denmark. Sample bulletin on request (specify whether you want ENG. or Scandinavian Edition, says Jensen). ENGLAND—NEW QRA for the International Short Wave League (ISWL) is 12, Gladwell Road, London N. 8, England. (WRHB) Prints its monthly

house organ, MONITOR. (Ed.) FINLAND—QRA for FINLANDS DX-Club is Poste Restante, Helsinki, Finland. SWEDEN—DX-Alliansen consists of Swedish clubs and "unions." If you wish to contact a Swedish DX club, or need information about one, or Swedish DX matters, write to the Secretary, DX-Alliansen, Hilleby, Sweden (SVERIGE). (WRHB) USA—NEW QRA for Universal Radio DX Club (URDXC) is 109 Mesa St., Vallejo, Calif. (Chas. Norton, President) A BRAND-NEW USA club is the AMERICAN SWL CLUB, 46C Parkway Village, Cranford, New Jersey, USA. So far, membership in this club has been FREE. Editor is Ken Mac Neillage (address above), and SW Editor is Maxey Irwin (118 Public Square, Sparta, Tenn., USA). The first issue of the club's monthly house organ was at the end of 1959. DH wishes this new club "every success!" (Ed.)

S O S . . . AND A CHALLENGE!—An old SWL-friend, William N. (Bill) Roemer, Route 3, Box 44, Bowling Green, Kentucky, USA, for the PAST THREE YEARS has logged an EASTER (CATHOLIC) MASS on the eve of Easter—this year that would be at 2200 GMT, SATURDAY, APRIL 16—indicating that the b/c originates in the Central European Time Zone. Bill has been unable to ID this b/c although in past years he has made BOTH tapes and discs of the program, and has sent them to various places in an attempt to get ID (including the St. Maur's Monastery). Freq. has VARIED 11.725-11.728V as MEASURED on a BC-221 freq. meter. Bill—AND your SW Ed.—would appreciate it if DXers in any part of the world—who can—would "be on the alert" for a similar MASS b/c THIS YEAR and, if ID is established, kindly let us know. THANKS! Bill says LAST YEAR he hrd the ENTIRE MASS with no QRM or QSB. WHO IS IT?—Ed.

APPRECIATION—Thanks to each of you for your most splendid cooperation and help—SWLs, SW broadcasters, DX editors, radio clubs, and others around the world!

DEADLINE—Send rpts for APRIL DH to Ken Boord, 948 Stewartstown Road, Morgantown, West Virginia, USA—to reach me by MARCH 10. DEADLINE for MAY DH will be APRIL 9. Thanks! See you next month?

... 73 ... K. B.

## DH SW Abbreviations and Symbols

(continued from page 29)

George's, Grenada, B. W. I. w/1—wavelength. Wn.—Western (type of music). WRH60—1960 Edition of WORLD RADIO HANDBOOK, Copenhagen, Denmark. WRHB—WORLD RADIO HANDBOOK Bulletin, Copenhagen, Denmark. WX—weather. xmsn—transmission. xmtr—transmitter. "555"—reporting code (Signal; Interference; Over-all merit (running upwards from 0-5 under each heading)). 73—Best regards! —K. B.

This table will be presented next in the May DXing HORIZONS.



# PROPAGATION REVIEW

## SHORTWAVE

The shortwave reception field has long needed a clearing house for better understanding of what goes into the mechanics of shortwave radio reception. That is the purpose of this section of "Propagation Review."

As the earth moves in its revolving path around SOL the natural angle caused by the earth's 23 degree tilt on its axis has strange effects on the ionosphere, the region responsible for shortwave radio reception. For discussion purposes the F2 layer (the layer most frequently associated with shortwave reception) is evenly distributed above the earth's surface (at the same given latitude) at any point around the globe. Therefore the reflective qualities which a portion of this layer over (say) the South Pacific may have as compared to those same qualities a portion of the same layer over the North Atlantic (at the same sun time, but at different latitudes) is entirely dependent upon the angle between the layer, and the striking rays of the sun's ultra violet radiation, (and secondly) the time of day. The angle variation is actually another way of stating that the time of year is also an important factor in the degree of reflective qualities that a layer takes on (as the angle between the sun's ultra violet radiation streams and the earth's ionosphere is caused by the earth's tilting on its axis, a factor which changes geometrically, but not physically, as the tilted earth revolves around the sun during the course of the year).

The "angle" we speak of can be likened to the varying length of days and nights all over the globe as the sun seems to move higher in the sky in the summer time (regardless of which hemisphere you live in) and lower and lower in the winter. In the winter time in the northern hemisphere, the north pole is tilted away from the sun, and the bulk of the earth is actually between the north pole and the sun, shielding it from the sun's rays. By the same token the long winter nights of Alaska in December have a June counterpart on the southern tip of South America, when Alaska, with the North Pole NOW pointing at the sun, is receiving almost continual sunlight. In the mid-latitudes (Europe, Japan, U.S.A.) we experience less variation in the length of day and night, and at the equator there is no variation.

All of this material is elementary, but is presented with the thought in mind that if you understand the varying degrees of daylight, you can also understand the varying degree of shortwave radio conditions at different periods of the same year. For as the sun's light rays sweep the earth's surface for varying periods of time from day to day (as the tilt CHANGES, in the revolving process of the earth about the sun), so does the ultra violet radiation which acts as a catalyst to cause the F2 layer to take on reflective qualities (and bounce shortwave signals around the globe), disregarding for this discussion the actions of the sun spot cycle.

With this in mind, we note that March brings a semi-annual occurrence into view . . . the coming of spring, which like the coming of fall, (speaking

in terms of the northern hemisphere now) produces a day with equal daylight and night time, March 22. With the spring equinox, comes vastly improved shortwave conditions to the South Pacific area, and to a certain extent, South America and South and Central Africa. Reception conditions across the North Pacific have already begun to drop off as this is read, and they will continue to deteriorate until next fall. Similarly, the higher shortwaves (19, 17 and 15 meter bands) towards Europe and the western USSR can be expected to become progressively worse in the coming weeks. Not all is on the bad side however, as the following "band charts" should show.

### 3.0 MEGS TO 5.0 MEGS (110-60 Meters)

For North American SW fans, best time of the year to log Africans (1900 LST-0200 LST), Northern South Americans (2000 LST-0000 LST), South Pacific Stations (0000 LST-0700 LST)

### 5.0 MEGS TO 8.0 MEGS (60-35 Meters)

For North American SW fans, excellent reception to Southern Asia, Western Pacific 0000 LST to 0800 LST. Good reception from Europe (1800 LST-0200 LST). West Coast DXers, fair reception from Europe on long path (across Pacific) and Africa (across Pacific) 0500 PST-0800 PST. Excellent South American reception 1800-0700 LST.

### 9.0 MEGS TO 12.0 MEGS (31 to 24 Meters)

This is probably the best SW range during March for world-wide reception. The 9-10 meg region and the 11.5-12 meg region will provide the best quality reception on a world-wide basis from 1700 LST to 0800 LST. Reception (generally) from your eastern direction in the early evening, south from 2000 LST to 0600 LST, and west from 2100 LST on. North American reception of Australia, New Zealand, and other South Pacific services is especially good in the early morning hours in this range, as well as those lower in frequency.

### 15.0 MEGS TO 18.0 MEGS (19 to 17 Meters)

On both bands the outstanding signals will come from the South Pacific (to North America) from 1800 LST, and South America from 1500 LST. African reception will be fair to good from 0800 LST to 1400 LST. European reception will hold up on 17 meters through May with gradually lessening quality. European DXers will find these bands good to Africa and South America from 1400 GMT-2200 GMT.

### 21.0-22.0 MEGS (15 Meters)

Through March, reception to South America and the South Pacific will hold up well on these frequencies, with good results as late as 2200 LST. Over the Northern Pacific, and the Atlantic (northern portion) signal strengths are already falling off with reception for shorter periods of time than in previous winter months. Daytime African reception, especially from South and Central Africa, should hold up through March in the morning hours, LST. Evening reception from South American stations on some days will be surprisingly good from 1700-2300 LST.



# FCC Analyzed

## NEW "V's" FOR GRAND RAPIDS, PROVIDENCE

Concurrent with its holding off policy on adding more VHF channels on an interim basis to some under allocated regions, the FCC has issued a proposed rule making to establish a new Channel 11 at Grand Rapids, and Channel 6 at Providence. The FCC has apparently decided to quell some of the uproar began by broadcasters and networks in areas where population is thick, but all 3 networks are not represented. Proposal to add Channel 11 to Grand Rapids will make it under the standard 170 mile separation for zone one stations. WTTW, Chicago, and WTOL, Toledo are both within 160 miles of Grand Rapids. Additionally, WLK, Marietta, Wisc. will have to shift from Channel 11 plus (offset) to 11 minus to accommodate the new Grand Rapids stations. Grand Rapids is currently held down by WOOD (8), and served by WKZO (3). UHF (23) WMCM has a grant at Grand Rapids, but is not on the air. They will probably apply for Channel 11 there.

In Providence, the Channel 6 shoehorn will come from New Bedford, Mass., one of our topics on this page in February. The four applicants for the New Bedford Channel 6 finally merged early in February, but probably too late to get the grant. The location the New Bedford group decided on was beyond the 170 mile inner limit set by the FCC, but the Coast Guard objected to the site, because of a nearby Loran station. While the New Bedford group and the Coast Guard were hassling, the FCC quietly, behind closed doors, decided to move the Massachusetts allocation to Rhode Island!

### UNTIL APRIL 19!

The FCC will listen (?) to comments and suggestions relative to the above two suggested drops (FCC term for shoehorning), and several others they have not yet pinpointed, until April 19.

### TUCSON PROTEST

KOLD (13) and KVOA (4) proposals to move their transmitter sites to Mt. Bigelow have met with protests from third Tucson station, KGUN (9). KGUN says the proposed KOLD and KVOA moves to the mountain will keep their signals from serving a substantial section of Tucson with the required city grade signal. Of course the fact that KOLD'S move would increase its antenna from 100 feet above ground to 3,747 feet above ground has nothing to do with the protest! KVOA's antenna would go from 30 feet above terrain (NOW . . . I know why they are so weak on E skip!) to 3,682 feet.

### NEW CHANNEL 8 . . . ARKANSAS

Channel 8 granted in Jonesboro should be mere formality now that KBTM withdrew its competitive application against George T. Herneich there. Herneich application asks for maximum power, tall tower.

### TELEPROMPTER EXPANDS

The company responsible for the idiot boards behind the actors of the same malady on today's video are expanding in two fields. Last November 25th they announced purchase of Silver City, New Mexico cabled TV system of 750 subscribers. Now

they announce plans to buy Farmington (N.M.) system of 3,500 subscribers, and Rawlins (Wyoming) Community TV System.

### CHANNEL TWO . . . ONE UP, ONE DOWN

One of the last big market vacant channels, is no longer . . . with grant of Channel 2, Portland, Oregon to "Fisher Broadcasting Company." Fisher plans a late summer start.

In another Channel 2 move, Video Independent Theatres (VIT), owner of KVIT (2) Santa Fe, New Mexico in surprise move gave grant back to FCC. This move after long legal fight to move the Santa Fe grant to a point near Albuquerque to give the station big market status. After refiguring costs, owners of the station told FCC "We can't see where the income will justify the expense" and handed back the building permit.

### GEORGIA CHANNEL SWITCH

WTVY (9) Dotham, Alabama objections to FCC proposal to move WTVY to Channel 4 have died. This clears the way for an early shift of the Alabama station to Channel 4, with WRBL (4) Columbus, Georgia, shifting to 3, and WTBM (28) Columbus shifting to Channel 9. This will make Columbus an all VHF market.

### WEST VIRGINIA'S MIGHTIEST!

WJPB, Fairmount-Weston-Clarksburg, W. Va. will be on Channel 5 by April 1, according to the station. They originally operated on Channel 35, until recent FCC decision giving them VHF channel. The new Channel 5 will operate with 100 kW (color too!) from 1,700 foot mountain at Jane Lew, W. Va.

### NEW FM STATIONS

New on the frequency modulated waves are WFLM, Ft. Lauderdale, Florida (105.9 mc/s) and WAQE-FM, Baltimore. WFLM signed on January 30, while WAQE took to the airwaves Feb. 6. In late December (31st) WKDN-FM, Camden, N. J. took to the airwaves on 106.9 mc/s with a power of 7.5 kW.

### OTHER FM NEWS

KPKF, non-commercial subscription station, new in Los Angeles, has applied for permit to locate tower on Mt. Wilson, and up power to 115 kW . . . making it Los Angeles' most powerful.

The FCC has indicated it expects to announce its position relative to FM stereo broadcasting shortly after March 15.

### NEW FM STATIONS GRANTED

Oscoda, Ark.—98.1 mc/s, 2.2 kW.  
Los Altos, California—97.7 mc/s, 2.2 kW.  
Cortez, Colorado—94.1 mc/s, 3 kW. KVFC  
Boise, Idaho—97.9 mc/s, 17.5 kW KBOI (Idaho's first FM)  
Muncie, Ind.—90.7 mc/s, 10 kW.  
Des Moines, Iowa—97.3 mc/s, 100 kW  
Ft. Lauderdale, Fla.—100.7 mc/s, 56 kW.  
Canton, Ohio—106.9 mc/s, 28 kW.  
Gallatin, Tenn.—107.3 mc/s, 10.5 kW WAGG  
Salt Lake City, Utah—90.1 mc/s, 350 watts  
Seattle, Wash.—95.7 mc/s, 36 kW.

### NEW TV STATIONS GRANTED

Tacoma, Washington—Channel 62, 21 kW.  
Douglas, Arizona—Channel 3, 477 watts.  
Roswell, New Mexico—Channel 8, 355 watts.

### NEW TRANSLATORS

Cortez, Colorado 76—To translate KFBR (12)  
Santa Rosa, N. M. 70—To translate KOB (4)  
Weed Heights, Nev. 70—To translate KXTV (10)  
Brownsville, Texas 74—To translate KRBC (9)  
Rhinelander, Wisc. 73, 80—To translate WBAY (2),  
WLK (11)



# FM Reporting

Edited and Prepared by BRUCE ELVING  
920 Laramie Street, Manhattan, Kansas

Reports from long-distance FM enthusiasts are beginning to come in—from DXers across the continent, covering a variety of reception conditions.

## DXES FM MULTIPLEX

In addition to logging 139 FM stations in 13 states from his home at Meyersdale, Pa., DXer Wayne Baer has heard the 67 kc. multiplexed sub-carrier of 13 stations. Using a multiplex unit constructed from specifications published in an audio magazine, Baer's greatest distance for multiplex reception is WSWM East Lansing, Mich., 380 miles. Other multiplex subcarriers he has received include WLDM Detroit, Mich.; WHK-FM Cleveland, WKRC-FM Cincinnati and WSOM Salem, all Ohio; WASH and WWDC-FM Washington, D. C., and several in Pennsylvania. Most of the multiplex reception consists of music, but KDKA-FM has the Pittsburgh Pirates games on its sub-carrier, beamed to area radio stations for rebroadcast.

On Jan. 31 and Feb. 1, 1960, several stations, ranging from WTTR-FM Westminster, Md. to the east and WHIO-FM Dayton, Ohio to the west, were heard. Baer now has received 36 FM stations from Ohio and 32 from Pennsylvania.

## MOBILE FM DX

James Hughes, Saginaw, Mich., does virtually all of his FM DXing on a Blaupunkt FM radio in his car. Some of his better mobile DX includes WJR-FM Detroit, while crossing the Straits of Mackinac bridge, and WJMC-FM Rice Lake, Wis. in Alexandria, Minn. FM DX was above average Feb. 1 in Michigan also, when Hughes received WHAD Delafield, Wisc., WTTS-FM Bloomington, Ind., WBBC-FM Jackson, Mich., and the relatively low-powered CKLW-FM Windsor, Ont. and WFOB-FM Fostoria, Ohio.

Last summer, verifications were added from FM stations in Tampa, Fla. and Stillwater, Okla. Although a short antenna with a height of 45" is recommended for FM, Hughes prefers to DX with a 96" communications-type whip.

## RECORDS FIRST SKIP FM DX IN 1959

One of the West Coast's more successful FM DXers is Dennis Smith, Wasco, Calif. DXing since 1952 with a Silvertone table radio, and later with a Hallicrafters SX-43 receiver, Smith has heard 34 FM stations in Wasco, which is about 30 miles northwest of Bakersfield. The most distant ground-wave station is KMYC-FM Marysville, Calif., 250 miles. After observing the phenomenon of sporadic skip on television, Smith returned to FM, and on July 21, 1959, received KTNT-FM Tacoma, Wash. and KPFM Portland, Ore. via short-skip. On Jan. 28, 1960, Smith enjoyed above-average reception with stations as far as San Francisco, 235 miles, and Modesto coming in.

## RECEPTION OF TEN-WATT FM

In a class by itself is the reception of the weak, 10-watt educational FM stations. Such stations generally serve a radius of from three to 15 miles. But Morton D. Meehan, Hayward, Calif. has the re-



Pioneer FM Station WGTR, Paxton, Mass., in 1941. 10 Bay Turnstyle Antenna at right. This site now used by UHF TV Station WWOR.

ception of KFJC 88.5 on the campus of Foothills Junior College, Mountain View, Calif. to report. The station, which was received Feb. 8, was heard with a "wonderful signal" at an estimated 30 miles from Hayward.

Another reporter of 10-watt FM reception is Jim Cumbie, Dallas, Texas, who is now getting a good signal from KNER Dallas, at 12½ airline miles from their transmitter. Using a rabbit ears antenna, Cumbie has heard KDNT-FM 106.3 Denton, KEFC 95.5 Waco and KBEC-FM 93.5 Waxahachie, Texas. While attending college at Norman, Okla., he received such DX as KFH-FM Wichita, Kan.; KWGS Tulsa and KSPI-FM Stillwater, Okla.; KGAF-FM Gainesville, KRLD-FM and WRR-FM Dallas, all Texas.

## AURORAL FM DX

Richard Gottschald, Duluth, Minn.; one of the nation's foremost FM DXers, reports that FM DX at the top of the nation has been below average. The only exception was in late January for about 45 minutes when several previously-received stations from Detroit were fizzling in by means of reflections off the Northern Lights.

Auroral FM reception is characterized by a rumbling, chugging, fizzling quality that makes the stations (which may be up to 700 miles away) quite difficult to tune in for proper intelligibility. Your editor has verified several stations in Duluth, Minn. that were coming in by means of the aurora. One of the earliest of these was WMBD-FM Peoria, Ill., first received early in 1950. Other stations commonly heard in Duluth by this means include WSEI 95.7 Effingham, Ill. and WKAR-FM 90.9 East Lansing, Michigan.

## FM DX IN MANHATTAN

On Feb. 1, WHO-FM 100.3 Des Moines, Iowa was received through nearby KFH-FM Wichita, also on 100.3. WOI-FM Ames, Iowa, and two stations in Quincy, Ill. were also heard then in Manhattan.

The number of FM reports received has been encouraging. Address Bruce Elving, DXing HORIZONS FM EDITOR, 920 Laramie Street, Manhattan, Kansas.



# TV Reporting

## UNPRECEDENTED WINTER TROPS IN MIDWEST

After the four day period January 30, 31, February 1 and 2, every midwestern DXer should recognize slow moving moist air masses, with much above WINTER TIME TEMPERATURES and dense fog, as a sign "fringe areas are popping" and DX is sure to be abundant. Remarks on the "by now history period," ranged from DXer Rod Luoma (Detroit), "This was equal to the best summertime trop opening I have ever witnessed," to KTVO (3, Ottumwa, Iowa) chief engineer Antonius Mudler's inquisitive "during the past few days co-channel interference has been very bad. Could you give me any reasons or opinions as to what is causing these present conditions."

Alert DXers will note that almost all DX occurred within the 1024 millibar countours of the weather chart on the inside cover of this issue of DH. Virtually no DX crossed very far over the regions of changing barometric pressure.

The weather chart shown in the drawing on the inside cover represents the location of the 1024 and 1020 millibar pressure contours at 1 A.M. EST January 31. Note that though the fog stretched into the east along the southern shore of Lake Erie, and through Central Ohio, DXers in this area report DX only improved in the 100-250 mile range. Or in other words, only as far west as the barometric pressure change or roughly over Detroit and western Ohio.

The first signs of the moist weather area's DX ability appears in the January 29 report of Jim Himes, Joes, Colorado. DXer Himes found WHO (Des Moines), KOLN (10 Lincoln), KRNT (8 Des Moines) viewable with good quality signals over distances to 450 miles the morning of the 29th.

By the morning of the 30th the high pressure area had moved over the mid Mississippi Valley where it sat (conveniently) for the next 60 hours. Near St. Louis, B. J. Bingham found the TV band good first on the 30th at 11 A.M. CST, when signals as far north as WISN (12 Milwaukee 440 miles) were logged. Between 1 P.M. and 2 P.M. Bingham logged four DX stations on Channel 7, including WBKB (350 miles, Chicago), KWWL (380 miles, Waterloo), WXYZ (480 miles, Detroit) and KETV (400 miles, Omaha).

Gary Olson found 11 UHF stations viewable at his Barrington, Illinois, location the night of the 30th, in addition to St. Louis (to the south at 310 miles) and Toledo to the east at 250 miles, on VHF.

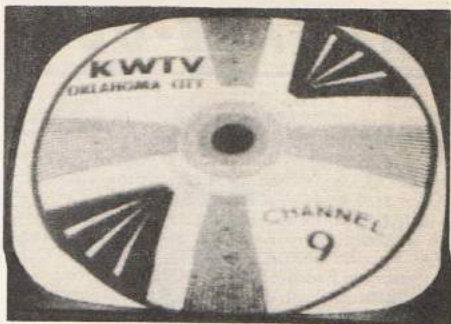
In Chicago, Tom Hidley found DX perking at 0620 A.M. CST, when he logged KTVH (12, Hutchinson, Kansas) at 610 miles, in addition to many closer stations in the 300 mile range.

The evening period of the 30th produced another good trop session. Tom Mann, Milwaukee, logged WILX (10, Dave Bland, Independence, Mo. noted reception to 250 miles that evening, as well as his best of the session, KTHV (11, Little Rock) earlier on the 30th. To the east, Frank Wheeler, in Erie, Pa., found ground wave good as far west from him as Detroit, and Lansing (232 miles), little realizing DXers just west of the invisible pressure change point were logging stations far into the mid-west.

At Walnut, Illinois, DXer Bill Eckberg put his Mattison receiver and Winegard antenna to work first on the evening of the 29th. Bill logged KTVH (12, Hutchinson, Kansas, 511 miles), and KOLN (10, Lincoln, Nebraska, 368 miles) when other closer ground wave showed no signs of improvement. On the A.M. of the 30th, conditions had improved markedly and three of his better loggings before 0730 CST include KWTV (9, Oklahoma City, 612 miles), KTVH again, KODE (12, Joplin, Mo., 409 miles) and KTHV (11, Little Rock, 506 miles).

## UHF — THE 31st

The fog was the thickest the evening of the 31st in the mid-west, and that was the period UHF really shined. DXer Rod Luoma, Detroit, although confined to a very narrow area from which he was receiving DX (because he sat at the northeastern edge of the fog bank, just inside the 1020 line), noted WICS (20, Springfield, Illinois, 375 miles), WTV (17, Decatur, Ill., 340 miles) and many others closer. In Walnut, Ill., DXer Eckberg found UHF alive after 2100 CST, with WFIE (14, 272 miles), WRAY (52, 249 miles), WEHT (50, 272 miles), and Topper WLEX (19, 373 miles). Garry Olson at Barrington, Illinois, had 12 UHF stations logged the evening of the 31st, including WEHT and WFIE, both new for him, at 280 miles. In Chicago, DXer Hidley found UHF good the afternoon of the 30th (WKJG, 33, 155 miles, others), the evening of the 30th (WKNX, 51, 220 miles, others), and the afternoon and evening of the 31st (WEHT, 275 miles, others).



Who says winter trop is poor? KWTW 9, Oklahoma City—612 miles—Eckberg, Illinois, January 30, 0725 CST.

## BEST HAULS OF THE PERIOD

For Roger Brown, of East Lansing, Michigan, DX was first seen at 1000 EST the 30th. Brown's best included KMBC (9, Kansas City, 585 miles), KOMU (8, Columbia, Mo., 490 miles).

The fog line lengthened out to include Arkansas on the south the A.M. of the 31st. KTHV (11, Little Rock) was logged in Chicago (Hidley, 1000 CST), Walnut, Ill. (Eckberg, 0830), Barrington, Ill. (Olson, no time reported), Festus, Mo. (Bingham, 1300 CST), over distances to 620 miles.

## ELSEWHERE . . . THE SOUTH

Donald Ruland, Holly Hill, Florida found meteor scatter good all month with WBBM (Chicago, 950 miles), WCBS (New York, 950 miles), WGR (Buffalo, 970 miles) seen many mornings. And Ruland found E skip January 27 when KMTV, Omaha (3, 1175 miles) was logged at 1915 EST.

Franklin Brown, Easley, S. C. found southern ground wave good on January 8, when he logged WFLA (8, Tampa, 478 miles) and others in the 200-400 mile range. On the 27th of January, Brown logged KCKT (2, Great Bend, Kansas, 940 miles), KARD (3, Wichita, 860 miles) and KMID (2, Midland) 1150 miles, between 1930 and 2045 EST, on E skip.

## VERY BRIEFLY

DXer Dave Webb, Springfield, Mass., saw WCTV (6, Thomasville, Ga.) from 1610-1615 on January 20.

DXer Eric Norberg, Carmel, Calif., saw skippers KNOP, KTVR, KHLP, KFBC and KDUH in the Es session January 11, reported in detail last month.

Raymond Bell, Washington, Pa. reports F2 German TV reception to 42 megs February 2.

Frank Wheeler, Erie, Pa. is proud of a verie from KHQ (6, Spokane, Wash.) for his mysterious November 23 reception of the far western station.

Our thanks to DXers Tuura (Toronto), Hurlburt (Vermont), Smith (California), Cody (Conn.), Satterwhite (Va.), Dranchak (Conn.), Broomall (Georgia), Strainic (Ohio and California), Herrmann (N.H.), and a nice personal visit from DXer James Gould, formerly of Sacramento, now of St. Louis.

## DEADLINE AND REPORT FORMS

Report forms will be mailed to all requesting same. Write DXING HORIZONS, P. O. Box 3150, Modesto, California, U.S.A. A post card will do. New blank forms are sent automatically when completed forms are received. If you have no forms, write for your set. Forms are no longer mailed with magazines. Reports for the April column must arrive in Modesto by March 15.

## PREDICTIONS

Long range forecasts . . . Chance for Es March 3-5, March 30-April 1, Spring session E skip should be under way week of April 1 to 7, watch low channels (2-4) from 1600-1900 LST.

## GULF COAST DXers

Watch for long range DX on high band (7-13) and UHF across the gulf, from March 10-April 15. This period always produces at least one good ground wave report, usually in early April.



# AT FADE-OUT

As these LAST-MINUTE TIPS were being compiled, R. AUSTRALIA concluded initial TESTS of NEW EXPERIMENTAL 10-kW xmtr VLY25, 25.735, and it was put into REGULAR EXPERIMENTAL SERVICE w/ENG. program (Gen. Asian Serv.) 2213 1/2-2400, to S. E. Asia.

4VEC, 6,000 Cap Haiti, Haiti, noted back on air following breakdown of power-generator engine, parallel 4VWI, 9.770, fair strength in Calif. 0115 tuning, bad hct. (John, Margie Gibson)

From Near East, DXHCNE FLASHES that R. Kabul (pronounced KA-bul), AFGHANISTAN, is now sked w/ENG. 1530-1600 (N 1530), 4.750; 1900-1930 (N 1900A), 9.705, w/Fr. 1830-1900, ENG. 1900-1930; good on 65-m. channel, poor on 31-m. (9.705 is FREQUENTLY JAMMED!)

R. Cairo, EGYPT, has NEW ENG. session w/NE 1803A-1815A on NEW channel 17.765A. (Roth, Conn., KBLP, others)

ELWA, 21.515, Monrovia, LIBERIA, now noted "like a local" in weekly xmsns to N. Am. TUE. 2300-0045 (parallel 15.200A) and WED. 0100-0245 (parallel 11.986A); EN 2350, 0150. Anncr Al Snider did NOT say was NEW 50-kW xmtr but sig on 21.515 would so indicate.

Japanese hrd on 6.175 "must be" JKH, Tokyo, JAPAN, formerly on 7.257, hrd 0700-0900 in H.S., merly used ONLY on special occasions, but now is hrd daily in Calif.

Since Feb. 1, ZOY, Accra, GHANA, is hrd DAILY (NOT just SUN.) on 9.640 s/on 0800; ID w/"This is Radio Ghana" often; mx, Lessons in ENG.; xmsn is all-ENG.

R. Peking, CHINA, noted at NEW TIME for ENG. xmn 1600-1700, 9.775, also 1700-1800, 9.775, 11.740.

R. Brazzaville, CONGO REP., hrd on NEW 15.195A outlet to 2255 s/off, parallel 11.725, 9.770 (latter at times is REPLACED by 9.785).

BED7, 7.234, Taipei, TAIWAN (FORMOSA), is now hrd BACK ON this channel INSTEAD of 7.130 (where was for a few days) for ENG. opening 1005, parallel 11.815, 15.345, 17.755.

PZZ, 15.405, Paramaribo, SURINAM, now s/off DAILY 0330 (NOT just SUN.); is 1 HR LATER than formerly; has LOCAL N/E TUE. 0130 now. (Hrd 0135 answering mail from listeners and said "replies are on the way," according to Niblack, Ind., Roth, Conn.)

Confirm R. ANDORRA returned to old 5.979A channel, excellent 2130 with usual fine mx prgms, "sweet-girl" anncr, commercials.

Belize, 3.300, BRT. HONDURAS, noted w/ "morning" xmsn, excellent in Dela. 1210 w/religious proram, ID by man 1215, then pop tunes; poor by 1300.

From New Zealand, veteran DXer Arthur T. Cushen flashes to DXH that R. Peking, CHINA, is noted on NEW 3.950 outlet w/N/E 1800.

That R. Monte Carlo, MONACO, was hrd TESTING 0500-0545 on 9.705, 11.765.

Via airmail, N. J. Jensen flashes from Denmark that DSWC's "little" Contest showed the most popular SW stns in 1959 were (1) THE "HAPPY STATION," PCJ, R. Nederland, Hilversum, HOLLAND, and (2) R. JAPAN; these stns will receive a Danish souvenir and a greeting from DSWC.

WIBS, 15.085, St. George's, Grenada, WINDWARD IS., noted recently TESTING to UK arnd 2015-2030. (Jensen, Denmark, others) Widely rptd using 21.680 at various times—such as 1530-1940 s/off. (Howald, Balbi, Calif., others) Hrd TESTING to UK to 2030 s/off on 21.715, 25.860.

R. Cairo, EGYPT (UAR) is using NEW freq. of 15.430 (REPLACING 17.915) for "Sautu-al-Arab" Serv.

During MARCH-APRIL, Int. Time Sigs of Royal Greenwich Observatory, ENGLAND, will be radiated 1000 on 16 (GBR), 13.555 (GIC33), 17.685 (GIC37); 1800 on 16, 10.322.5 (GPB30), 17.685. (WRHB) . . . RRI, Denpasar, INDONESIA, is ACTIVE AGAIN on 7.118, 0930-1530. (Tabuchi, Japan, via JSWC, WRHB) . . . LATEST TESTS from Amman, JORDAN, are on 11.810, 0700-1100, 1300-1600; 6.020, 1900-2200. (Buettner, Germany, via WRHB) Hrd s/on on 0700 over 6.020. (Niblack, Ind., Saylor, Va.) . . . R. Malaya, location UNKNOWN, but probably is SINGAPORE, hrd on NEW 6.015, 0930-1530 in ENG.

R. NEW ZEALAND has SPECIAL PRGM for Cook Islands WED., SAT. 0710-0725, ZL7, 6.080, ZL2, 9.540; folklore music w/anncmts in (Cook Is.) POLYNESIAN. (Uthoff, Germany, via WRHB)

R. Tirana, ALBANIA, now noted in Fr., ENG., 2200-2300 on 7.175A ONLY; 7.852A then carries Ar.; veries by registered mail, enclosing pic cds frm Albania. . . . DX PRGM in ENG. to Eu. frm R. Prague, CZECHOSLOVAKIA, is every 1st TUE. 1900-1930, REPEATED 2000, 7.185, 9.550.

Sheik Ibrahim el-Shura, Gen. Dir. of B/C, Djeddah (Jeddah), SAUDI ARABIA, informs R. Sweden b/c frm Mecca are carried 0430-0600, 1000-1145, 1600-1630, 1700-1940 in Ar., 1200-1230 Urdu, 1230-1300 Indonesian (times approx.), 725 kcs., 50 kW, 11.950, 10 kW.

IBRA Radio, formerly at Tangier, MOROCCO will b/c in ENG., Ger., Pt., Sp. frm stn in BOLIVIA to give world-wide coverage THIS YR.

CLANDESTINE "Voice of Free Russia," 10.500 hrd 2200-2313 w/anti-Communitic talks in ENG. (Howard, U.S.A., via JSWC)

Veries w/atractive QSL cd w/symbol "NTS" prominently displayed, frm Box 902, Rotterdam, Holland, accgd to SCDEXers.

FB listening, EVERYONE . . . and 73!

—KEN BOORD

## PRESS TIME SW CONDITIONS REPORT

Disturbed ionospheric conditions, caused by unusual sun spot activity, continues to be nil as we write. The expected onslaught of spring time aurora and the associated disrupted HF SW conditions during this high sun spot year, have not materialized. Thus, HF conditions throughout the world remain in excellent shape, as springtime approaches.

## FORECASTS

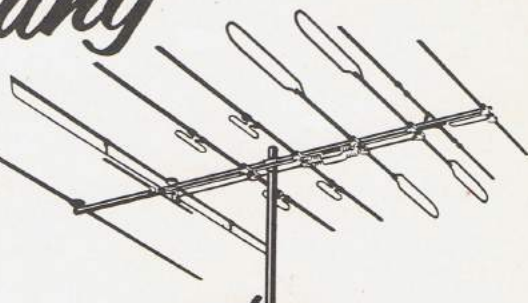
QUIET CONDX (good reception in the BCB and SW bands above 10 mc/s)—March 5-7, 23-27, April 1-3.

UNSETTLED CONDX (poorer daytime, better nighttime reception) — March 3-4, 8-16, 30-31.

POSSIBLE BLACKOUTS (Disrupted reception above 10 mc/s, disturbed reception below)—March 4, 31.



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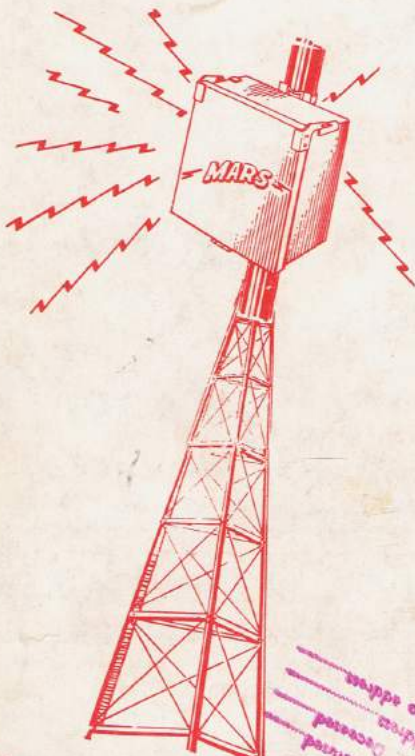
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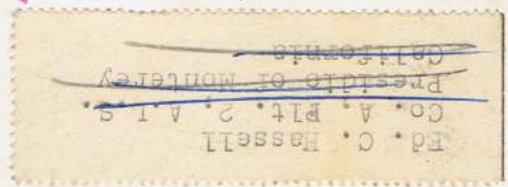
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