

No. one

August 60

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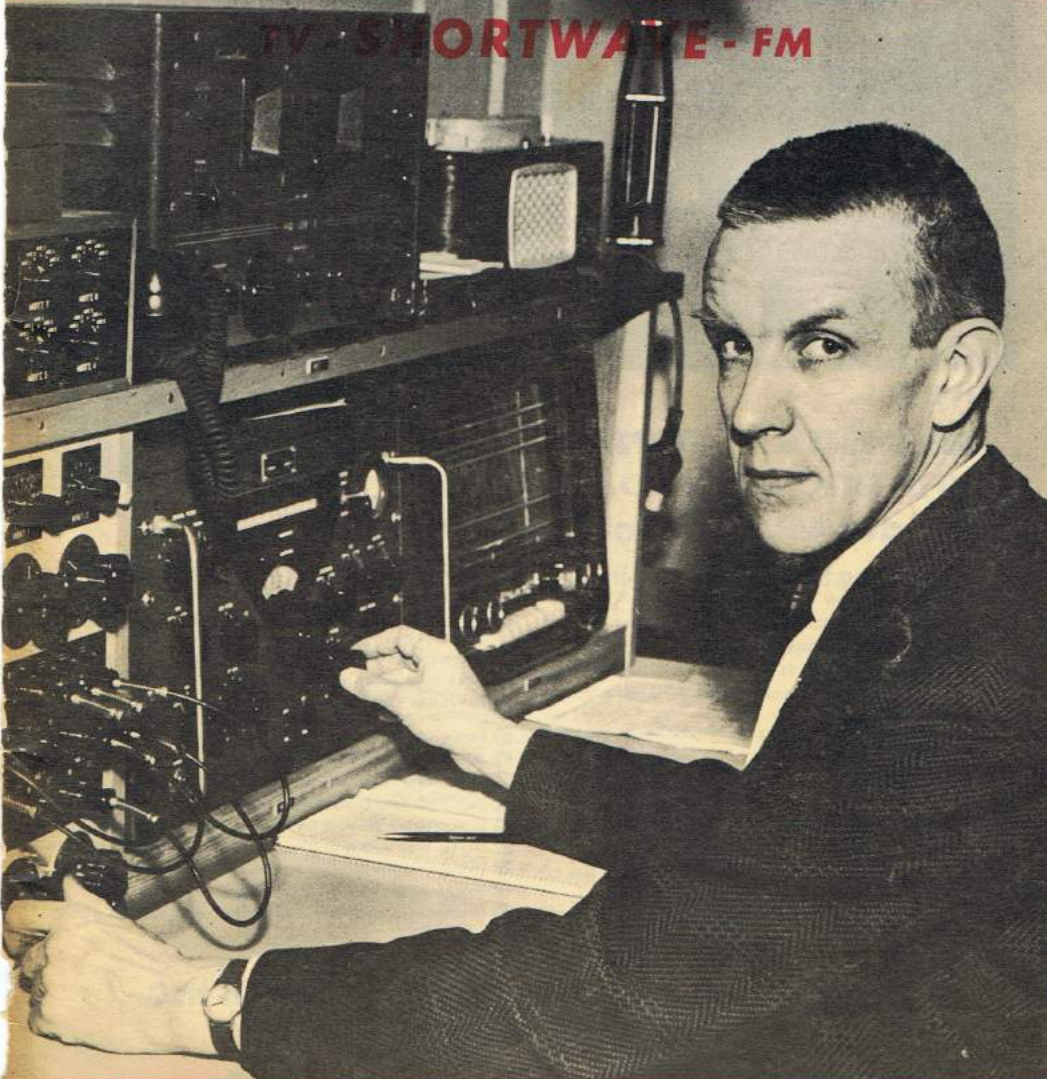
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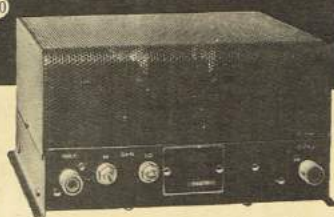
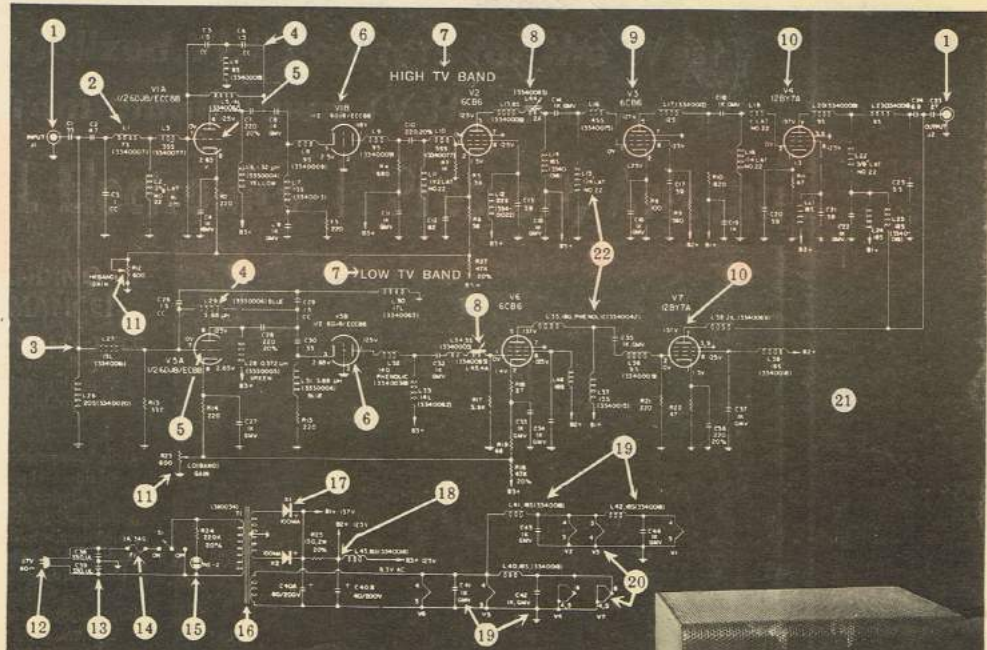
DXing HORIZONS

TV - SHORTWAVE - FM



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At Sign Off

STAFF ADDITIONS — DXH

During the past two months the growth rate of DXing Horizons has accelerated greatly. This has caused several changes to our operating staff, and more are contemplated. DXH is very proud to add three new names to the masthead this month (see page two) as permanent additions to our growing staff.

In the Broadcast Band (or MEDIUM WAVE, if you like) Department, we believe DXH has found an enthusiast with real potential to head up our Low Frequency DX Section. Glen Kippel, amateur WOWPO, of Denver, Colorado, has been hard at work laying the groundwork for his first "Medium Wave DX News" column which will appear in abbreviated form in September. The DXH "MW News" section will concentrate solely on DX news of a foreign nature, specializing in news from Europe, Africa, South America, the Pacific and Asia. The promise of this column has already attracted several hundred MW enthusiasts outside the U.S.A. and Canada, and we feel MW enthusiasts in the states and Canada will be equally impressed. Incidentally, a special release eight-page "Foreign MW Station Log" listing all known operating MW stations in the world (outside the U.S.A. and Canada) will go out with the October magazine. After November first, the log will be available to non-subscribers at a nominal fee of \$.50 per copy. Spread the word . . . this log is the result of several months' comprehensive checking and rechecking, and will be an invaluable aid to all MW DX enthusiasts.

DXH is also extremely proud to announce the appointment of Raymond Moore, amateur K1DBR (gad . . . what a hammy staff!), as the new Associate Editor. Readers with MW interest, shortwave interest, and TV-FM interest will all benefit from Ray's vast experience as a ham and listener. Our new Associate Editor will be specializing in the Medium Wave field through the fall months, with a Loop DX Antenna construction article planned for the October issue.

TV DX enthusiasts east of the Mississippi . . . take note of Jim Gould's Kokomo, Indiana, new post as director of our Eastern TV Research Lab. We can't reveal too much now . . . but we can state that UHF DX reception to 300 miles daily is one of our first goals at the Gould Lab!

POSTPONEMENT

The conclusion (part 3) of the series entitled "Ruggedized Antennas for Weak Signal VHF" will appear in September. Author F. R. Voorhaar of the Technical Appliance Corporation tells us it will be a dilly, answering many of the questions readers have posed.

FM ENTHUSIASTS — TAKE NOTE

The Apparatus Development Company (Box 153, Wethersfield 9, Conn.), under the pen of L. F. B. Carini, has released a third enlarged edition of their most informative booklet "Theme and Variations." The title, however, is a bit misleading. Included in this well written 38-page booklet is a

complete (and quite up to date) FM station list of operating stations in the United States, Canada and the Caribbean. The booklet, available for a mere 30 cents, will also be of great interest to TV distance fans, as it includes several chapters on basic installation procedures for VHF antennas.

TV ENTHUSIASTS — TAKE NOTE

DXing Horizons cannot recommend to highly the June Proceedings of the IRE (Institute of Radio Engineers). The affects of trees, buildings, on UHF and VHF, co-channel spacings—all are included in this complete review. In the June issue of the proceedings of the IRE, the entire 2½ year study of the Television Allocations Study Organization (TASCO) is detailed in 120 pages of print. We feel sure all TV and VHF enthusiasts will want a copy. Ours has already become worn with use and constant reference. It may be obtained (as the supply lasts) from the Institute of Radio Engineers, 1 East 79th Street, New York 21, New York. The fee is \$3.00, per copy.

CATV—CABLE DROP

The response to our new Cable TV System monthly section (titled Cable Drop) has been most gratifying. As we work towards an October-November starting date for this new technical section, we ask for a little aid from CATV engineers. DXH wants to concentrate on solving the more pressing technical problems in the industry . . . but to do so, we need a few opinions on "exactly what the most pressing problems are." How about a line from you, expressing what you believe to be the top two technical problems in the Cable TV world today. We will do the rest.

BOOSTER BILL SIGNED — REGS. SHORTLY

The VHF Booster Bill which passed the House of Representatives June 24 was signed into law July 7 by the President. A formal meeting of the FCC July 13 resulted in no formal action, although it is understood the regulations to govern VHF Booster-Translator operation are "nearly ready" for distribution. Assuming the rules will be released the last week in July, a complete report is planned for the September Weak Signal Industry section.

VHF TV—MILITARY SWAP DEAD

An announcement is expected at press time from Fred Alexander, Telecommunications Expert for the Office of Civil Defense Mobilization (OCDM) relative to the non-ability of his office to "OK" a swap of UHF TV space for VHF military spectrum space above 220 megacycles (TV channel 13). Our Washington Bureau informs this will kill any and all hope that the United States will ever have an expanded VHF TV range, in lieu of the present VHF-UHF arrangement.

OUR COVER — AUGUST

Arne Skoog, world-known DX Editor for Radio Sweden takes a turn at the dials of the well equipped listening post in Stockholm. A Hammarlund HQ-129-X and Collins 75A series receivers occupy the prime operating positions. The numerous jacks and switches at left allow instant selection of any number of antennas. Skoog's "Sweden Calling DXers" is offered up every Monday in the English language.

DXing HORIZONS

"A monthly news publication devoted to active Television, Shortwave, Broadcast Band, and Frequency Modulation (FM) long range enthusiasts throughout the world. DXing Horizons is registered to Robert B. Cooper, Jr., 1960.

"DXing Horizons is compiled by and for persons interested in furthering long range—weak signal reception of Television, Frequency Modulation, and Shortwave transmissions."

"In the weak signal Television-FM world, DXing Horizons is received and read by operators of Cabled TV Systems, UHF Translator stations, VHF Booster-Repeater, members of the Broadcasting Industry, and individual Hobbyists and Experimenters."

"DXing Horizons maintains a technical advice service, and an Experimental laboratory where new products are tested, and new circuits developed."

"In the shortwave and Broadcast Band reception field, DXing Horizons provides the reader with accurate, timely, and complete reports on what is being heard, where, and by whom. Special reports of major interest to shortwave reception fans are also found in the monthly DXH departments."

DXing Horizons is the only magazine reaching the entire weak signal reception field, in 50 states and more than 70 countries monthly. Readership interest and acceptance guaranteed. Advertising rates upon request.

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SUN SPOT REPORT - '60

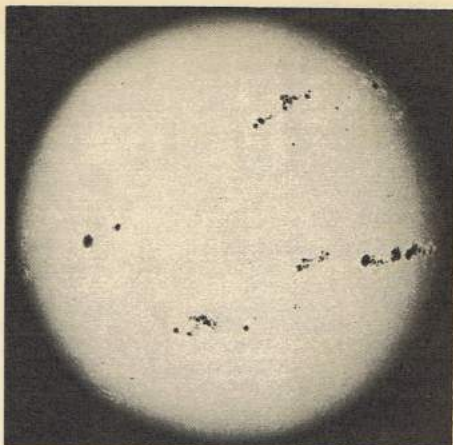
(Part One of Four)

Since the dawn of shortwave radio, and more recently, man's use of the VHF range, DX enthusiasts have heard of the amazing "skip abilities" attributed to the various layers in the ionosphere. When shortwave conditions are good, DXers can be heard to murmur through the din of QRM pouring from their headsets, "The Heaviside layer certainly is working well today." For it was a British Physicist named Heaviside who in the early 1920's predicted the skip action of shortwave radio signals, shortly before Amateur operators proved it possible to communicate over great distances on frequencies above two megacycles in the daytime. Heaviside said, "THE BREAK DOWN OF RARIFIED GASES IN THE REGION ABOVE THE ATMOSPHERE, DURING DAYLIGHT HOURS by reason of radiation from the sun, WILL BOUNCE HIGH FREQUENCY RADIO SIGNALS AROUND OUR GLOBE." Heaviside died in 1925, about the time his theory was proven by a pair of amateurs operating on 14 megacycles over a daylight path between Massachusetts and California.

WHAT ARE SUN SPOTS?

Viewed through smoked glass, the sun's surface is usually dotted with darker "black spots" . . . contrasting with the sun's light surface color. By observation, we know that during years when the number of sun spots visible on the sun's surface is relatively high, shortwave radio conditions (above approximately 10 megacycles) improves greatly. However, we also know that the day to day, or even week to week change of the number of sun spots apparently has no immediate correlation with the shortwave conditions here on earth. Improved shortwave conditions, however, are evident when the smoothed sun spot number (an average figure taken over a 12-month period) is high.

Observations over several centuries (the Chinese have observed sun spots and recorded the count for centuries) tell us that the smoothed 12-month average number of sun spots does not change abruptly. The average number will slowly rise from month to month, gradually reaching a peak number, and then receding, perhaps just a bit more rapidly than the rise. This "smoothed number," recorded



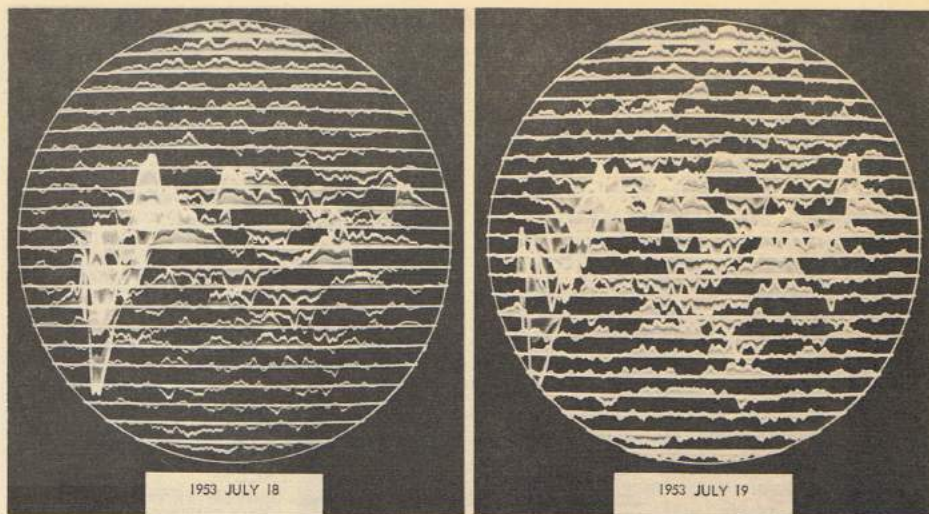
THE SUN'S SURFACE —

Sun spot maximum—December 21, 1957. Smoothed sun spot maximum occurred 3 months later, in March, 1958.
Photo: Palomar Observatory

over a period of 200 years has been observed to run in approximate 11-year cycles . . . reaching a peak, receding to a low count, and then again reaching a second peak in an 11-year period. Thus the relatively new art of shortwave radio communications is drawn into the picture. When the smoothed count is high, by some unknown quality of the region associated with the spots, shortwave reception during the daylight hours on frequencies between 10 and 30 (and higher) megacycles improves to a great degree. When the smoothed count recedes, reception above 15 megacycles may disappear altogether! At the very low point of the cycle, the affects may become so noticeable that even the 14 megacycle amateur band is open only for short periods, and then at mid-day over paths of less than 2,500 miles! In other words, the break between daytime and night reception we have known since 1955 is considerable at the low point of the cycle. Daytime shortwave reception will become a phenomena of only one or two ISW bands during the lean year or two ahead in the period 1963-65. And these bands will be the 25- and 19-meter bands. Any reception on the 16- and 13-meter bands will become rare indeed, and reception on 19 meters is likely to become sporadic and short lived, over paths not exceeding 2,500 miles as a rule.

PARTICLE EJECTION

Investigations have led to the idea that the sun ejects, from well defined areas on its surface, clouds or streams of particles—electrons, ions and molecules. These streams enter the



SOLAR MAGNETOGRAMS

THESE MAGNETIC MAPS OF THE SUN'S DISK SHOW THE LOCATION, FIELD INTENSITY, AND POLARITY OF WEAK MAGNETIC FIELDS IN THE PHOTOSPHERE OF THE SUN, APART FROM SUNSPOTS. THE RECORDS ARE MADE AUTOMATICALLY BY A SCANNING SYSTEM THAT EMPLOYS A POLARIZING ANALYZER, A POWERFUL SPECTROGRAPH, AND A SENSITIVE PHOTOELECTRIC DETECTOR FOR MEASURING THE LONGITUDINAL COMPONENT OF THE MAGNETIC FIELD BY MEANS OF THE ZEEMAN EFFECT. A DEFLECTION OF ONE TRACE INTERVAL CORRESPONDS TO A FIELD OF ABOUT ONE GAUSS. THE SMALL DEFLECTIONS OF OPPOSITE MAGNETIC POLARITY NEAR THE NORTH AND SOUTH POLES ARE INDICATIVE OF THE SUN'S "GENERAL MAGNETIC FIELD". THE EXTENDED FIELDS NEAR THE EQUATOR ARISE FROM CHARACTERISTIC "BM" (BIPOLAR MAGNETIC) REGIONS THAT SOMETIMES PRODUCE SPOTS. NORTH IS AT TOP, EAST AT RIGHT.

Solar magnetograms showing the intensity and polarity of weak magnetic fields in the photosphere of the sun on July 18 and 19, 1953.

earth's ionosphere, stratosphere and on rare occasions, the atmosphere.

It is these particles, sweeping through the ionosphere which tends to cause the rarified gases there to ionize. In the ionization process, layers within the upper limits of the ionosphere, which formerly "passed" shortwave radio signals, now "bounce them" back to earth. As the degree of particle ejection from the sun increases, so does the intensity of the ionization within the layer. And it is the number of disturbed areas on the sun's surface (i.e. sun spots) which controls the amount of particle ejection. Thus, the tie-in between the sun spot count, and the "skip affect" in the ionosphere. When the number of smoothed spots has diminished greatly, such as the bottom of the cycle, so has the particle ejection, and so has the amount of ionization present in the ionosphere. And once again shortwave signals between 10 and 30 megacycles pass directly through the layer and into space.

THE IONOSPHERE

Thus far we have discussed the ionosphere as if it were on large homogeneous layer. Actually, this is not true. The various layers in-

involved in shortwave radio reception and transmission are the D, E, F1 and F2 layers. They differ in physical makeup (differing in gas density, and type), and in height above the earth's surface.

D LAYER

This is the "bad layer." it does no actual good to shortwave reception, and for all intensive purposes does a great deal of harm. When its ionization content is high, it absorbs signals, as a sponge does water. It is frequency sensitive (i.e. during the daytime when the sun's rays and particles are striking it, it builds in ionization. During daylight hours it "soaks up" virtually all signals between 200 kc. and 10-11 megacycles. Frequencies above 11 megacycles pass through it somewhat attenuated, with lesser attenuation at 30 megacycles than at 15 etc.), but it disappears at sundown. Thus reception below 11 megacycles returns as the sun sets, as long as darkness prevails between the transmitter and receiver. In years when the sun's particle ejection is low (smoothed count low) the D layer changes. It disappears quicker after sundown (or even

(Continued on page 17)

A DXing Horizons Exclusive!

DXH Tests the Knight-Kit R-100 Receiver

The Knight-Kit R-100 is a general coverage communications receiver, tuning the frequency range of 540 kcs. to 30 mcs. in four bands. This tuning range takes in all of the foreign broadcast services, the popular ham bands and even the 27 mc. Citizen's Band.

Nine tubes are used in a highly efficient circuit that provides the performance of an eleven tube receiver. The tube lineup is as follows: 6BZ6 (R.F. Amp.), 6BH8 (Mixer and Osc.), 6AZ8 (1st I.F. Amp.), 6AZ8 (2nd I.F. Amp. and 1st A.F.), 6BC7 (Det., A.V.C., A.N.L.), 6AW8A (B.F.O. and A.F. Output), 12AX7 (Q-Multiplier), 6X4 (Full Wave Rectifier) and an OB2 (Voltage Regulator).

Printed circuit boards are used to facilitate quick and easy construction and to minimize the possibility of wiring errors. Following the well written instructions, we were able to assemble the DXH Test Receiver in one afternoon and an evening, just poking along. The instructions are so clear and simple that even my wife, who has no electronics background, was able to do quite a bit of the wiring. Fact is, she would have done it all if I had let her!

Connected to a simple long wire antenna, 50 feet long, the R-100 gave an excellent account of itself. Even on ten meters it was still quite a hot receiver. The stability, sensitivity and selectivity are very comparable to receivers costing three times as much.

This receiver has a 455 kc. I.F. strip that, along with its associated "Q-Multiplier" affords a degree of selectivity equalling that of many receivers costing much more.

The antenna trimmer seems to have unusually wide range, easily "trimming" TV antennas, long wires and even a "window screen"! One important consideration Allied Knight engineers did not forget caught our eye . . . a coaxial receptacle and terminal strip for antenna connection to the receiver. Too many receivers today use only a terminal strip, leaving the coaxial receptacle to high priced units. DXing Horizons of course recommends that all shortwave antennas be fed with coaxial cable, a point indicated in the April issue article titled "Care and Feeding of Antennas," part one.



Allied Radio's Knight-Kit R-100 Receiver, with matching speaker. A well engineered and carefully planned general coverage receiver DXH recommends to even the novice builder.

Some additional features of this receiver are; calibrated bandspread on the amateur 80, 40, 20, 15 and 10 meter bands, audio output of .5 watts, delayed A.V.C., automatic noise limiter. Variable selectivity of 300 c.p.s. to 4.5 kcs., with a null providing up to 60 db. rejection of an interfering signal. Sensitivity of 1.5 microvolts on bands B, C and D and 4 microvolts or better on band A (Standard Broadcast). All these features and more in a package measuring only 10x16x10 1/2 inches.

Knight-Kit also makes available optional accessories available for the R-100 including a 100 kc. Crystal Calibrator kit, an "S" Meter kit (with a quality Phaostron meter) and a speaker kit in a matching cabinet.

PERFORMANCE

Using a rough rule of thumb, we took the price of the R-100 kit, doubled it, and decided it should compare favorably with a \$200 receiver when perking and operating correctly. Not having one in this classification in the lab for comparison purposes, we chose the closest available . . . a double conversion unit which sold, when new, for nearly \$450 (today it can be purchased used for \$300 in most supply houses). The test normally would not have been a fair one. But the R-100 gave an excellent account of itself right down the line. The sensitivity in particular amazed us, for on ten meters the R-100 ran a dead heat with the lab receiver, actually coping with weak South American amateur phone stations well into the noise level! In the crowded 19 meter SW band, we found no particular difficulty separating stations only 5 (announced) kc. apart, though both were reading well over 59 on the meter.

(Continued on page 17)

STATION REPORT

YSU-TV

San Salvador, El Salvador
Central America

By **RUDOLPH H. RAHN**
Chief Engineer

YSU-TV is one of the most modern and powerful television stations in all of Central America. It is transmitting on channel 4 with an effective radiated power (erp) of 66 kw. visual, 39 kw. aural, from a mountain top transmitter site 15 miles from San Salvador, 6,285 feet above sea level.

The transmitting antenna tip is actually 6,585 feet msl, as it rests atop a 200 foot tower, and is 100 feet in height itself. The



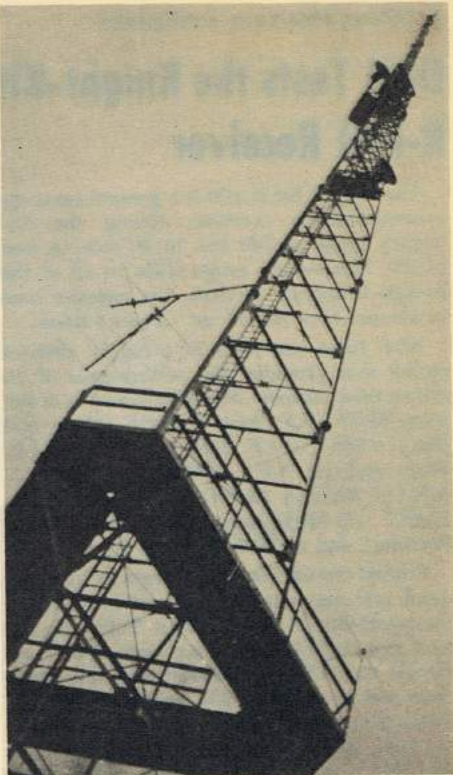
YSU-TV and Radio Studios, San Salvador, El Salvador

antenna is an RCA 6 bay Turnstile providing coverage in all directions, including grade B reception as far north as Tapachula, Mexico, east to Tegucigalpa, Honduras and other points in Guatemala, Nicaragua and Costa Rica. All of El Salvador receives grade A reception.

The "DX range" of the YSU-TV transmitter has stretched from your magazine publisher's December, 1958 reception in California, along the southern United States to Florida, throughout Central America to Venezuela, and south as far as the Argentine Republic (see March, 1960 DXH, page 17).

EQUIPMENT—SOME OF THE BEST

All YSU-TV equipment is new and modern. A specially designed building was constructed to house the transmitter, in the suburbs of San Salvador. On the main floor the control studios for YSU-TV, the National radio network (5 BCB stations), and El Salvador's two FM stations are housed in glass enclosed soundproof rooms.



6,585 feet msl to the top of the YSU-TV tower.

All of the equipment was purchased from RCA, and installed with local technicians under the supervision of the station's chief engineer, Rudolf Rahn.

Room has been provided for additional racks of color equipment, which may be installed as early as January, 1961.

The signal from the San Salvador studio is fed to the mountain top transmitter through a 15 mile microwave circuit. A crew lives on the mountain and operates the transmitter from two caterpillar 60 kva, and two 10 kva dynamos. Gasoline and supplies must be "trucked to the transmitter site." There is no commercial power as of yet.

DX REPORTS

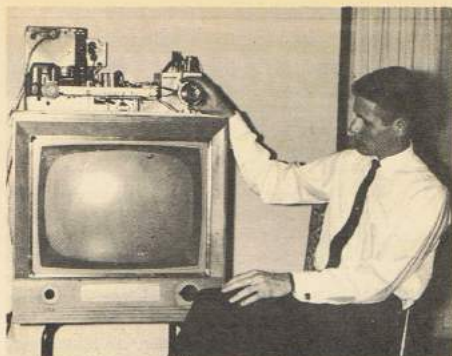
YSU-TV is always happy to hear from distant viewers, as I believe we are uniquely situated to cover a large portion of the western hemisphere with our signal when conditions are favorable. All reports should come directly to me, as chief engineer, with complete logging information, including times and descriptions of the programs seen.

the ULTIMATE TELEVISION RECEIVER

(Conclusion)

by
James Gould
Kokomo, Indiana

and
Edited by DXH Technical Editor
ROBERT GRIMM



"The RCA folks" would never know it now! James Gould, newly appointed Eastern Test Lab Director for DXH TV Research and his "Gould Modified TV Receiver."

R.F. STAGE MODIFICATION

In the July issue of DXing Horizons, I outlined the procedure for creating an I.F. strip using the new Amperex frame grid pentodes (EF183 and EF184).

Now I will answer what has been the subject of a great deal of inquiry at DXH. Namely, how to make the 6922 perform properly in the tuner of your set, regardless of whether or not you modify the I.F. If you follow this example, the simple revamping and readjustment of the R.F. stage, there will be a noticeable improvement at all signal levels, and especially at very weak DX signal levels.

PROPER VOLTAGE

Most TV tuners operate with 225 to 250 volts applied. In a cascade stage, such as the 6BQ7, 6BK7, etc., the voltage is split, with approximately 120 volts on each section. (This is due to the fact that one-half of the tube is in series with the other half—Editor.) However the 6922, in typical operation, should have no more than 90 volts on each plate (in respect to cathode). *Modification number one should be a reduction of the plate supply voltage to 150-180 volts.* Actually I am running mine with only 120 volts applied (60 volts on each section) as I found this to give the best noise-

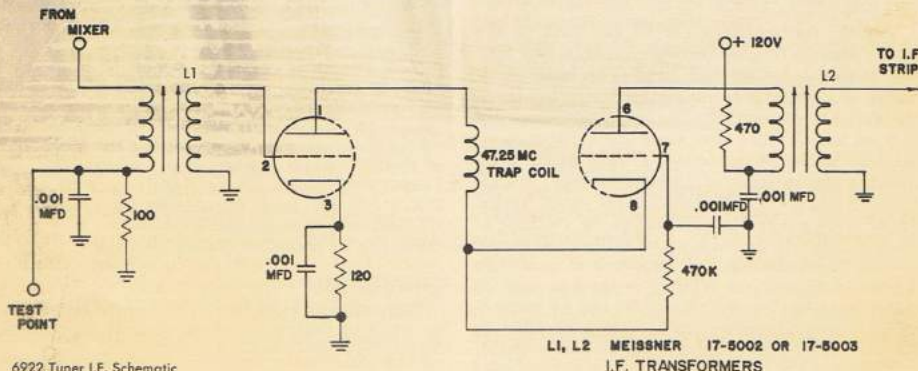
figure. With more than the rated voltage applied, the 6922 will overheat and worse yet, the noise figure deteriorates to the point that it is then no better than the tube it has replaced. It is understandable that many DXers have been disappointed after just plugging in a 6922 in place of the 6BQ7. So be certain to reduce the supply voltage.

NEXT

On Standard Coil tuners, you will find three sub-miniature tuned circuits on the back of each channel strip. They are for the R.F. stage, mixer and osc. *Each of these must be adjusted for maximum signal to noise ratio (best picture, not greatest signal output voltage) on each channel.* It is preferable that an attenuated signal source be used for each adjustment. (i.e. This is the same thing you would normally do after replacing a tube in a short-wave receiver with a new improved type.)

It is imperative, to realize the full benefit of the 6922, that the aforementioned modifications be made.

(Continued on page 12)



6922 Tuner I.F. Schematic

DX PRODUCTS

BLONDER TONGUE BTU-2S UHF CONVERTER

The present period of UHF growth can perhaps be likened to the period when double conversion receivers became all the rage for shortwave reception in the early 30's. In other words, UHF has suddenly showed real promise, despite the gloomy predictions of less than 12 months ago by "those supposed to be in the know."

So it is with special interest that we investigate the new Blonder Tongue BTU-2S UHF Converter.

Manufacturer's information is scarce as we write in mid-July, because the unit has not quite entered regular production. A pilot run of 500 units distributed the BTU-2S about the country for field testing at B-T distributors. One came to DXing Horizons where it has undergone field tests for nearly two months. Because little design data is available, we shall dwell upon the performance . . . probably of greater interest to most readers.

QUOTE . . .

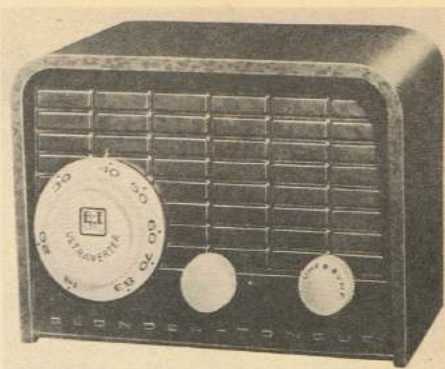
From Joseph Gibbs, manager of the sales department of the Industrial Division at B-T, "The basic difference between the BTU-2R and the new BTU-2S is in the I.F. amplifying circuit. B-T is using a premium quality framegrid (Eds. Note . . . Where have we heard that term before?) tube instead of the (older) standard 6AB4 triode. This provides a lower noise figure and a higher gain in the unit. The improvements (in gain and noise figure) should be in the order of 3DB." End of quote.

SPECIFICATIONS

The BTU-2S is a continuous tuning UHF TV converter covering channels 14-83 (470-890 mcs), with an output (I.F.) of 76-88 mcs, or TV channels 5 and 6. Input and output circuitry match 300 OHM balanced line. The unit uses a standard 6AF4A oscillator, and a framegrid 6ER5 I.F. amplifier.

OPERATION

Two knobs are apparent in the dark brown plastic cabinet. On the extreme right, a two position switch . . . OFF and UHF. The knob in the center is a string drive operated device to actuate the variable channel tuning, and calibration dial at front left. A word here about the calibration . . . in eight weeks of operation, a light pencil mark showing the location of channel 17 (see "KLYD Tropo Scatter Report," July DXH) never varied. There is no noticeable backlash in the tracking of the BTU-2S. The importance of calibration cannot be over emphasized in DX reception of borderline signals. Although the BTU-2S is marked only on channels 14, 20, 30, 40, 50, 60, 70 and 83, there is adequate room however for further calibration by the user. (Why B-T did not do so can probably be traced to the fact that the unit is not intended



Blonder Tongue's new BTU-2S

for DX operation.) Calibration on our unit was set for channel 5 I.F. use.

SENSITIVITY — STABILITY

Our best example of the BTU-2S sensitivity here is the daily reception with a 90 per cent detectable frame bar from UHF channel 17, in Bakersfield, over a flat terrain path of 218 miles. A BTU-2R (predecessor to the BTU-2S) unit fresh from the carton did not show a signal from KLYD except under inversion conditions. Under inversion conditions, direct comparison between our BTU-2S and a BTU-2R indicated nearly 5 db. difference between the output signals of the two. Attempts to bring this difference down to the manufacturer's 3 db. claim met with no success (a point we feel sure B-T will not object to!). We suspect a noisy BTU-2R, but could not prove the case. Regarding sensitivity, suffice to say we could find nothing to compare it with . . . it out-performed everything we tried, by at least 3 db. For those not familiar with 3 db. improvement, it is equivalent (and then some) to adding a second stack on the antenna (doubling the number of elements), certainly worthwhile.

PICTURE QUALITY

The lack of noise in any converter, and the response of its I.F. system will determine the quality of the "converted signal." Careful engineering of the I.F. systems is especially important, for an otherwise carefully designed system can lose picture quality here. Since many of the proponents of UHF reception point with pride to the better picture detail afforded than VHF, a poor I.F. response (where the manufacturer attempts to make up for low unit gain by narrowing the bandwidth of the I.F. system output) is of importance to the home viewer with strong signals as well as the DXer and his weak signals. In the case of the BTU-2S, response and picture detail are very good, especially on snowfree quality signals.

FOR DETAILS

Contact your local Blonder Tongue Distributor, or write to the manufacturer directly at 9 Alling Street, Newark 2, N.J.

— R.B.C., Jr.

DX PRODUCTS**The CHANNEL
MASTER MODEL 425 PARASCOPE**

As readers of DXing Horizons are well aware, our testing laboratory has been observing the gain characteristics of the Channel Master Corporation Model 425 UHF Parascope Antenna since mid-May. From the outset the gain of this antenna appeared to be well above many comparable models using complex stacking and phasing systems, to bring together the gain of a number of bow ties, with reflectors. We will check the apparent reason for this higher "real gain" shortly.

The model 425 antenna is current and available. It has found its greatest acceptance in the mountain areas of Washington and Oregon in Translator UHF reception. This of course involves the high end of the UHF band, where its gain is greatest. However, in our California tests of the antenna, we have run it through its paces on channels 17, 24, 29 and 47, or ranging from 488 to 674 megacycles. The fact that it has become so popular in the northwest for channels 70-83 (806-890 mcs) apparently speaks well for it in the upper UHF range.

The aluminum used for the Model 425 construction is 63SH832 and 3SH19. It is held together (in barbecue grill fashion) by .187 diameter zinc plated steel rivets. The manufacturer says it will withstand hurricane velocity winds.

GAIN

The manufacturer claims the gain at channel 14 (470 mcs) is 15.3 db. over a dipole cut to frequency. The gain at the upper end, channel 83, is reported to be 19.1 db. DXing Horizons was not able to make direct comparisons between the Parascope and reference dipoles although some are planned in the future. Reference checks have been made to compare the Parascope with a rather standard corner reflector. The actual gain of the corner reflector is not known, but the comparison figures below are useful in that they show the percentage of gain obtained. The usual precautions were taken to equalize the signal level from the four stations involved at each antenna site. The signals were measured on a Radion VHF-UHF portable field strength meter, at the antenna terminals (through 5 feet of foam line), and not in the testing laboratory (actually measured on the roof testing point).

(Average Daily Level—3 Measurements)		
Channel	Parascope	Corner Reflector
17	5-10 mu	00 mu
24	40-70 mu	20-50 mu
29	00-5 mu	00 mu
47	60-120 mu	25-90 mu

OBSERVATIONS

In the opening paragraph we mentioned real gain, as differentiated from claimed gain. In dealing with over the horizon reception at UHF frequencies, very few, if any, gain figures consider "fading rates." Every signal . . . UHF or VHF,



"Channel Master Model 425 UHF Parascope"—Channel Master Corporation, Ellenville, N.Y.

within eyesight of the transmitter or far beyond the horizon . . . has fading associated with it. But beyond the horizon, in the fringe area, the fading becomes an important part of the overall signal level. A bow tie antenna, corner reflector antenna, or any small antenna with a small capture area (i.e. the frontal zone the plane of the antenna poses to the received signal) has the disadvantage of being likely to be "out of a signal area" due to fading and phase cancellation at any given instant. With fringe installations, the fading-shifting signal can actually make a previously low signal area at one spot on the roof line suddenly become very hot, at the same time reducing the signal level where the antenna is mounted. Now . . . if the antenna could be at both spots at once . . . if it were large enough to encompass both areas at the same time, the shifting signal would be hard pressed to move out of the "capture area" of the antenna.

This, in a nutshell, explains the advantages afforded by the Model 425 parascope . . . a 6 foot diameter Parabolic antenna with bow tie dipole. While it is not as large as the most effective UHF antenna "could be," it is sufficiently large to spread its "capture area" to cover a large percentage of the fading likely to occur.

While a ten foot diameter Parabolic antenna would be more beneficial than the six foot Channel Master Model 425, the 6 foot model is a good compromise between gain, and usefulness, with a rotor for DXing purposes.

MID-WEST USE

The effectiveness of the Channel Master Model 425 should be especially apparent in the Great Lakes region where UHF activity is high. DX enthusiasts are urged to contact the Channel Master Corp., Ellenville, New York, for further information.

UHF INSTALLATION MATERIAL

UHF enthusiast Edward Pelissier of Hermiston, Oregon, has prepared a fine article on fringe UHF installations . . . watch for it soon in DXH!

WEAK SIGNAL INDUSTRY



Sanford Randolph, elected President of the National Community Television Association, Inc., for 1960-61 at the ninth annual NCTA convention, Miami Beach, Florida, June 24, 1960; he served during 1959-60 as NCTA Vice-president. Mr. Randolph is from Clarksburg, West Virginia where he is Vice-president of the Clarksburg TV Cable Company.

MIAMI CATV CONVENTION

SHIRT SLEEVE WORK SESSION

Some 425 Community Antenna Television System representatives joined in Miami, Florida in a four day business-session convention June 21-24. The sponsoring group, the National Community TV Association, reports this year's convention (the ninth) concentrated upon management topics with speakers largely from within the CATV industry. For the first time in the decade of CATV operation, this year's representatives were faced with a number of opposition groups which threaten to greatly curtail, or even stamp out the Cable TV business. With the memory of a 39-38 vote in the U. S. Senate, on a measure to control CATV, still fresh in the delegates minds, the convention reminded many of a well-run series of business seminars . . . instead of the usual convention "vacation scene." Representatives attended from 30 states, Canada, Great Britain and the Virgin Islands.

POSITIVE ATTITUDE TOWARDS LEGISLATION

In one of the most important, and far reaching decisions coming out of the four day met, the delegates unanimously adopted a clear policy towards legislation at both the state and federal levels.



(L to R) Paul MacNamara, Vice-president of Paramount's International Telemeter and Ken J. Easton, Chief Engineer, Famous Players of Toronto, Canada, get together after a busy session at the ninth annual NCTA convention in Miami, Florida, (June 21-24, 1960), to discuss Telemeter's pay-TV system operating since February, 1960 under Easton's technical supervision in a Toronto, Canada suburb. Mr. Easton is General Secretary of the National Community Antenna Television Association of Canada.

Following the convention, the newly elected NCTA President, Sanford Randolph, Clarksburg, West Virginia, announced "There is no compelling need to legislate in the case of the CATV industry. The National Community Television Association does not deem it necessary or desirable at this time to recommend legislation concerning (CATV) antenna systems."

This decision to openly oppose all types of legislation aimed at the industry, is the result of more than a year of hard core and sometimes heated debate within the industry. President Randolph stated "(The) NCTA will review all future legislation on a case by case basis and decide our position on the merits consistent with the public interest."

LARGER NCTA STAFF PLANNED

While this past year has been very fruitful for the Cable TV Industry, most of its participants agree the months ahead may well supercede everything that has passed in the past decade. To cope with what surely will be greater pressures between June '60 and June '61, when the NCTA will hold its Tenth Annual Convention (in San Francisco), the group's operating budget has been increased 14 percent. And, new personnel will be added to the Washington, D.C. based staff. Chief addition will be a paid chief executive, employed to keep

(Continued on page 12)

BRINGING TV TO MARATHON

(Part Two of Three)

Part one, in July DXH, discussed the various terrain problems present in the Marathon, Ontario CATV struggle to bring television to town of 2,500 residents, isolated by terrain and distance from video reception. Parts two and three will be devoted to the "Marathon Rhombic installations." The data presented here will be in sufficient detail to allow readers to duplicate this highly efficient deep fringe installation.

GAIN VERSUS SIZE

The rhombic antenna is the most efficient antenna known to VHF enthusiasts. It is highly directional, and its directivity increases as the size increases. The gain is also proportional to the size. The front lobe pattern of the antenna is sufficiently sharp to greatly reduce co-channel interference in areas where more than one station can be received per channel. Although the gain of a rhombic antenna of "X" size will vary somewhat over the VHF-UHF range, it is sufficiently broadbanded to give excellent results even on channels it is not "cut for."

It is important the user remember the following points:

(1) The antenna should be as large (see table) as the user can afford, and the space available will allow.

(2) Height above ground is important only up to about 35 feet (ground to bottom bay, if stacked). Above that point gain will increase as absorption from surrounding objects decreases. Under no circumstances should the antenna be located at or below the same level as surrounding trees, power lines, buildings, etc.

(3) A rhombic antenna (out-terminated) has a feed impedance of 450 ohms. It is extremely important that the user take special pains with the "matching device" which brings the impedance

down to the 300 ohm impedance of most receivers.

(4) Stacking rhombic antennas theoretically increases the gain 2.5 db, as with any antenna stacking. However the addition of a second stack has the added advantage (because of the great antenna size) of simulated diversity reception, which greatly cuts down on "normal atmospheric fading."

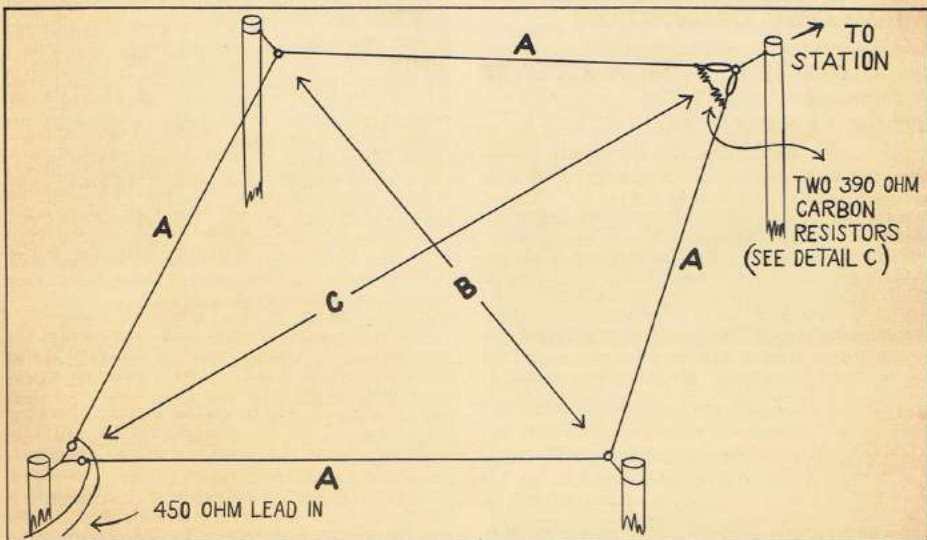
LOCATING THE ANTENNA

With the high directivity, locating the antenna center line "dead on" the received station(s) is highly important. With a front antenna lobe of only "a few degrees," being off only a little will greatly cut back gain. Using a well defined map of the area between the receiver site and the transmitter site (not the city where the transmitter(s) are located . . . but the actual transmitter site), plot the direct line from transmitter to receiver. Using a compass, allow for magnetic declination and plot due north from your location. Next plot exactly how many degrees east of north the path between transmitter and receiver lies (i.e. 0 to 360 degrees, going through east, south and west in that order). Next "walk out due north" in the field where the rhombic is to be located; plot the angle off north the signal path lies, and then lay out the actual "center line" using a compass to give a reading which coincides with the plotted angle. The pivot point, from which the plotting of the center line and due north takes place, should be the base of the antenna, where the feed line terminates. It is not uncommon for enthusiasts to lay out the support pole positions, due north and center lines with the aid of a surveyor's transit.

ANTENNA SIZE

In the accompanying chart, four size choices are shown for the prospective constructor. The sizes shown are for two, four and one-half, and six wavelengths per leg for the channels indicated. Only a single set of figures is shown for the high band, as wavelength change is considerably slower at high frequencies than at the lower channels. It

(Continued on page 16)



Typical One Bay Rhombic

TECH NOTES

Edited and prepared by DXing Horizons Technical Editor
ROBERT GRIMM

2800 Monticello Avenue, Oakland, California

NUVISTOR

RCA recently announced its new Nuvister Triode the 6CW4. This high mu triode is intended for use as grounded cathode, neutralized R.F. amplifier for TV and FM tuners.

The manufacturer rates it as having a noise factor 2 to 4 db. better than tubes currently in use in TV receivers.

This Nuvistor has a high Gm (12,500 Micromhos) which is developed with a plate voltage of only 70 volts and a plate current of 8 ma.!

THE TUNNEL DIODE

One of the latest wonder children of Solid State Physics is the tunnel diode. This is essentially a heavily doped diode that exhibits a negative resistance over part of its curve.

The interesting thing about tunnel diodes is that operation of them at 1,000 Mcs. is quite feasible and they are capable of a very low noise figure. One of the better units is theoretically capable of providing 20 db. of gain with a 2 db. noise figure, operating as a mixer at 200 mcs. With a mixer like this who needs an R.F. amplifier?

The tunnel diode certainly looks like the answer to UHF TV and DXH is currently investigating the possibilities of a tunnel diode R.F. booster for UHF.—RDG

the ULTIMATE TELEVISION RECEIVER

(Continued from page 7)

TUNER I.F. AMPLIFIER

The schematic diagram shows the 6922 working as a cascode I.F. Amplifier. This is as shown in the photo in July DXH.

FUTURE PLANS?

The next step, in the improvement of my receiver, will be the addition of separate I.F. strips for the audio and video. This will narrow the bandwidth and improve the signal to noise ratio. About ten years ago, most TV receivers had separate I.F. strips, but the manufacturers changed over to the intercarrier system for reasons of economy. The fact remains however, that the separate I.F. strips are better. Why have your video I.F. be 1.5 MC broader than is necessary for reception of the video signal? *This only produces additional noise!*

WEAK SIGNAL INDUSTRY

(Continued from page 10)

tabs on Capitol Hill, and maintain liason with what has been to now a foe . . . the Broadcasting Industry.

NEW OFFICERS

In addition to new NCTA President Sandford Randolph, Larry Boggs of Oklahoma City was named Vice President, Charles Clements, Waterville, Washington, Secretary, and Glen Flinn of Tyler, Texas took over the Treasurer's post. Nine men were also elected to the Board of Directors for the NCTA.

PAY TV — PROS AND CONS PRESENTED

On the Pay TV front, a pair of prominent representatives, Paul MacNamara, Vice President of Paramount's International Telemeter, and Irv Kahn, President of TelePrompTer, addressed the convention gathering. Kahn and TelePrompTer got in their first licks when they brought the Patterson-Johansson title fight to the convention hotel and invited CATV operators to view it via cable from NYC.

Kahn asked CATV operators to make his "participation TV plan" a rallying point, but in so doing cautioned that "as community antenna system operators, none of us is interested in destroying regular network television."

Speaking for the opposition, Mr. MacNamara gave a preliminary progress report on Telemeter's current Pay-TV operation in a Toronto, Canada suburb. He noted Telemeter has some 5,700 subscribers signed to the system to date, and he promised a preliminary financial report on the success of the unit installation, following a few more months "in which the novelty should wear off, and the day to day use patterns become established."

DXH UNDERSTANDS

It was very clear to those CATV operators in attendance that the Pay-TV camp views with great respect the potential existing cable TV systems have to offer. The action of Pay-TV advocates at the convention reminded one of the current political conventions . . . with every effort being made on the part of Pay-TV campaigners to acquire the votes of CATV operators.

But it was just as clear that most CATV operators viewed with some skepticism the promises of sudden riches offered by Pay-TV proponents. If there is one field in the TV distribution World that is "a hotter potato" than CATV, it is Pay-TV. And there are those who will think more than once about getting their own house in order, before they take on some elses problems.

In other words, the CATV fight to "ding" curtailment legislation is not yet over . . . in fact it has hardly begun. DXH believes the battles ahead to win favorable (if any is required) legislation for the CATV world will require all of the strength our small industry can muster. Certainly the CATV camp should work hard first at settling its own differences with various local, state and federal government agencies. Before we offer to help Pay-TV fight its battle . . . a battle which in comparison will make ours look like a minor skirmish . . . be sure the Pay-TV bandwagon you are about to jump on is a bandwagon . . . and not a meat wagon.

FM Reporting

Edited and prepared by BRUCE ELVING
522 North 12½ Avenue East
Duluth 5, Minnesota

FM DX continues to be dominated by tropospheric openings, with skip reception thus far in 1960 being virtually non-existent. But few of us have the time to be lamenting the lack of skip—there has been a lot of fine FM DX at distances up to 800 miles.

A major opening June 18 provided 17 new catches and two new states (Indiana and Tennessee) for Stanley Harper, Lisle, in west-central New York. Stanley, who competes with a brother living 1½ miles away for the best FM DX, has a Scott 310C tuner and a 12-element FM/Q antenna on a rotator. Stanley now has a total of 293 FM stations logged from 26 states, the District of Columbia and two Canadian provinces. His June 18 catches were: WOMI-FM 92.5 Owensboro and WFMW-FM 93.9 Madisonville, Ky.; WFBM-FM 94.7 Indianapolis, WTTV-FM 92.3 Bloomington, and WTHI-FM 99.9 Terre Haute, Ind.; WSIU 91.9 Carbondale, WMIX-FM 94.1 Mt. Vernon, Ill.; WSIX-FM 97.9 Nashville, Tenn.; WFOB 96.7 Fostoria, WMRN-FM 196.9 Marion, WIFE 104.7 Dayton, WFAH 101.7 Alliance, WTVN-FM 96.3 Columbus, WPFB-FM 105.9 Middleton, WMVO-FM 93.7 Mt. Vernon, and WPAY-FM 104.1 Portsmouth, all Ohio, and the 250-watt WARD-FM 92.1 Johnston, Pa.

Another New Yorker, John J. Hopkins, Jr., of Rockville Centre also notes that long-distance FM reception is on its summerly upswing. Using a Granco table radio and a vertical whip, Hopkins has recently logged, within a 125-mile radius, WKDN-FM 106.9 Camden, N.J., WHYY 90.9 Philadelphia, as well as WRFW 107.1 Mt. Kisco and WLNA-FM 100.7 Peekskill, N.Y.

From his island, Bradley R. Graham, Black Rock Lighthouse, Connecticut, has added several new calls to his FM list, including WHYY, WIFL 92.5 and WFIL-FM 102.1 Philadelphia, Pa.; WBUR 90.9 Boston; WSHS 90.3 Floral Park, N.Y.; the 10-watt WFMU 91.1 East Orange, N.J.; and WNYE 91.5, the last unreceived station in New York City. Graham, who builds his own equipment, has a four-element dipole, 20 feet above the water.

From farther down the Atlantic Coast, Hank Holbrook, Bethesda, Maryland, who uses a German-made Siemens receiver, has heard several new FM stations: WHNC-FM 92.5 Henderson, N.C. on May 29. And, early in June—WKDN-FM; WCPB-FM 104.3 Tarboro, N.C.; WSJS-FM and WAIR-FM Winston-Salem, N.C.; WKIX-FM 96.1 Raleigh, N.C.; WBKW 99.5 Beckley, W. Va.; WABC-FM 95.5 New York, N.Y. Ohio was received for the first time June 14—WSOM Salem 105.1. June 19 provided Holbrook's most distant logging, at 490 miles: WFBM-FM. WPAY-FM, WERE-FM 98.5 Cleveland, Ohio, and WHLM-FM 106.5 Bloomsburg, Pa. were also received that day. Holbrook now has 50 stations verified from eight states.

Walter G. Jung, Forest Hill, Maryland, who has logged 85 FM stations to date, receives some 50

stations regularly with full clarity at up to 200 miles, using an Eico HFT-90 tuner and a Channel Master 10-element yagi antenna. Some of the stations received since May 1, at distances of over 300 miles, are: WDDS 93.1 Syracuse, N.Y.; WSJS-FM; WBEN-FM 102.5 Buffalo, N.Y.; WDNC-FM 105.1 Durham, N.C. A low-powered educational station, WPWT 91.7 Philadelphia, Pa. was logged June 8.

Located beside the Gulf of Mexico near Panama City, Florida is Norm Metcalf at Tyndall AFB, who notes that WCTA-FM 98.1 Andalusia, Ala., 90 miles, is usually the only FM station receivable. But after acquiring a National Criterion tuner, WDSU-FM 105.3 New Orleans, 240 miles, and WMIT 106.9 Mt. Mitchell, N.C., 430 miles, were received with excellent signals. Metcalf is looking forward to installing an FM/Q in order to "go all out" for FM DX. The present antenna is a dipole strung from the ceiling inside the barracks.

MIDWEST DX

Ed McMullin, Hemlock, Michigan, who recently installed a yagi antenna, has added to his loggings such stations as WBUF 92.9 and WBEN-FM Buffalo, N.Y.; WHIO-FM 99.1 Dayton, Ohio; WERC-FM 99.9 Erie, and WPIC-FM 102.9 Sharon, Pa., plus several stations in Indiana, Wisconsin and from Chicago, bringing his total heard to 60.

From Saginaw, Mich., Jim Hughes has added WKFM 103.5 Chicago, WTRC-FM 100.7 Elkhart, Ind., and WGAR-FM 99.5 Cleveland, Ohio. WBCM-FM 96.1 Bay City, Mich. has been heard testing.

DXing from a dormitory room in Iowa City, Iowa, Kent Corson has received such stations as WGEM-FM 105.1 Quincy, Ill., KADI 96.5 St. Louis, Mo., WSOY-FM Decatur, Ill., and WLDS-FM 100.5 Jacksonville, Ill.

There were only two days in June good enough to produce DX here in Duluth. WFAW 107.3 Fort Atkinson, Wis. and KFAB-FM 99.9 Omaha, Neb. were received the morning of June 22. On June 26, WDOK-FM 102.1 Cleveland, Ohio was heard at 8:30 a.m. CST, and by 9 p.m., another Cleveland station, WABQ-FM 106.5 was received, raising to nine the number of FM stations I have received from that Ohio city. At 11 p.m., WBUF was received, for my second tropo catch from New York state (the other being WBEN-FM). Also received that day was WSBC-FM. My log now stands at 355 FM stations heard in Duluth.

(Continued on page 17)

FM/Q ANTENNAE SYSTEMS

GET MORE FM STATIONS WITH THE WORLD'S MOST POWERFUL FM BROADBAND ANTENNAE

To be fully informed, send 30¢ for NEW Edition of "All About FM Antennae and Their Installations" by L.F.B. Carini. Contains Directory of FM Stations and Log.



FM/Q WETHERSFIELD 9, CONN.

TV Reporting

Deadline for TV DX reports in Modesto,
California for September DXH — AUGUST 18.

OVER 50 DXER LISTING

TV DX enthusiasts should note with interest the special insert between pages 26 and 27. It applies to you as well as the shortwave, medium wave and FM sets.

Not mentioned in the flack on the special insert, is a set of TV DX only Awards now being put together. These fine-handsome certificates are long overdue in the TV DX field, and they will be available sometime this fall. You asked for them . . . DXing Horizons is about to make them available!

Now . . . in addition to the new TV DX awards program, the TV reporting section of DXH is about to rekindle the OVER 50 TV DX LISTING, started in RADIO-ELECTRONICS. Every third month (starting in October) will continue this listing, bringing new totals up to date with each new listing. TV DXers are asked to submit totals in the following form for the October listing. (All DXers with 50 or more stations logged are eligible for this listing.)

1. Total stations logged.
2. VHF stations logged.
3. UHF stations logged.
4. Total stations verified.
5. Greatest VHF low band distance
6. Greatest VHF high band distance .
7. Greatest UHF distance.

These totals must be in Modesto by September 10th for the October listing.

OHIO-KENTUCKY DXERS FARE WELL

For 24 magic hours over the period June 18-19 DXers in southern Ohio and Kentucky sat smack dab in the middle of an amazing tropospheric DX opening that stretched east to the Atlantic seacoast, and southwest to northern Texas and Louisiana. It began on the morning of the 18th. Walter Owen, Jr., Springfield, Ohio noted groundwave (trops) good to 350 miles to the west, with Missouri and Tennessee stations logged. Shortly after the noon hour (1230 EST) KTHV-11, Little Rock, Arkansas appeared at 520 miles, lasting until nearly midnight! By the wee hours of the 19th, KWTV-9, Oklahoma City (712 miles) appeared, to be followed by 0130 (who says DXers retire early!) long haul WFAA-8, Dallas, Texas! This is the first known instance of a Texas high bander logged in Ohio . . . the distance 770 miles!

By dawn on the 19th, the trops extended from the Virginia coast (WTVR-6) 340 miles, south to KNOE-8, Monroe, Louisiana (600 miles). Owen says "The best DX session I ever sat in on!"

A bit further south, Billy Meers, La Grange, Ky. caught KFJZ-11, Dallas at 0142 EST, about the time Owen was seeing WFAA, the same Texas city. At 0228, Meers caught WFAA also. Four hours later, 0635, DX opened up to the northeast and Meers caught WABC-7, New York City, WBNF-12 Binghamton, and others.

Richard Bergen, III, also La Grange, Ky. reports KWTW 9,695 miles at 2300 on the 18th, and many more in the 500 mile range.

On the northern edge of this opening, Ed Seeger,

Itasca, Illinois found WHTN-13, 400 miles visible from 0030-0230.

And in the east, late watcher Karl Kleintop, Telford, Pa. was rewarded with KFVS-12, Cape Girardeau, Mo. at 800 miles, seen at 0300 EST, on the 19th!

ELSEWHERE IN THE GREAT LAKES

Double hop is rare this summer and as a matter of fact so was E skip.

But Roger Hansen, Kalamazoo, Michigan, caught KNXT-2, Los Angeles, California. Hansen reports the West Coast station ID'ed at 2030, and 2100 EST on the 16th of June. The distance . . . 1,880 miles.

Frank Hill, Gallipolis, Ohio, ran the gamut with E skip at his location. From Maine (WLBZ-2, 850 miles) on June 17, to Florida and Cuba (CMBF-2, 1,200 miles) on the 21st, to Texas on numerous occasions, and west to South Dakota (KPLO-6, 900 miles) on July 3.

On the shore of Lake Erie, Frank Wheeler, Erie, Pa., notes a fair to good trop month, but a very much below par E skip June.

On the shore of another Great Lake, Tim Hidley was busy preparing for the AIPA Convention gathering, but he did find the time to add WCCO-4, Minneapolis to his log the A.M. of July 2, before his local sign-on.

Mike Navarre, Port Huron, Michigan is on vacation from his downtown Detroit location. Using a typical grade B service installation, Navarre has logged a number of Oklahoma and Texas E skip stations, as well as Iowa groundwave on July 2, 0730-0800 EST.

Robert Martin, Girard, Pa. reports 11 new stations at his location this summer, including a pair of channel six stations from Texas on July 7 (KCEN, KCMC) on E skip.

Milwaukee reporter Dave Janowiak found little E skip to report, and just a smattering of trops. Dave caught E skip June 16, 17, 30 and July 2 in this reporting period. 40 DX calls were logged the evening of June 22 within 400 miles, including Michigan, Iowa, Indiana, etc. On July 14, Dave thinks UHF trops must have been good. As luck would have it his UHF converter was "in the shop," but using a channel 18 strip he caught a perfect signal from WFAM-18, after local WXIX left the air! Janowiak is building a 6CM4 UHF pre-amp, incidentally.

Central Illinois DX-pert Bill Eckberg had E skip June 16, 21, 22, 23, 24, 26 and July 4. Trops the evening of July 1 brought KTVH-12, Kansas, 511 miles, and KAKE-10, Kansas, 498 miles. More good trops the wee hours of July 11 added KORN-5 (New, Mitchell, S.D.) 473 miles and KPLO-6, Reliance, S.D. (550 miles).

IN THE SOUTH

What E skip concentration there was apparently coagulated in the southern extremes. John Owen Broomall, Augusta, Georgia, reports Es June 21, 22, 23, 24, 27, and July 1 this period. Among his catches, HIT-2, Dominican Republic, CMBF-2, Ciego De Avila, Cuba, XEFB-3, Monterrey, Mexico, CJCB-4, Sydney, Nova Scotia, WAPA-4, San Juan, Puerto Rico, and a host of midwest and gulf coast stations. So things can't be too bad in the south!

Further south, Donald Ruland, Holly Hill, Florida found enough E skip and trops to fill four

log sheet sides from June 11 to July 10. Some of Ruland's new catches this month (and they come hard when you begin to approach the 200 station mark!) Included WHDH-5, Boston (6-22) and CKSO-5, Sudbury, Ontario, Canada.

Northeast DXers on the video bands are amazingly silent for the second month running. J. M. Majdak, Jr., Brattleboro, Vt. reports E skip on three dates in early July, bringing in low banders from Louisiana, S.C., Florida, Georgia and Alabama.

From Stephenville, Newfoundland, Canada, Ronald La Marre put his channel two yagi to work on June 11, 17, 18, 22 and 23, with stations in Virginia, Michigan, Ohio, New York, Pennsylvania and Maryland logged on E skip.

In the northland of Ontario, Gary Burrows, Kirkland Lake, used both the Community TV Antenna system and a pair of rabbit ears in running up a total of E skippers. E skip was noted on 7 days from June 23 to July 12, with WKY-4 Oklahoma City the most frequently seen.

MIDWEST REPORTERS

Bill Hauser, Oklahoma City, Oklahoma sat on the western edge of the big June 18-19 tropes extravaganza, but reports groundwave improved only on a local basis. On the evening of the 18th and the morning of the 19th, Hauser logged numerous calls in the 250-350 mile range, Hauser also reports the call XEWO-2 as being on the air in Guadalajara, Mexico. "This Guadalajara" is located between Mexico City and Mazatlan, in the west of Mexico. Hauser logged the channel 2 at 1325 and 1615 EST on July 2. Strangely enough, just audio . . . no video, either time.

Dave Combs, Columbia, Missouri, shortwaver turned TV DXer, was about to give up the TV DX scene after a long dry June of only tropes (in the 250 mile range), when he caught his first E skip. WTHS-2, Miami was nabbed at 1900 on the 12th.

Another SWL turned TV DX fan is Dan Stitt, of Hastings, Nebraska. Stitt notes he has logged WUSN-2, Charleston, S.C. Almost daily from 1230-1330 EST and again between 1900-2350 EST.

B. J. Bingham, Festus, Missouri had but five days of E skip at his central Missouri location. One nice new catch included KUAT-6, Tucson, Arizona, on June 22. In the tropes department, Bingham really shined. In the middle on the famous 18th-19th period, KPLC-7, Lake Charles, Louisiana was snagged at 0900 on the 18th, while WNCT-9, Greenville, N.C. was logged at a distance of 765 miles at 2300 on the 18th.

Jim Cumbie, Dallas, Texas reports he has added KTWO-2 Casper and CFCJ-2 as the only new hauls this summer. He had Es on July 2 from Ohio, N.C., S.C., Pa. and Montana.

The top DXer of the month was Jim Himes, Joes, Colorado, who had E skip on 18 days from June 11 to July 12. A total of 155 E skip loggings, averaging nearly 9 E skip identifications per opening. June 21 was the top day . . . 27 skip stations from 0915-2100 EST.

IN THE SOUTHWEST—AND WEST

David Beal, Tucson, Arizona ran Jim Himes a close run for the number one DXer this month. Beal had E skip on 14 days, totaling 135 skip loggings. June 21 was also his top date, when he caught 30 skip stations. On the 21st, Beal nabbed

two double hop stations (very rare this summer) with WGR-2, Buffalo (1,880 miles) and CBFT-2, Montreal, Quebec (2,180 miles) logged at 1445 and 1515 EST respectively.

Jimmie Price, Fallbrook, California celebrated his 4th TV DX anniversary at 1430 EST on July 3 . . . recalling that date in 1956 when he logged his first TV DX . . . KMGD, Midland.

In Sacramento, California, Medium Wave DXers Steven Troyer and Lyle Derington found TV DXing a pleasant interlude while the broadcast band was choked with static crashes. Both logged E skip during June and July, with catches from N.D., Texas, Wyoming, Nebraska and Canada.

In Wasco, California, near Bakersfield, Dennis Smith prepared himself for a summer full of DX, and then found to his disappointment Es occurred only on eight days from June 16 to July 14. Best dates . . . July 5 and 12.

From New Zealand, Robert Morse reports he is gunning for KONA-2, Honolulu, a mere 3,800 miles! Morse has a new "double vee" antenna now for his DX work. No signs of Australia, he reports, since his May 1960 report in the IDX column.

TV DX FORECAST

For the real enthusiast, the lure of the period ahead is the Perseids Meteor Shower. This, so to speak, is the "big meteor shower of the year."

AUGUST 10-14

Using standard meteor shower low and high band techniques, the DXer will fare best between midnight and 2 A.M., and again from 5 A.M. to 9 A.M. Local Standard Time. East-West, SW-NE and NW-SE paths are best, and most likely to produce good burst counts. (i.e. Point your antenna either NW, or SE "from your location" from 2330-0030, East, or West from 0300-0800, and SW or NE from 0600-1100.) The mornings of August 11, 12 and 13 will probably be the best (if past years are any indication). To get your set aligned for tricky meteor burst DXing, pick the lowest vacant low band channel to align your fine tuning, contrast, AGC and hold controls, and then when the burst count moves up to more than five per minute, try channels 7-13.

E SKIP

Now a late afternoon, early evening occurrence. Watch mid-month, and the last five days of August for especially hot Es. Seldom above channel 4 from here on out. Best 1600-2100 LST.

TROPS

Very big all over the country, especially the Atlantic Seaboard. Watch for stable air masses over the plains (Indian Summer periods), or "ahead of hurricanes" up the East Coast.

And our special measure of thanks to DXers Gary Enresman (Ind.), Raymond Mitchell (Ohio), Dave Swanson (Ill.), Jack Collier (Va.), C. M. Stanbury (Canada), M. L. Whitson (N.M.), Eric Norberg (Calif.) and C. E. Stephens (Canada) for their TV DX reports this month.

Reports this month definitely indicate an upswing in TV DX interest, and the growing league behind it. It has been especially heartening to note the many new reporters this month. Keep up the swell work!!!

R.B.C.

BRINGING TV TO MARATHON

(Continued from page 11)

is the length of the wave of the transmitted signal that determines distance A, or the "length per leg" of the rhombic. Increasing the number of "wavelengths per leg" (again . . . distance A) will increase the overall gain of the antenna. Select the length (or expand on the table for greater lengths) which fits your available area.

Channel Size	2			3		
	A	B	C	A	B	C
2	31'6"	42'5"	47'	28'3"	38'3"	42'3"
4.5	76'	67'5"	137'	68'6"	60'8"	123'6"
6	101'8"	80'	188'	91'9"	72'	169'

Channel Size	4			5		
	A	B	C	A	B	C
2	25'9"	34'8"	38'6"	22'3"	30'2"	33'6"
4.5	62'5"	55'4"	112'6"	54'6"	49'	98'2"
6	83'5"	65'6"	154'	72'6"	57'	133'

Channel Size	6			High Band		
	A	B	C	A	B	C
2	20'8"	28'	31'2"	8'11"	11'11"	13'4"
4.5	50'4"	44'8"	91'	21'8"	19'2"	39'
6	67'5"	53'	124'	29'4"	22'11"	53'

It should be remembered that the above chart gives the proper lengths for (A) legs, (B) width and (C) length front to back. However, when a rhombic system is designed for several channels, pick the lowest channel to be used, and the greatest overall size practical.

PROPER MATCHING

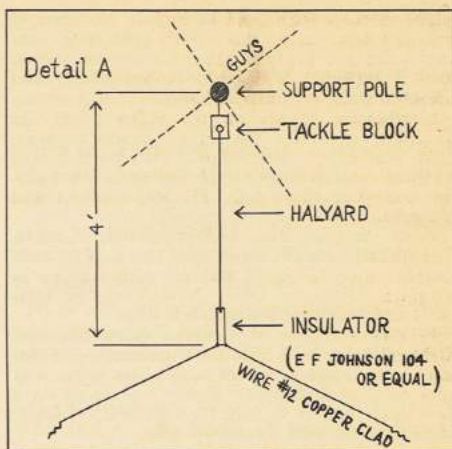
Unless the forward end of the rhombic is "terminated," the antenna will exhibit bi-directional qualities, with equal gain in both forward, and reverse directions. "Terminating resistors" solve this problem, connected across the front section of the array, by giving the antenna unidirectional gain, in only the forward lobe (direction of arrow). Terminating resistors, as shown, are one watt 390 ohm carbon (Note: If necessary, strip down a suspected resistor to be extra sure it is not wire wound, as most this size are.) The resistors will drop the feed impedance of the antenna to 450 ohms, which can easily be handled by any of the popular brands of 450 ohm open wire line, in the run from antenna to house. At the house (or antenna, if desired) a short matching section is constructed from 300 ohm twin lead, which drops the 450 ohm antenna impedance to exactly 300 ohms, to match the receiver, or amplifying equipment.

CONSTRUCTION DETAILS

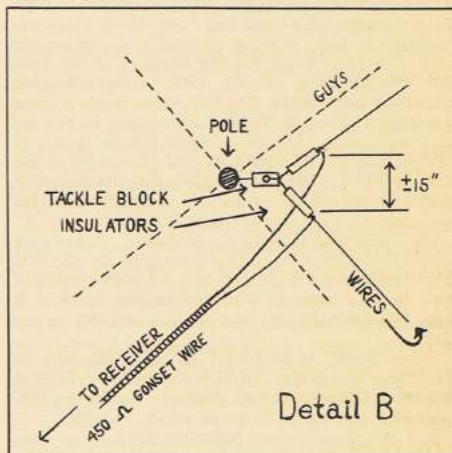
The wire used for construction should be copper clad steel, No. 12. Stranded copper stretches, and does not have the strength of copper clad steel.

In long runs, from antenna to receiver, 450 ohm open wire line should be used to keep line loss at a minimum.

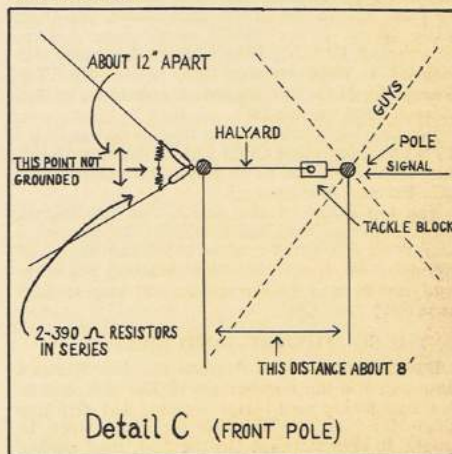
Stacking and matching will be discussed next month.



Side Pole Mount



Back Pole Mount



Detail C (FRONT POLE)

SUN SPOT REPORT — '60

(Continued from page 4)

prior to sundown), and does not reappear until sometime after sunup. And its peak daytime absorption frequency may climb no higher than 7 megacycles at the bottom of the cycle. This, as some have already guessed, can make the range 7-11 megacycles "daylight skip bands" at the bottom of the cycle.

E LAYER

The affect of this layer is questionable at shortwave frequencies, especially in a limited discussion such as this. Suffice to say that at Equatorial regions, it is more pronounced than say north or south 20 degrees latitude. In the equatorial belt, the E layer ionizes during the daytime sufficient to "short skip" (200-1200 miles) stations in the 5-15 megacycle range from sunup to sundown.

F1 LAYER

In the daytime the F layer breaks into two component parts, the F1 and F2 layers. The F1 layer is weaker than its counterpart and exists at an altitude of approximately 140 miles. It is primarily responsible for the skip reception of signals in the 400-2500 mile range between 11 and 18 megacycles. Its greatest strength is at noontime at the midpoint of the path between the receiver and transmitter. As dusk falls, the F1 layer merges with the F2 layer at a nighttime height of 175 miles. At periods of sun spot low the F1 layer carries the bulk of the shortwave load during the daytime hours, for the F2 layer becomes almost undiscernible as particle radiation decreases.

F2 LAYER

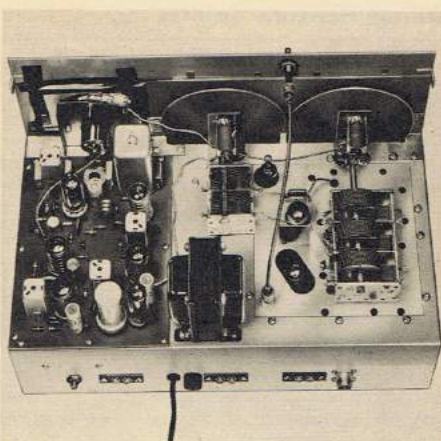
During periods of high sun spot count, the F2 layer becomes very prominent. It takes on the bulk of the communications load and its ionization content seems to be a reverse logarithmic function. Under low levels of radiation from the sun, it ionizes little. With a little more applied, it slowly begins to ionize. But as the smoothed sun spot number rises above approximately 70, it suddenly comes to life, ionizing heavily and holding its ionization level well after sundown in many equatorial regions. The F2 layer forms during the daylight hours at a height of approximately 200 miles.

It is the F2 layer which provides earth girdling communication during the daylight hours on frequencies above 12 megacycles.

At night (in the ionosphere) the F1 and F2 layers join at a height of 170 miles, separat-

ing as the sun's rays again sweep the layer with the dawn of a new day.

NEXT MONTH—Skip as a function of ionization.



Cover off — inards revealed. R.F. and main tuning at right, bandspread tuning in center, I.F. and other associated circuitry at left.

DXH TESTS THE KNIGHT-KIT R-100

(Continued from page 5)

Although we spent no great deal of time calibrating the unit, it tracked well across the entire range from 540 kc. to 30 megs, and the optional Crystal Calibrator (100 kc. marker) made accurate frequency readings possible to within 2 kc. at 4 megacycles, and to 10 kc. at 30 megacycles.

For further information contact Allied Radio Corp., 100 North Western Ave., Chicago 80, Illinois.

—R.D.G.

FM REPORTING

(Continued from page 13)

NEWS OF FM STATIONS:

WICA-FM Ashtabula, Ohio should be transmitting on its new frequency of 97.1 megacycles with 200 kilowatts of power by July 1, reports Lee Arp, Conneaut, Ohio. WICA-FM, which multiplexes background music, formerly operated on 105.7.

WDBN 94.9, with transmitter in Seville, Ohio, is expected to begin operations the end of August, programming 17 hours a day, according to Dan Wilt, Akron, Ohio. The station hopes to reach a normal radius of 100 miles.

Ed McMullen reports that WABX 99.5 and WCHD 105.9 Detroit are now on the air. New stations on the air in the Minnesota area are KLIZ-FM 95.7 Brainerd, KNOF 95.3 St. Paul, and a Wisconsin station, WCOW-FM 97.1 Sparta-Tomah.

For next month, keep your reports coming to Duluth, Minn. The deadline will be August 13.

SHORTWAVE STATION REPORT

DXing Horizons Salutes . . .

Radio New Zealand, Wellington

"This is New Zealand Calling . . ."

If you'll tune to 6.080 or 9.540 around 0850 GMT, you probably will hear the call of New Zealand's native Bell Bird prior to s-on of ZL7 and ZL2, respectively. The call of the Bell Bird, at 5-second intervals, is the official IS of Radio New Zealand.

The two SW transmitters of Radio New Zealand are situated at the Titahi Bay Transmitting Station—the largest transmitting station of the New Zealand Broadcasting Service—some 20 miles north of the capital city, Wellington. The building there also houses three large MW transmitters which operate in the Home Service.

The transmitters were designed and constructed in 1945-46 by the Australian concern, Messrs. Amalgamated Wireless (Australasia) Ltd., and were installed and tested by the engineering staff in 1946-47.

They are capable of operating with crystal control on any frequency from 6 mc/s (49-m. band) to 21 mc/s (13-m. band), frequency changing being effected by switches which progressively short turns on the plate and grid inductances throughout all the radio-frequency stages, as the operating frequency is increased.

Condenser tuning is used throughout. High-level modulation is employed, with a Class B modulator using two BR179 tubes in push-pull, plate-modulating the final radio-frequency amplifier. This final stage also uses two BR179s in push-pull and delivers a power of 7.5 kw. (unmodulated) to the transmission line.

The aerial system, as re-designed, consists of the Australian arrays which are directed on a bearing of 285° east of north. The 9-, 11-, 15-, and 17-mc arrays each consist of a curtain of center-fed, three-element folded dipole radiators, with single-element parasitic reflectors. The radiators and reflectors are arranged in two tiers and two bays for operation on frequencies above 9 mc/s, and in a single tier and two bays for the 9-mc band. The 6-mc array has a radiator and a parasitic reflector consisting of four collinear loops—the



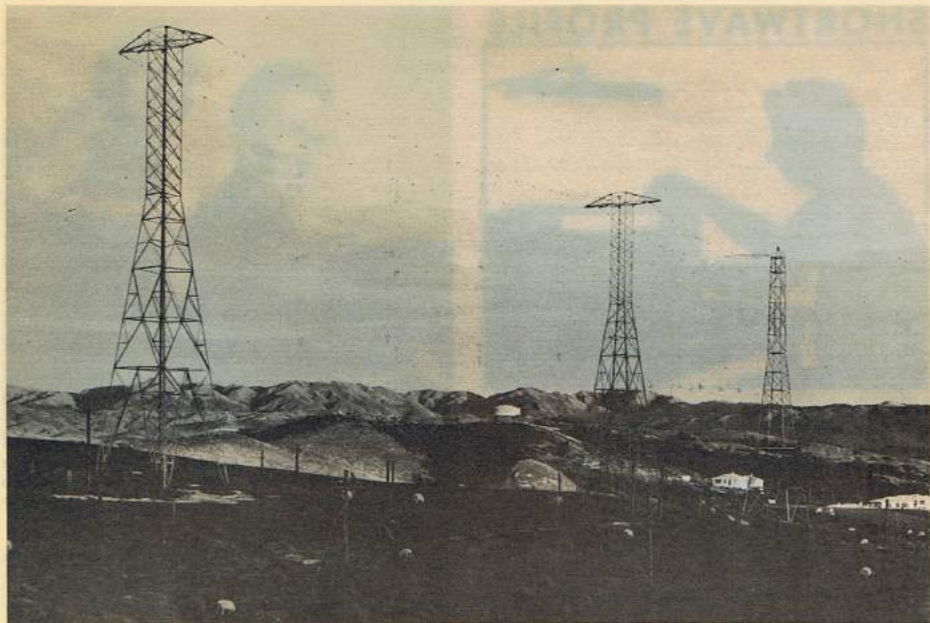
This attractive QSL card is sent out by Radio New Zealand, the Shortwave Division of the New Zealand Broadcasting Service, Wellington.

radiating elements being the five verticals formed by the loops. This has a lower gain than the dipole aerials used for the higher frequencies, but it gives a low angle of radiation at the available mast height.

The Pacific arrays are directed on a bearing of 30° east of north. The 11-, 15-, and 17-mc aerials are similar in design to the Australian 11-, 15-, and 17-mc aerials, while the 6- and 9-mc aerials are loop types similar to the 6-mc Australian aerial.

"We have no plans for permanently covering areas other than Australia and the Pacific Islands," an official of Radio New Zealand says. "However, we broadcast a short program once a week to New Zealanders in the Antarctic stationed in the Ross Sea Dependency. For this, we use a 7.5-kw. transmitter which feeds into a tilted-V aerial on a bearing of 183° east of north."

The transmission lines, aerial system, and the remote switching equipment have all been designed, built, and erected by the staff of the New Zealand Broadcasting Service.



Sheep calmly graze beneath the antenna arrays of Radio New Zealand at the Titahi Bay Transmitting Station near Wellington. Radio New Zealand beams programs daily to Australia and to the Pacific Islands.

All aerials are remotely switched.

Latest schedule received from Radio New Zealand follows:

TO PACIFIC ISLANDS — 1700-1845, ZL3, 11.780; 1900-0545, ZL4, 15.280; 0600-0845, ZL7, 6.080, ZL2, 9.540. TO AUSTRALIA — 2000-2230, ZL4, 15.280; 2245-0545, ZL14, 17.820; 0900-1145, ZL7, 6.080, ZL2, 9.540. SPECIAL TRANSMISSIONS—In the Pacific Islands beam, has a program in the Samoan language 2040-2055 MON., REPEATED 0700 TUE. "Calling Antarctica" (news, sporting review, "Family Corner") goes on the air 0815-0845 SUN. on 11.780 (subject to change). The MONTHLY DX PROGRAM, "This Radio Age," compiled and presented by Cleve Costello, 115 Hobart Street, Miramar, Wellington, N.Z., is aired on the FIRST WEDNESDAY OF EACH MONTH at 0815 and 1030 on 6.080, 9.540. New Zealand news is scheduled MON.-FRI. 0330; MON.-SAT. 0730, 0840, 0930; SUN. 0930. MAILBAG goes on the air FRI. 0700, 1000. Program previews are given MON.-FRI. 0050; DAILY 0610, 0740, 0840, 0900, 0940, 1140.

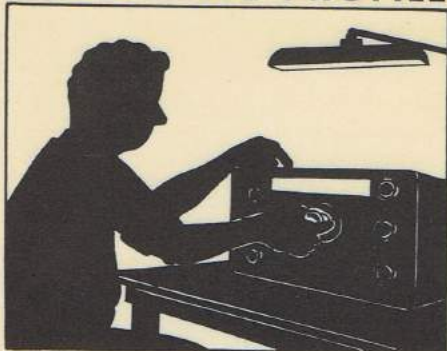
"Radio New Zealand welcomes correspondence from overseas listeners, and values comments on programs," according to A. L. Curry, Station Manager. "Our engineers are always interested in reception reports from overseas countries. All reports are acknowledged by letter or QSL card, and should include the wavelength or frequency of transmission, date, time, and if possible, details of any interference." Radio New Zealand's engineers suggest a simple, concise reporting code which consists of a 0-5 rating for (1) SIGNAL STRENGTH, (2) INTERFERENCE, and (3) OVER-ALL MERIT; for example, 534 means a *very strong* signal with *weak* interference that reduces the *over-all reception merit* to *good*. QRA is Radio New Zealand, New Zealand Broadcasting Service, P. O. Box 2396, Wellington, C. 1, New Zealand. A QSL card which I received in May for my March 2 report on ZL2 and ZL7 was signed by J.H.E. Schroder, Director. QSLs are sent by surface mail and take several weeks in transit.

A program schedule will be sent to listeners FREE ON REQUEST.

Best wishes go from DXing HORIZONS to the staff of Radio New Zealand!

— KEN BOORD

SHORTWAVE PROFILE



Husband-Wife Team Says . . .

SHORTWAVE LISTENING IS GREAT FUN

By JOHN E. GIBSON
Reseada, California, U.S.A.

If you haven't yet experienced the fun of shortwave listening . . . *you really have something special to look forward to!*

The dream of entertainment from the various world capitals is yours to command. Britain, France, Holland, Sweden, Switzerland, and many other leading countries compete with each other as they seek to present the most interesting shortwave broadcasts beamed to your shortwave radio. And you don't have to be a linguist to understand all this, *since virtually all countries feature broadcasts in English.*

Your "passport" to the other side of the world lies just a few degrees to the right or left on the shortwave dial of your radio receiver—where powerful stations in such far-off places as Australia, New Zealand, Singapore, India, Iraq, and South Africa broadcast programs that present an intimate impression of each country.

If, like most of us, you can't visit these countries in person, the next best thing is to visit them by shortwave.

Without moving from the easy chair in my living room, I have learned so much about the customs, attitudes, and way of life of people in every corner of the globe, that it seems as though I actually have "lived" in many lands.

When Radio Congo Belge, in the heart of Equatorial Africa, signs on the air with the beat of the "talking drums," I'm actually transported there, as it were.



Husband and wife team John and Marjorie Gibson with 30-tube Scott Philharmonic. Each of them claims to be 30 years younger and less beatup looking than they appear in this photo!

When I tune in "The Call of the Orient" in The Philippines, and hear exotic rhythms, sprinkled with news of happenings in the islands of the South Pacific, it takes me there, too.

There's the same "magic carpet" feeling when Radio Japan takes me on a tour of Tokyo's famed Ginza; or when Radio Australia comes on the air with the fantastic laughing call of the Kookaburra—which is a sound that must be heard to be believed!

The diversity of the programs broadcast over shortwave at every hour of the night and day, from practically every country in the world, is truly amazing. Whatever your mood, or whatever your interests, you're bound to find something that will divert and intrigue you. And if you want to learn a foreign language, you need only to flick a dial. Radio France, for instance, gives you French lessons, the "Voice of Germany" teaches the German language, and so on.

Sounds like fun? IT CERTAINLY IS!

• • • • •

From the Distaff View

By MARJORIE GIBSON

You know, I still can't understand why more women don't get into the fun of SWling. *There can be no hobby more fascinating!*

I love to have the whole, talking, singing (or ranting and screaming!) world at my fingertips! Suddenly, I realize that it isn't just a small world, easily partitioned or contained. It's a great big world—and every little island,

from the Cooks to Sarawak, to Mauritius, to the huge continents like Africa, Australia, and the many, many tongues of Europe and Asia—all have a voice—and they come right to you, via shortwave. *And they are the communications between peoples.*

I think the first lesson for me in this phase of the "game" came one day when I was tuned to Radio Australia's "Listen While You Work" program. They played a request for a girl in Raratonga, Cook Islands. It was "On the Boardwalk at Atlantic City"! Here, in Los Angeles, I was hearing a sing about New Jersey, played by Australia, for a girl on an island in the South Pacific!

Mostly, I like the music from all over the world . . . Portugal's Fado music, Koto music from Japan, Chinese opera from Peking, the delightful Scandinavian and German music, enchanting chansons from Paris . . . the list is as endless as the countries. And I still get a "creep" up my spine when I hear India's sign-on snake-flute music! *And not a commercial in the whole lot!*

In these times of continuing crises, the newscasts are a tremendous source of interest. And sometimes you get in on real "live" drama—as when we happened to hear Thailand's revolution announcement early one morning.

Personalities on the stations are fun, too. Like the horse-race announcer from New Zealand. Whew! He leaves me absolutely breathless! His pitch and rhythm are superb! Or announcer David Daley from Mozambique—with his quick "switcheroo" from English to Afrikaans and back! Or the sultry-voiced gal from Radio Congo Belge . . . and her twin-sister over Radio Brazzaville! Or Marianne, when she was announcing for Radio Denmark!

I'd like very much to see you fellows get your XYLs in on this bandstand seat for a concert of the world! Have you tried? One word of advice—LET HER TUNE! Teach her how, explain the various controls she'll need to know—then let her alone! Don't hover over her as if you're afraid she'll wreck the set—she won't! It takes a while to learn—as you know—and to "get the feel of it"—but most women have a good ear for remembering where they've heard that voice or that modulation before—and they'll soon catch on to it. And have a good globe handy, so she can "see" where she's listening to. It's a help, too, of course, if your set has a good speaker, so the music is full and clear.

Most women don't like shortwave because they think of it as "tinny" or "squeally"—but let her listen to a strong station with good music to get started. Then you can gradually lead her into the fun of real DX! She'll take a few squeals if she realizes you're trying to catch an ID from Mauritius through them!

Good luck, fellows! I'd like some more femmes to find the fun I've had with shortwave!

FCC ACTION

The switch from Bedford, Mass. of the channel 6 allocation there to Providence, R.I. is expected by September 1, at the FCC level.

Harrisburg, Pa. WHP-55 and silent WDTV-71 have petitioned FCC for permission to switch to channels 21 and 33 respectively.

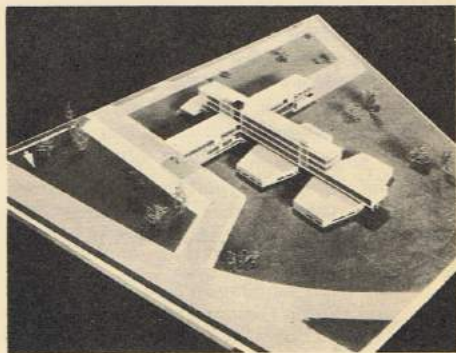
FREE MAGAZINES . . . Still Available

Our policy of providing a free sample copy of DXing Horizons to any enthusiast who has not had a free "look over" copy continues. Send the name(s) and address(es) of those you believe would like to see DXH to "Sample Copies, Post Office Box 3150, Modesto, California." Sorry . . . only one free copy to each. The demand is just too high to allow more!

SHORTWAVERS . . .

DXH SW Newscast over WRUL

For a spot of late mid-month shortwave DX news, tune in the "DXing Horizons Shortwave Newscast" over WRUL on either Saturday, August 20 (over frequencies of 17.750, 15.380, or Sunday, August 21, over frequencies of 17.845, 15.380 and 11.830. The August 20th broadcast starts at 2100 GMT. The August 21st broadcast at 2345 GMT. Both should be well heard throughout the United States. Let us know how reception is in your area!



Nearing completion is this spacious, modern studio building at Radio Nederland, "THE HAPPY STATION," Hilversum, Holland. "The building will make it possible to centralize the now scattered departments—both technical and administrative—and thus greatly facilitate the performance of our ever-expanding task," station officials cite.

SWL'g is a National Pastime . . .

IN THE LAND OF THE MIDNIGHT SUN

By
Sven Elfving, Solgardsgatan 15,
Ornskoldsvik, SWEDEN

With
Ken Boord, DXH SW Editor

(Part Three of Three)

Here in Sweden, shortwave broadcasting stations can be heard on ALL bands—11-, 13-, 16-, 19-, 25-, 31-, 41-, 49-, 60-, 75-, 90-, and 120-m. bands are available. *Personally, I find the 60-meter band proves the most interesting—there are NO Europeans transmitting in this band normally—only AFRICANS, ASIANS, AUSTRALIANS, and LATIN AMERICANS.* On the 75- and 90-m. bands, there are a few AFRICANS and LATIN AMERICANS—especially the VENEZUELA and BRAZIL stations can be heard in Sweden on “90” when conditions are good.

The higher frequencies—such as in the 11-meter band—are used mostly by the *Voice of America* and the BBC (London); the 13-meter band includes the whole of EUROPE and several “overseas” stations.

While you do usually find the shortwave broadcast bands crowded with stations, you can truly say that on them YOU HAVE THE WORLD AT YOUR VERY FINGERTIPS!
HAM BANDS

For ham band listening, I have been using a longwire antenna of 107 meters (approximately 352 feet) in length, which has been replaced by a V-beam of 180 meters (approximately 590 feet long).

In a mimeographed letter which accompanies my reception report to ham operators, I set forth, among other things, these facts which I hope will be of interest to the recipient:

“I have been listening to ham stations since 1956, and during these years I have received nearly 2,000 QSL cards; 285 countries have been logged, and I have confirmations from 265. I have HAZ (HEARD ALL ZONES) on CW and fone.”

I am particularly interested in listening to the 40- and 80-meter bands where you can find excellent DX when conditions are right.



A portion of Sven Elfving's Listening Post at Ornskoldsvik, SWEDEN . . . in the Land of the Midnight Sun. Of the 161 countries logged by Sven on the International Shortwave Bands, 142 countries have been verified. He has logged 285 countries on the ham bands, verified 265 265 of these. And he has logged 110 countries on the BCB. His QSLs total in the thousands!

So far, I have HAC (HEARD ALL CONTINENTS) on 40-meter fone and on 40-meter CW. I also have HAC on 80-meter fone—CW. On 40-meter fone, I have logged 46 Stations in the U.S.A., including KL7s and KH6IJ, Hawaii; I hear West Coasters on 40-meter SSB in December-February *only* from 0700-0900 GMT. I have also heard KH6PD/KM6, Midway, and KC6NTT, Guam, both SSB. I can log U.S.A. Novice Stations here on approximately 7.165-7.199 with good signals from 0000-0800A when they often fade out; “best catch” on the Novice bands is WV6JBF in California at 0758 on 7.178.

On the U.S.A. fone band—7.200-7.300—I can hear many “rare” DX stations from the Americas, but also here there is very bad QRM from European and “foreign” broadcasting stations. W3PHL has been heard at 0000 with fair signals, and in the winter of 1959 he was heard to 1180 (an outstanding record!) “BEST” signal from him, however, was heard at 0700-0800 when he was running 35 db over S9 level on peaks—almost like “LOCAL” hams! Other DX hams on 40 SSB-fone heard well here are W3NW, W2AB, K3GIF, K4BUR, W8JEH, W5DBN, W2FYT, and others.

On 40 meters, I have logged (and received QSLs from) such stations as AP4M (CW, 2245), CO2s, CN8, CN2BK (fone-CW), CR7CK, CT1, DU7SV (CW, 1400-1500), FM7WU (0050), HKOAI (0300), HR1JH,

HR3HH (fone), JA2-4-8-9 (fone and CW), JT1AA (2200), KM6AX (2250), KR6, many KP4s on SSB, MP4QAO (fone), OX3RH, PJ2MF (CW), 35 PYs, mostly CW, VE3BQL/SU (fone), TG9, TI2, all-U districts, VE1, VE3 fone—and on CW at 1100 (outstanding!). And 18 VK stations on fone, mostly around 0800, VK2-3 on CW (2130), VK9FN on fone, VQ4ERR on fone (0050), VR2s on CW (0700-0800), VS1-2 (2200) on CW, VS6, XE on fone, YV on both fone-CW, ZD7SA on CW; 10 ZLs on fone, ZL2BE, ZL3BL strong, 7.121 (0950); VP3IG on fone (1120), ZP5AY on CW; 20 ZS stations, ZS9N, all fone; ZS2HI FB on CW (0149), and lots, lots of more "rare" DX has been heard here.

Also, several "rare" DX "catches" have been made on 80 meters. JA2JW was logged on CW; VK/ZL, ZS6 stations, ZS8I, ZP9AY (often on 0000 on 3.500 on CW), KX6AF, ZL4TE (who worked the whole of Europe), lots of "C" stations, et cetera, around 0700-0800, and on this band 13 States have been logged on fone.

My mimeographed letter to ham operators continues:

"I am QSL Manager for Martin, OY7ML on Faeroes Islands, so anyone requesting a QSL can send me a report or card and be sure to get a QSL back. FAROES ISLANDS are a group of about 21 islands (which belong to DENMARK), of which *only* 17 are inhabited, lying midway between the Shetlands and Iceland.

"I am also a stamp collector and prefer UN-USED stamps," my letter to ham operators goes on. I often use stamped self-addressed envelopes to bring me 100 per cent QSLs (and which, incidentally, I find is much better than IRCs!).

"To end this little story, I will ask you kindly to send me a QSL. The QSL situation speaks very badly for the hams throughout the world, who should at least take the trouble and write out a QSL for a SWL when this one has taken the trouble of listening in to your signals and mailing out a report. *The SWLs of Today are the Hams of Tomorrow! YOUR QSL IS MY HOBBY . . . 73 and good luck!*"

POLAR BEARS CLUB

Here in Ornskoldsvik, I have organized the POLAR BEARS RADIO CLUB. We have only 10 members; you see, *this hobby here in northern Sweden is almost "unknown"—but are fighting for our existence as an organization!*

The headquarters of our club is at my home, of course, since I am the leader of the group.

We have club meetings every second week when we come together at my home, have something to eat and drink, and talk about DX, the latest QSLs received, and other matters which pertain to DX and to the hobby in general.

Until lately, we have had no club paper as do many of the other clubs throughout Sweden. We were just a "LOCAL" group of SW DXers who cooperated and helped each other in the pursuit of *our mutual hobby—the world's "BEST"—shortwave radio!*

However, we have just started a fine bulletin which already shows great promise of success, I believe! It is called "THE DX-ER" and is written in ENGLISH! It is being published every THIRD week from May to December (11 issues), and is available for only \$1.50 (\$4.00 via airmail) to the U.S.A.

We sent out a sample copy of "THE DX-ER" in March, which was quite successful; we've been receiving inquiries almost daily from fellows who wish to become affiliated with "THE DX-ER."

We also plan to issue several "diplomas" (or certificates) for SWLs—such as "HEARD SCANDINAVIAN PREFIXES" "HEARD 100 PREFIXES—ZONE 14," and others.

I am editor of "THE DX-ER," but all other members of the POLAR BEARS RADIO CLUB are helping with the publication. One addresses envelopes; one sends out free sample copies; another exchanges the bulletin with other clubs, and so on. We hope that through such cooperation, we can make the POLAR BEARS a "big" and "economically-strong" club! *Anyone interested in DXing and this bulletin may have a FREE COPY ON REQUEST TO ME—Sven Elfving, Solgardsgatan 15, Ornskoldsvik, Sweden.*

Among the other active members of the club are Lennart Westman, Ulf Edlund, Helge Broman, Per Engstrom, Gosta Bylund, Borje Persson, and Kjell Nordin.

I trust that those of you in other parts of the world have found this brief resume of SWL'g from *the Land of the Midnight Sun* of more than passing interest—and I am sure that the thousands of my fellow-SWLs in Sweden join me in wishing each of you the best of luck and success as YOU, too pursue the hobby!

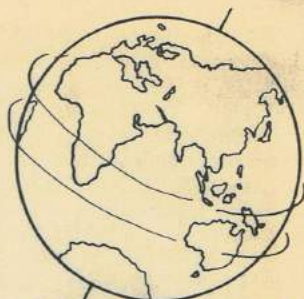
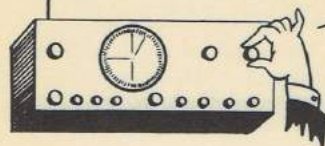
SVEN ELFVING

INDIANA TV CHANGE

The fight to move WTVW-7, Evansville, Ind. to UHF channel 31 (making Evansville all UHF) is gaining ground. It could go either way, but the move to UHF is more likely.



THE WORLD



AT A TWIRL

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

Two projects of interest to both Amateurs (hams) and SWLs (particularly those who tune the ham bands) are now being carried on by K6BX, Cdr. Clif Evans, USN-Ret., Box 385, Bonita, California, U.S.A.

As a gesture of good will and American friendship for overseas radio Amateurs, K6BX has founded a central clearing office for information. First, for American Amateurs who desire to mail their "expired" copies of CALL BOOK MAGAZINE to overseas hams who would appreciate receiving the CALL BOOK, and secondly, for overseas Amateur friends who desire to be placed on the mailing list for the gift of one of these expired but usable Books.

"This is a person-to-person friendship project and Books will be mailed DIRECTLY from the American ham offering it," K6BX says. "The names and calls of *individual overseas hams*, rather than Clubs, are desired. Call Books should be UNDER 3 years old. In the past year, over 1,100 CALL BOOKS and hundreds of other various items and services have flooded through this clearing service. Unfortunately, overseas requests are running ahead of American generosity by close to 300. Let's face it—our overseas friends can not get 'ahold' of American dollars. And imagine a ham or SWL in America trying to function without a CB, yet many letters I receive from 'old-timers' overseas state the writer has never seen a CB and never hoped to own one!"

Write DIRECT to K6BX for further details.

K6BX succeeded William T. (Bill) Clark, W3RPG, as Editor and Publisher of "The DIRECTORY of Certificates and Awards,"



Following a recent audience with Pope John XXIII, William J. Halligan, Sr. (W9AC), center, president of The Hallicrafters Company, Chicago, and a pioneer radio amateur, takes a turn at operating The Vatican station HV1CN. At left is Domenico Petti (11CNS), operator of the station. At right is Dr. Loris Castaldi (11CL), a leading Rome amateur operator authorized to use HV1CN. Vatican Radio SW Transmitters can be seen at the rear.

effective June 15 last. Dubbed "The Award Hunter's Bible," the DIRECTORY lists more than 50 countries, indexed under 12 Sections, with the "North America" Section further indexed into 11 Sub-sections.

Clif has just ADDED A SWL SECTION. For example, the July DIRECTORY lists SWL awards of the ROYAL SOCIETY OF GREAT BRITAIN (R.S.G.B.); the INTERNATIONAL SHORT WAVE LEAGUE (ISWL), and the JAPAN AMATEUR RADIO LEAGUE (JARL).

"It is my policy to promote all forms of hobby activity which eventually lead to and enhance the welfare and prestige of Amateur Radio," Clif says. "SWLs certainly are interested in the 'art,' and constitute possible recruits to Amateur ranks. A prime example of inter-relationships between the groups is exemplified by the ISWL of England which makes its awards equally available to Ama-



K6BX, Clif Evans, new Editor-Publisher of the **DIRECTORY OF CERTIFICATES AND AWARDS**.

tears and SWLs and provides equal QSL service."

The **DIRECTORY**, as conceived and built by W3RPG, came about because no other book or source of published information lists all known awards, nor are any other publications revised often enough to meet the factual existence of daily changes, the July issue points out. The **DIRECTORY'S Master Copy** is kept up to date daily and *new DIRECTORIES* are published quarterly. Likewise, *quarterly revision service* is available to **DIRECTORY** holders upon subscription. For further details, contact **K6BX direct**.

Our best wishes go to K6BX in his worthy endeavors!—Ken Boord

AT FADE-OUT

CLUB NOTES—

JAPAN—Officials of the Japanese Shortwave Club inform DXH that its house organ, "SW-DX Guide," and items for the R. Japan DX Programs are edited through the cooperation of several members, although the Editor is K. Yamada. It was cited that "the editor will be changed often," with different issues. QRA for rpts is Editorial Branch, JSWC, Box 1665, Tokyo Central, Japan; letters, membership renewals, orders for club supplies, however, should go to Headquarters, JSWC, Box 29, Sendai, Japan.

U.S.A.—To promote its theme of "World Friendship Through Shortwave," the American Shortwave Listeners Club this month started an ASWLC Pen Pal Service which is combined with the Card Swapper Lists; is edited by James Howard, Mo. The club's QRA is 46C Parkway Village, Cranford, N.J., U.S.A.

FLASH!—**SWAN ISLAND**—Since DXH will inaugurate a BCB (MW) section in Sept., here is some data about a MW stn which is creating a great deal of interest currently. Accdg to a newspaper dispatch from Washington—sent along by Balbi, Calif.—a powerful, American-owned stn is b-c news to Cuba from tiny Swan Island in the Caribbean. Disowned by the State Department and the U.S. Information Agency, R. Swan has brought angry blasts from Cuban Prime Minister Castro, accdg to the dispatch, who charged it is a State Dept. anti-Castro propaganda outlet. The stn is rptd to be operated by a private American group, the Gibraltar Steamship Corp., New York City. It is rptdly located on 2-mile-long Swan Island, 97 miles from the coast of Honduras, 300 miles southwest of Cuba. Berg, Conn., and Newhart, N.J., flash that R. Swan is being hrd "nitely" in Sp. on 1,160 kc. w-50 kw.; when closing 0200, asks for rpts to Box 1247, Central Post Office, New York City, U.S.A. Features much L. Am. mx; IDs frequently w-what sounds like, "Esta es Radio Swan, La Voz Internacional del Caribe." Sig is gud, but w-Latin QRM. Accdg to SCDXERS, has been hrd in ENG. 0000-0100, in Sp. 0100-0200.

ALBANIA—R. Tirana, 7.175, has ENG. DAILY now 2230-2300.

ARGENTINA—Niblack, Ind., Rowell, Minn., note LRA, Buenos Aires, MOVED from 15.345 to 11.725A (altho anncg 11.730) arnd 2300-2400 in Int. Serv. May NOT be permanent MOVE, as some days is not hrd on 11.725A.

AUSTRALIA—VLI6, ABC H. Serv., 6.090, Sydney, N.S.W., recently completely over-rode R. Luxembourg 0615 w-pop mx. (Buchanan, Mo.)

BECHUANALAND—ZNB, Mafeking, b-c 1100-1200, 1700-1930 on 5.900; at s-on 1055, 1655, has Morse ID for 5 min; relays N-E frm SABC 1115, 1700. Incidentally, Mafeking is in Cape Province of Union of S. Af.; Bechuanaland, therefore, has the unique situation of its capital being OUTSIDE ITS BORDERS. (Brooks, Johannesburg, S. Af., via SCDXERS)

BOLIVIA—R. Cochabamba, 6.060, hrd 1215 gud str w-pop Bolivian mx; ID as "La Voz del Ferrovio." (Roeske, Argentina)

CAMBODIA—Accdg. to GDX-aren (Sweden), R. Nat. Khmere, Phnom-Penh, has REPLACED former 10-kw. xmtr w-brand-new "RED CHINESE" xmtr of 20 kw., on MW 1,410 kc., rptd hrd in Saigon, S. Vietnam all day long 85, w-modulation of 95 per cent.

CAPE VERDE IS.—CR4AC, 3.960, San Vicente, hrd in Germany frm 2230 onwards; veried by QSL cd. (SCDXERS)

CEYLON—Comm. Serv., R. Ceylon, 17.820, Colombo, hrd w-pop mx, ID in ENG. 1030-1045 c-d; SINPO 23432 in Argentina. (Roeske)

CHILE—Airmail verie frm CE613, "R. El Morro," Casilla 463, Arica, lists CE613, 6.135, 1 kw.; CE950, 1 kw. (Cushen, N.Z.)

CHINA—A recent SUN., R. Peking, 11.741, noted 2035 w-N-E by man; "Letterbox" 2100-2110; fair level, poor modulation. (Cox, Dela.) R. Peking just veried for Sisler, W. Va., listing ENG. to ECNA 0100-0300, 17.720, 11.945, 15.430; to WCNA 0300-0500, 11.975, 15.060, 17.745.

CLANDESTINE—"Voice of Free Africa," Swahili-spkr, now noted by Palmer, Wash. State,

Rowell, Minn., others, on 17.893A at 1700-1740; drums at both s-on, s-off; R. Cairo then opens 1745 on 17.921, NOT on LISTED 17.915, Palmer observes. . . . Apparently, "R. Liberacion de Venezuela," approx. 9.505 and approx. 6.090, hrd arnd 2130-0400 w-political talks in Sp. for many wks, has "left the air"—and these channels more recently have been occupied by a stn anncg as "HIX, Radio Nacional Dominicana." Accdg to Stark, Texas, gives no location, tho does mention "Palacio del Gobierno" at times; others rpt location given as Ciudad Trujillo, Dominican Rep. Prgrms are mostly mx and closes 0400A when plays Dominican Nat. Anth., accdg to Rowell, Minn., others. Noted on 9.505A by Ferguson, N.C., OPENING 1133 w-Dominican Nat. Anth., then w-editorial in Sp. abt Cuba, Venezuela; hrd close 0400. At press time, Gerhard Lundsten flashed that he had picked up this stn in Sweden on 9.505A at 0030-0200 w-ID that sounded like "Radio Caribe."

COLOMBIA—HJKJ, 6.160, "Emisoras Nueva Granada," Bogota, hrd 0330-0600 w-mx, Sp. anncmts; NO ENG. (Stephenson, Okla.) R. Sutaenza noted on NEW fq 6.080 at 0200. (Klein, Wisc.)

CONGO (REP. OF.)—OTH, 9.210, Leopoldville, noted opening 0400 w-"rooster" call; uses tam-tam for IS. (Rowell, Minn.) At press time, Balbi, Calif., flashed that OTC, 9.655, had NOT been hrd since July 8, altho OTH, 9.210, OTM2, 9.385, had been noted at usual time, but BOTH WERE WEAK and may have been using lower power for the time being. On the other hand, ORU, 17.845, BELGIUM, was being hrd often at times NOT SCHEDULED—such as w-N-Fr. 1730, also AFTER 2100 (N-Fr. 2100)—evidently for the Republic of the Congo shortly after it received its independence.

COOK IS.—ZKIZA has now settled on NEW THUR. ONLY sked 0430-0630; N-E 0530; uses 4.965. (Cushen, N.Z.)

CURACAO—Nblack, Ind., in July ON ONE NITE ONLY logged R. Curom, Willemstad, on MEASURED 9.750 to 0320 s-off w-prgm of varied mx; all-Dutch anncmts; NOT HRD since at press time, so may be "hunting" better channel in 31-m. band.

CZECHOSLOVAKIA—The Technical Dept. of R. Prague is PARTICULARLY INTERESTED in rpts frm listeners in N., Central, S. Am. on NEW channels of 11.990, 15.410, 17.790. (R. Prague) Noted w-excellent sig on 11.990 at 0230 to Central Am. in Sp., 0300-0330 in ENG. to N. Am. (Sundstrom, N.J.)

DAHOMY—R. Cotonou, 4.870, logged in Fr. and w-native mx, nx frm 0530 s-on. (Saylor, Va.) Hrd in Mo. w-N-Fr. 0600. (Buchanan)

EGYPT (UAR)—R. Cairo, 17.690, hrd 1800 calling W. Afr. w-N-E by YL; SINPO 44544 in England. (Young) Noted on 17.915 at 1330-1430 s-off. (Klein, Wisc.)

EL SALVADOR—YSS, 9.552, San Salvador, hrd 0300 w-pop mx; all-Sp. (Klein, Wisc.)

FIJI IS.—Suva, 5.980, 3.980, hrd in ENG. 1000; QRM bad on 5.980. (Ross, Australia)

FRANCE—RTF, Paris, has ENG. DAILY 2000-2100, 5.980; to Far East 1300-1315, 17.765, 21.620; Fr. Lessons for ENG. listeners 0645-0700, 7.160 DAILY EXCEPT SUN. (SCDXERS, others)

GABON—Libreville sent sked for 4.775 as 1730-2100. (Pearce, England)

GERMANY (EAST)—R. Berlin-International hrd w-ENG. 1800, 2000, 2200 on 6.115, 7.300, 9.730. (Pearce, England) Now noted s-on 0700 on 11.765, one hr LATER than formerly; ID in Ger., fair level; no sign of ENG. xmsn 1645 on 12.008 as LISTED by WRHB. (Balbi, Calif.)

GHANA—Accra, 3.366, 4.915, hrd 2200 w-N-E; also 0530 s-on w-devotional services—some days in native, other days in ENG.; N-E 0600, 0700; s-off 0855. (Saylor, Va.)

GUATEMALA—TGTA, R. Senora, 6.000, hrd to s-off 0515; N-Sp. 0500, then "Nat. Emblem March," prgm details, off w-marimba mx. (Cushen, N.Z.) TGNA, 5.952, TGNB, 9.668, noted 0300-0400 in ENG. religious releases. (Rowell, Minn.) TGQB, 11.700, noted OPENING 1300 and CLSING 0400 wkdays, not "found" SUN. (Ferguson, N.C.)

HAITI—The 2 NEW 2.5-kw. xmtrs for 4VEH, Cap Haitien, are now being installed—should be TESTING SOON. Wiring of NEW xmtr bldg was completed in late June.

INDIA—AIR, 9.530, Calcutta, gud level in Dela. 0010 w-Indian vocals, AIR ID by man. (Cox) ENG. 1945-2045 to Eu-UK is on 11.710, 9.720 (NEW), to W. Afr. 11.805 (NEW), 17.790; noted 1000-1100 to NE Asia, China, 15.105, 17.705, 21.605, to Australia-N.Z., 17.785. (Pearce, England)

INDONESIA—Recently, Balbi, Calif., logged H. Serv. of RRI over YDC, 15.150, Djakarta, frm 0700 s-on in native; poor to fair level; dictation-speed b-c in lang, apparently Indonesian, 0730. Accdg to WRHB, NEW calls for RRI outlets include YDF6, 9.865; YDD, 11.785.

IRAQ—R. Baghdad, 6.030, hrd w-N-E 2100 in Australia. (Ross)

IVORY COAST—R. Abidjan, 4.940, noted s-on 0630w-Fr. mx, nx. (Saylor, Va.)

JAPAN—Balbi, Calif., flashes that accdg to an anncmt hrd over R. Japan, NHK cancelled its contract w-U.S. Military-operated "Voice of the United Nations Command," and that SW channels of 6.105, 9.560, and MW 690 kcs. and 830 kcs. are NOW OFF THE AIR; however, at press time, Balbi was hearing VUNC, 9.560, 6.015, arnd 0930-1100; 11.890, 1400-1630; 9.560, 1600-1630 parallel 11.890; all mx except ID for "VUNC" in ENG.; may have been TESTING and xmtrs now in use "might be" VOA-owned.

KASHMIR—R. Kashmir, Srinagar, uses 6.110 to 0415, 1200-1305; 7.270, 0430-0850; 4.860, 1320-1730. (WRHB)

KENYA—W. Reg. Serv., 4.804, fair 0325 w-woman in lang, native vocals; instrumentals 0335; Eng. Nat. Serv., 4.885, Langata, noted w-strg sig frm 0320 w-classical, operatic rcdgs; ENG. ID by man; 4.934 outlet, Nairobi, even strg then; Asian Nat. Serv., Nairobi, logged on 4.855 w-native vocals and lang 0350 at poor level. (Cox, Dela.)

KOREA (NO.)—Sked rcd direct frm The Korean Central Broadcasting Committee, Pyongyang, lists ENG. on 6.250 DAILY 2300-2330, 1330-1400. (Pearce, England) Now annces as "Radio Pyongyang" when begins ENG. xmsn 1330; gives fq, sked, but is only partly readable in Calif. (Balbi)

KOREA (SO.)—HLK42, 17.890, Seoul, audible some days IF HCJB, Quito, Ecuador, is NOT using 17.895 then; ENG. to 1430, Fr. to 1500 beamed on Asia. (Balbi, Calif.) NEW sked just rcd direct frn "Voice of Free Korea," Seoul, includes N. AM. SERV., 0530-0630, 15.125, 17.890; 1430-1530, 11.925. HAWAIIAN SERV.—0730-0830, 17.890; 1600-1700, 11.925. GOS—0930-1000, 6.035, 9.640. JAPANESE SERV.—1200-1300, 6.035, 9.640. SE ASIAN SERV.—1400-1500, 17.890. EU. SERV.—2200-2300, 11.925. NEW fqs are HLK41, 15.125, HLK42, 17.890, both 50 kw.; other channels also are 50 kw., EXCEPT 6.035 which runs ONLY 3 kw. (Huff, Calif.)

LAOS—R. Seno, recently rptd on 7.350, has MOVED to 6.450; only 40 w.; sked TUE., THUR., SAT. 1330-1500, SUN. 0100-0500; IDs, "Ici Radio Seno"; mostly Fr. talks, recorded Fr. mx, many request numbers; hrd in Saigon, S. Vietnam on 6.450, readable but w-CWQRM; desires rcptn rpts. (GDX-aren)

LEBANON—R. Beirut, 8.008, hrd at poor level arnd 2130 w-talks in Ar., should NOT be confused w-CLANDESTINE Ar.-spkr on 8.022 at same time. (Cox, Dela.)

LIBERIA—ELWA, Monrovia, noted 1415-1800 in NEW beam to Fr. spk Afr. on 15.080A; at press time, Balbi flashed that 11.823A HAS BEEN SUBSTITUTED for 11.980 in U.S.A. WKLY BEAM; is possible 15.080 will soon REPLACE 21.535 as parallel channel in his xmsn WED. ONLY 0100-0345.

LIBYA—Benghazi, 3.305, hrd arnd 2030 w-talks in Ar., then Ar.-type mx including vocals; s-off 2202 after talk or nx in Ar. (Pearce, England)

MALI FEDERATION—R. Mali was noted on NEW 15.225 at 0530-0800; native to 0700, then Fr. including N-Fr. 0715; gud parallel 11.895, 7.210; 4.955 not audible lately in Calif. (Balbi) At time of Independence Celebrations, was observed at unusual hrs of arnd 0300 to PAST 0600 on 7.210, 11.895. (Cox, Dela., Berg, Conn.) However, Balbi flashes at press time that HAS MOVED frn 15.225 to 15.385 (move also observed by Niblack, Ind.), hrd parallel 11.895, 7.210, strg s-on 0630-0800 (SUN. 0815-1030); religious service 0900 SUN.; hrd also 1900 to s-off 2330 on 15.385, 11.895 ONLY. Boice, Conn., finds 11.895 excellent to 2330 c-d w-Anth. R. Mauretanie, 4.855, St. Louis, hrd s-on 0700 to s-off 0800; native, Fr. mx, nx. R. Bamako, former Fr. Soudan, hrd on 4.835 w-Fr., native mx and nx frn 0530 opening. R. Mali, 4.950, Dakar, hrd opening 0630 w-Fr., native prgm. (Saylor, Va.)

MAURITIUS—Forest Side, 3.325, excellent in S. Afr. frn arnd 1445 to c-d 1725. (Ridgeway via RADX)

MEXICO—Ltr-verie frn XEHH, 11.880, lists NEW SW outlet of XERR, 15.110. (Newhart, N.J.) The "19-m" outlet has not yet been rptd to DXH as "hrd."

MONACO—R. Monte Carlo, 9.740, noted on a THUR. 2215 in ENG. featuring Billy Graham's "HOUR OF DECISION," followed 2235 w-"THE OLD-FASHIONED REVIVAL HOUR"; hrd on a MON. arnd same time w-other ENG. religious releases. (Pearce, England) Acgdg to SCDXERS, by now the NEW "Trans World Radio" (missionary) should be ON THE AIR; Ger. is sked 0530-

0615, 1745-1830, 2000-2230 in 30- and 42-m. bands over new 100-kw. xmtr; EXACT fqs not known.

MONGOLIA (OUTER)—R. Ulan Bator now uses 5.960, 9.695A instead of 6.345, 10.337. (Tabuchi, Japan, via WRHB)

MOROCCO—Rabat was logged on 9.502A at 2115 w-Ar. ID by man. (Cox, Dela.) Sked for Rdf. Marocaine, Rabat—TO W. AFR. — Sabaa Aioun, 50 kw., 6.190, 0630-1000; 15.345, 1200-1500; 9.505, 1800-2400 in Ar. Tangier, 50 kw., 11.735, 1200-1500, 1800-2330 in Ar., EXCEPT ENG. 1800-1830, Fr. 1830-2030. TO MIDDLE EAST—Tangier, 100 kw., 9.700, 1800-2100 in Ar. TO S. MOROCCO—Sabaa Aioun, 10 kw., 7.115, 0630-1000, 1200-1500, 1800-2400, Fr., Sp., ENG. (Legge, Va.) It is PRESUMED that Tangier outlets are "Voice of America" xmtrs.

MOZAMBIQUE — CR7BV, 4.840, Laureco Marques, noted 0431-0505 in ENG., mx, commercials; begins to fade 0550A; severe QRN in Mo. (Buchanan)

NEW CALEDONIA—R. Noumea, 6.035, hrd 0830 w-talk in Fr., then pop vocal mx; gud strg but w-bad QRN. (Buchanan, Mo.)

NIGER—R. Niamey, 5.020, hrd s-on 0530 w-Fr., native prgms of mx, nx; fair some days, others inaudible in Va. (Saylor)

NORWAY — R. Norway, 6.130, 9.610 noted 1630 w-listeners request feature of pop rdgcs; SINPO 45434 on both channels in Britain. (Young)

OKINAWA—The 100-kw. MX xmtr of the Far operation on 850 kcs., acgdg to FEBC, Whittier, East Broadcasting Co. at Okuma, KSBu, now is in Calif. (Balbi, Calif.)

PAKISTAN—ENG. frn R. Pakistan to UK 1915-2000 is nowon 9.605 (REPLACING 9.505), 7.010. (Pearce, England)

PANAMA—Answering a query, Cox, Dela., says HOLA is STILL ON THE AIR—hrd on 9.503.5M at 2118 on recent SUN. w-ENG. ID by man — "HOLA, Colon, Panama, The Crossroads of the World," followed by "Voice of Prophecy" 2100; pop tunes 2200. Buchanan, Mo., rpts HOH31, 9.685, Panama City, hrd 0256-0430 w-typical L. Am. prgms, veried via airmail (both ways) in nine days.

PERU—Niblack, Ind., flashes that the Int. Serv. of R. Nacional del Peru, 15.150, has been logged on a WED., closing ENG. portion 2200; annd is MON., WED., FRI. Also noted by Ferguson, N.C. Sked rcd direct frn stn by Newhart, N.J., lists Int. Serv. on OAX4T, 15.150, to Eu. 2100-2200 MON., WED., FRI.; to Far East TUE. 2200-2230; to N. Am. FRI. 0200-0230; listed N-E MON., TUE., THUR. 1745-1757 ON ALL FQS of R. Nac. del Peru. Cushen, N.Z. rpts R. America, 6.000A, on SAT. w-"THE HOUR OF DECISION" 1200-1230.

PHILIPPINES—FEBC, 11.920, gud level in W. Va. 1545 w-N.E. (KBLP) Also noted in Minn. to s-off 1630. (Rowell) Hrd recently in Britain on 21.498A to s-off 1805 after closing hymn, Philippine Nat. Anth. (Young) Frn Calif., Balbi flashes that DZF2, 11.920, more recently s-off 1700; strg; 21.498A is "out" in 1630-1800 Russian xmsn; 11.855 s-on 1700 parallel 17.805, 15.300, 9.730; ID in ENG. and annces ALL nine fqs of FEBC, then plays Anth. when closing arnd 1805.

PORTUGAL — ENG. frn Lisbon to India-Pakistan, Persian Gulf is 1345-1430, 17.880, 21.495; to S. Afr. 1715-1800, 17.895. (SCDXERS)

PT. INDIA (GOA)—R. Goa is sked 0130-0530, 4.850, 9.690; 0600-0900, 1100-1730, 4.850, 6.080; has a NEW 50-kw. SW xmttr is TESTING on 15.385 towards Persian Gulf; on 15.410 to Afr., and on 17.835 to Far East. (WRHB)

RUANDA-URUNDI—The Belgian Admn. in the Mandate Ruanda-Urundi has erected a 3-kw. SW stn using 6.195; will serve Eu. population in former Belgian Congo IN CASE Leopoldville should drop its b-c for Europeans. (WRHB)

ROUMANIA—R. Bucharest noted recently on 9.592, 11.810, 15.250, among others, to N. Am. arnd 0100-0300; asks for rpts. (Rowell, Minn.)

SARAWAK—R. Sarawak, 4.950, Kuching, noted 1300 in ENG., bad QRM, poor level in Australia. (Ross)

SAUDI ARABIA—Mecca via Djeddah, 11.950, noted 1500 s-on (AFTER Saigon, S. Vietnam leaves that channel then); fair sig w-N-Ar. 1500; fades out arnd 1545 at present. (Balbi, Calif.)

SIERRA LEONE—Freetown, 3.316, hrd 0500 w-x. (Saylor, Va.)

SINGAPORE—R. Singapore, 7.200, weak level 1115 w-ENG. talks by man. (Cox, Dela.) BBCFES, 17.755, hrd 1100 w-ID, then BBC news relay; fair level in Mo. (Buchanan) Observed on 11.725 at 1545 w-ENG. frim London, SINPO 44544 in Finland. (FDXC) And on 11.930 at 1100 w-ID in ENG., then relay of BBC's E. Asian Serv., excellent sig. (Boice, Conn.)

SOLOMON IS. (BRT.)—VQO2, 5.980, Honiara, hrd 0815-0915; ABC N-E 0900, then BBC news; s-off 1040 w-"GSTQ." (Riggs, Calif., Buchanan, Mo.)

SPAIN—In Eng. session to N. Am. 0315, 0415, 0515 on 9.363A, 6.130, RNE has "Post Exchange" towards END of sessions FRI., MON. (McCaffrey, N.J.)

TAIWAN (FORMOSA) — Balbi, Calif., has been hearing a Russian xmsn 0930-1000 on 15.225, 15.345, 17.785, which, PRESUMABLY, originates from Taipei since these are "regular" fqs used by Taiwan; only ID sounds like "Stansky Sloboda"; at times, JAMMING noted. Lately, Balbi notes "Voice of Free China," Taipei, on 11.735 at 1715-1800 s-off w-all-Chinese xmsn, parallel 15.345, 17.785; Nat. Anth. at c-d; 15.225 outlet hrd 1415-1600 in Chinese, fair sig. BED35, 15.480A, noted 0900-1730 s-off w-longest, most consistent xmsn frim Taipei; is H. Serv., hrd at strg level, also noted 2100-2300; U.S.A.-style mx featured 1700-1735. Balbi flashes at press time that BED58, 17.785, BED57, 15.345, were hrd s-off 0200 w-fine sigs in xmsn to U.S.A.—evidently now one-half hour long, but bears further checks.

THAILAND — R. Thailand, Bangkok, is rptd now QSLing 100 per cent! Varied promptly for Ken Boord; listed HSK9, 11.910, 50 kw., w-N. Am. Serv. 0415-0515, home and foreign N-E 0425; for Thai Forces in Korea (Thai), 0930-1020; GOS 1025-1157, w-home and foreign N-E 1030; relay frim H. Serv. 1300-1400; BEST in W. Va. arnd 1020-1130. (KBLP)

TOGO—R. Lomek, 5.035, hrd at times high as 5.045, noted s-on 0600 w-Fr., native mx, nx; fair to gud level in Va. (Saylor)

TURKEY—R. Ankara noted MOVED to 15.160 frim 7.285 for ENG. to Wn. Eu. 2100-2145.

(Niblack, Ind., Rowell, Minn., others) Hrd then in Australia parallel on 9.745A. (Ross)

UNIDENTIFIED—Arabic-spkr formerly UNID on 11.915A is now noted at gud level to arnd 2115 close on 11.970A. WHY? (Niblack, Ind., Rowell, Minn.)

UNION OF S. AF.—SABC, 4.895, hrd opening 0430 w-devotional service, nx 0500. Springbok Radio (Comm. Serv.), 4.945, noted frim 0300 s-on; N-E 0400, 0500. (Saylor, Va.)

U.S.A. — Accdg to anncmt, WRUL now has "Listeners Corner" every 2nd SAT. of month to EU.-Afr. 2100-2115 on 17.750, 15.380; to L. Am. every 2nd SUN. of month 2345-2400 on NEW 17.845, parallel 15.380, 11.830—same fqs are used for DXH DX NEWSCAST every 3rd SAT. and SUN., respectively, at these times. (Balbi, Calif.)

USSR—R. Alma Ata noted on 10.530 at 0028 w-chimes similar to Moscow's, but w-more of a "bell" sound, silent 0029-0030, then march selection (or perhaps regional anthem?), ID by man in long 0033, 0043, 0059. (Boice, Conn.) A stn hrd in lang on 11.710 w-varied prgms frim as early as 1000 to after 1200 is believed Soviet Far Eastern Serv., paralleling Khabarovsk, 9.750; location of 11.710 outlet may also be Khabarovsk—or some other location in Siberia. (KBLP)

VATICAN—HVJ, 11.865, noted w-chimes, bells of St. Peter's 2358, then opening 0000 in Sp. to L. Am.; strg level in Conn. (Boice)

VIETNAM (NO.)—Sked red direct frim the "Voice of Vietnam," Hanoi, lists ENG. on 11.840, 9.840 at 0130-0215; 0830-0930 (at dictation speed); 1330-1400, and 1530-1545 DAILY. (Pearce, England)

FLA SH—RADIO SWAN IS NOW ON SW! Radio Swan, which had been operating from SWAN ISLAND in the Caribbean on MW 1,160 kcs. to 0205 GMT s-off, has just been logged by Jerry Berg, Conn., on SW—exactly 6.000! Noted 0330 w-"Hopalong Cassidy" Show; ID 0342 with: "Let's take a moment to identify the station. This is Radio Swan, the International Voice of the Caribbean. Write us a letter, won't you? We're very eager to make your acquaintance. Address your card to Radio Swan, S-W-A-N, P. O. Box 1247, New York City. And now, back to 'Hopalong Cassidy.'" Had news 0353 and final ENG. ID 0402½, then continued in Spanish with drama, "La Vida es Una Comedia." Had political news 0437 for Dominican Republic and final Sp. news 0452; s-off 0502 after giving address. No frequency announced; meter pinned.

WINDWARD IS.—WIBS, 15.085, excellent frim arnd 0100 to 0215 s-off; BBC news relay 0200. (Riggs, Calif.)

DEADLINE—PLEASE SEND YOUR TOP-NOTCH DX ITEMS TO REACH ME BY THE FIRST DAY OF ANY MONTH FOR "WT" SECTION. Send ONLY "RARE CATCHES" TO REACH ME BY SEPT. 12 for "AT FADE-OUT" in OCT. DXH. Thanks for your continued fine cooperation! QRA is Ken Boord, 948 Stewartstown Road, Morgantown, West Virginia, U.S.A. See YOU next month?

... 73 ... K. B.

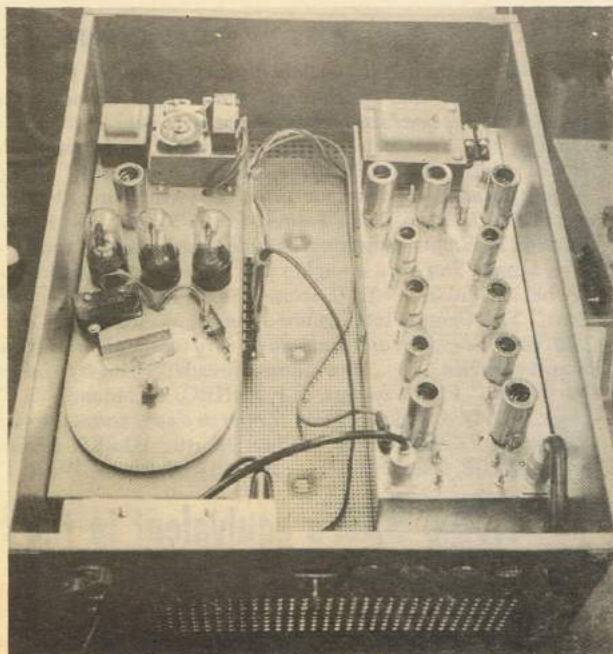
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