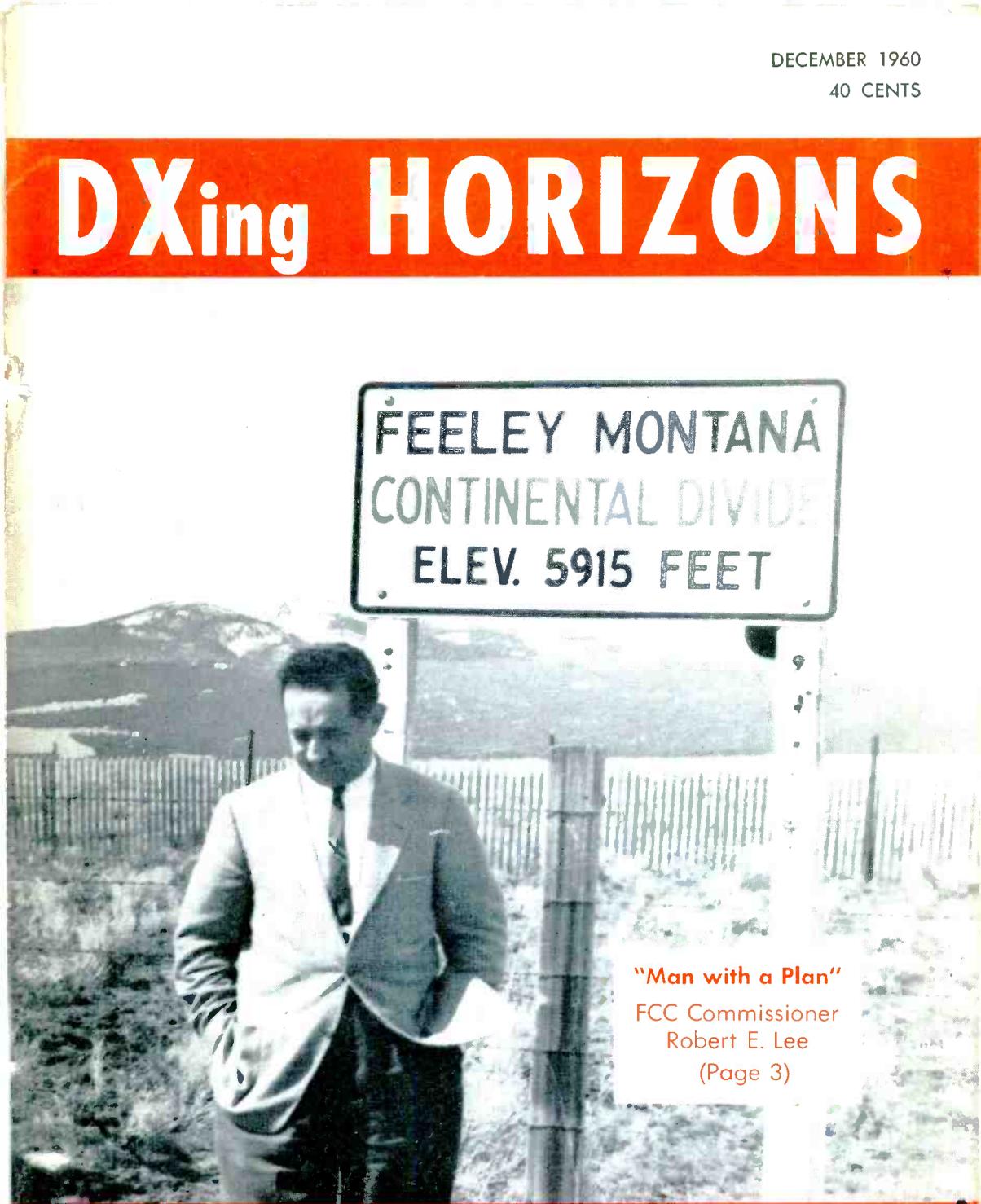


DECEMBER 1960

40 CENTS

DXing HORIZONS



FEELEY MONTANA
CONTINENTAL DIVIDE
ELEV. 5915 FEET

"Man with a Plan"

FCC Commissioner

Robert E. Lee

(Page 3)

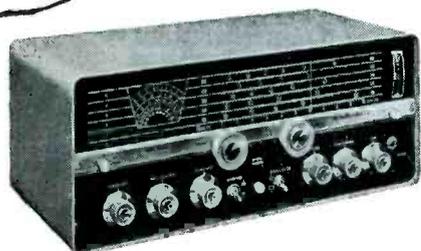
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At Sign Off

NEW TWIST TO WEAK SIGNAL SERVICE REGULATION

Speculative sources in Washington inform DXing Horizons FCC Chairman Frederick Ford is drafting a speech for early delivery in which he will outline "his own legislative proposal" for bringing CATV, VHF Boosters and UHF Translators under FCC regulation on a "case by case referee system" basis.

The key phrase, we are told, will be "economic impact," which no one with authority has yet defined or explained in precise terms. It is understood Chairman Ford proposes to hand to Congress a formula whereby complaint cases involving transmission (whether by electromagnetic waves, or wire) of signals (originating from stations outside the calculated coverage area) into a second station's coverage area may be handled by an FCC appointed referee. As an example, under the "in draft proposal," a station need only file with the FCC a complaint alleging that a Cable Company, VHF Booster or UHF Translator is "importing signals" into its coverage area, and claim "economic impact." The FCC referee would sit in hearing with the groups involved, to decide whether the "importing of signals" actually did constitute economic injury (impact) to the complainant. The proposed legislation would give the FCC power to close down the importing medium (Cable Company, VHF Booster, UHF Translator) in cases where the decision is in favor of the complaining station.

Such a system is now under study in Canada where the BBG has instituted hearings originating from a series of complaints filed with the House of Commons Special Committee on Broadcasting by the Canadian Association of Broadcasters.

THESE ARE BOOSTERS?

As DXing Horizons goes to press, a pair of 347-A filings and their associated data have been released by the FCC. One is for a 800 watt channel 2 repeater for Lakeside, Oregon, repeating KOIN-6 Portland. The other "Booster" is in Washington, operating with a modest 55 watts. The FCC had indicated during McIvor Parker's western trip in August and September that they "might choose to allow limited power" (above the one watt limit) at a later date, after initial filings were completed: but 800 WATTS IS JUST A LITTLE MORE THAN LIMITED!

NBC TRANSLATOR POLICY DRAWS FCC FIRE

Renewal application from K76AH, Lewiston, Idaho UHF Translator, caused FCC heads to shake, when K76AH primary station (KHQ-Spokane) said they would not grant OK to K76AH to carry NBC programs from KHQ. It seems NBC affiliation contract with KLEW-3, Lewiston carries "exclusive territory clause," even though KLEW is not a primary affiliate of NBC. Said FCC "It would appear" . . . contract . . . "calls for refusal by network to consent to rebroadcast of network programs by a Translator station in a community where an affiliate is located, even when the affiliate

is not carrying the network programs."

The FCC wants to know why, and so do we!

STATION NEWS

CJAY-TV Winnipeg, Manitoba was prevented from erecting its antenna atop the 1,003 foot tower first week in November due to high winds. Should be on with full 325 kw. video as this is read. Operates channel 7.

KCND-TV Pembina, N.D. most northerly station in the United States uses erp of only 23 kw., but is on a whopping 1,450 foot tower. Began telecasts November 7th, apparently is received well as far north as Winnipeg where rabbit ear receivers report good quality signals. Operates channel 12.

KIFI-TV Idaho Falls, Idaho is expected to be broadcasting with NBC programs by December 15.

GEORGIA CHANNEL CHANGES

WRBL, Columbus, moved from "four to three" October 28, and was followed soon after by WTVM Columbus moving from channel 28 to channel 9. As WRBL vacated channel four, WTVM Dothan, Alabama moved from 9 to 4. The move makes Columbus an all VHF market.

KAISER AND KAHN

TelePrompTer Corporation, owner-operator of five CATV systems, has announced plans for the joint installation and operation of a series of CATV systems in Hawaii, under the flag of the Henry J. Kaiser domain. First job to T-P will be wiring (underground cables) of Kaiser resort villa "Hawaii Kai" for reception from Honolulu stations. Henry J. has tried unsuccessfully UHF translators and satellite repeaters as a means of bringing Honolulu video to his Pacific resort. Now CATV and TelePrompTer's Irving B. Kahn will have a go at TV across the open waters of the Pacific.

VIOLENT MAGNETIC STORM DISRUPTS COMMUNICATIONS

The most intense aurora and magnetic storm on record at most observatories of the world, broke out the morning of November 12 (0850 EST) and lasted through 0700 EST November 14. Highlight of the magnetic activity was a vivid aurora display Saturday night, the 12th, visible as far south as Miami and Los Angeles. But as this epoch storm was subsiding a second storm broke November 15th, lasting through the evening of the 17th.

The most obvious result of the severe magnetic disturbances were the almost unusable shortwave spectrums, November 12th (SW Editor Ken Boord reports Radio Australia was inaudible for the first time in years), and very poor conditions through the 17th.

Other side effects: Strange wintertime Sporadic E skip television DX November 14 (0900 EST over midwest and Great Lakes region, over western U.S.A. 2200-2400 EST), November 15 (western U.S.A. regions, 0920-0930 EST) and November 16 (all of western and southern U.S.A., Alabama to California, 1000-1300 EST).

PROPAGATION PREDICTIONS

Nov. 30-December 2—unsettled.

December 3-7—stable, good condx.

December 8-13 — very unsettled, chances for aurora displays excellent. Shortwave poor, possible TV DX E skip.

December 18-20, 27-29—unsettled, possible magnetic disturbances.

Remainder of the month expected seasonal.

DXing HORIZONS

DECEMBER 1960

Volume 1, Number 12

"A monthly news publication, devoted to active Television, Shortwave, Medium Wave, and FM long range enthusiasts throughout the world. DXing Horizons is the official news publication of the World Wide DX-League, an international organization of DX listeners-watchers. DXing Horizons is registered to Robert B. Cooper, Jr., 1960."

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WORLD WIDE DX-LEAGUE

The Shortwave—Medium Wave—TV and FM Departments of DXing Horizons sponsor this international organization of listeners watchers for the sole purpose of enhancing the pursuit of DX Radio-TV signals.

The World Wide DX-League provides listening awards-certificates in recognition of DXer achievement. Full information on league membership, and awards can be found monthly within these pages, or through the league's office in care of DXing Horizons Magazine.

DXing Horizons . . . "The DXer's Equivalent to the Ham's QST."

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SOMETHING BORROWED and
SOMETHING BLUE!

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(Publisher's Notice: No sample copies will be mailed in January.)

✓ . . . If your magazine is checked here, this is a **SUBSCRIPTION COPY**. You too are eligible, with an extension of your present subscription.

Every operator has a few pieces of odd amplifying equipment, an antenna or two, perhaps 1,000 feet of coaxial cable, in a corner gathering dust. Now, **every month**, a NEW "GEAR TRADE" section in DXing Horizons will list weak signal TV-FM equipment to buy, sell, trade or "give away." This is your opportunity to pick up equipment you need, or will need soon, directly from the present owner.

FREE—with every new subscription or extended subscription from a Cable Company, or VHF Booster Club **this month only** (offer expires December 22, 1960), a FIVE LINE Classified Ad (see directions below) listing the equipment you want to sell or buy. Your message will be read by virtually every U.S. and Canadian Cable TV and VHF Booster Operator!

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(NOTE: Only orders received prior to December 18 will be guaranteed space in the January, 1961 issue.)

(Note—No sample copies will be mailed in January.)

State of The Art

By ROBERT B. COOPER, JR.
Editor, DXing Horizons

(part one)

"State of The Art" may well be the most important series of articles you will ever read. DXing Horizons feels this to be the greatest "in depth" report we will probably ever have the opportunity to work with. "State of The Art" will be unusual, fact searching and perhaps a bit provocative, because it is aimed at the very core of the weak signal industry, the FCC's future plans for television, and most important of all, operators "in the field." What you will be reading in "State of The Art" in the months to come will be fact, and some (clearly identified) hypothesis. There will be some areas where we will not be in a position to quote sources, because to do so would jeopardize the position of very helpful industry, FCC and field aids. Some of what you read may never occur. As a matter of point, the entire *UHF Move* may never become fact because of the immensity of the proposal.

One thing we will not do; editorialize or slant our reports. We believe our readers to be sufficiently intelligent to sift through the material and form opinions without editorial prodding.

We do ask that if you, as a reader, industry figure, or backyard researcher have additional material to contribute, either over your signature, or without identification, that you do so. The end result of "State of The Art" will be a complete picture. But like a jigsaw puzzle, each of the small pieces must fit into place along the way. *Your piece could be one we are still searching for.*

The Editor

QUESTIONS

What is the current state of the VHF-UHF television receiving art?

At VHF frequencies the weak signal industry has developed comparatively low-cost tuners with noise figures at or below outside "antenna pickup" noise levels. We have apparently reached the ultimate usable receiver sensitivity. It remains only for the user to pick his weapon to fight the snow barrier. *But how far are we from a 3db, or even 5db front end*

at the frequencies used for UHF television? Will future UHF tuners be antenna mounted, to combat the high transmission line losses at UHF frequencies? What future does the coaxial transistor hold for UHF front ends? The tunnel diode? The parametric amplifier?

If we are to have an all UHF nationwide television system, what will the future hold for the Master Community Antenna system? And how would the FCC compensate for the generally recognized "poorer propagation characteristics" in the UHF region? Will power . . . one million watts, or even five million watts make the difference? Will high power UHF make the grade in the mountainous west? Or, will UHF translators become more widespread and popular than ever? Will the FCC recommend (officially) an all UHF system with the current standards in UHF receiver design?

ANSWERS

. . . To these questions, and more of a similar nature, in the months ahead in "State of The Art." But first, a look at the current "legal status" of UHF.

SAN FRANCISCO — October 19

Commissioner Robert E. Lee, as reported on page 30 for November, spoke before the NATIONAL ASSOCIATION OF EDUCATION BROADCASTERS, and unveiled in public for the first time what might be termed "his" time schedule for moving all existing VHF television to the Ultra Highs. The good commissioner captioned his talk "(Let's) *Put the Show on The Road.*"

After some opening comments directed at the future of educational television, the Commissioner noted "I am pleased that at long last the uncertainty surrounding the availability of more spectrum space from the military has been put to rest. In the event you are not aware of this fact, let me say that the FCC has been told, officially, and in great detail, that no VHF space will become available (for expanding the VHF television range) because of compelling military requirements. Further, I at long last read into this justification that we had better find a way to utilize the UHF spectrum space, or turn it over to someone who *will* use it."

. . . "With the unequivocal denial of additional VHF space, the recently approved Congressional action of providing funds for a government controlled experimental operation of a UHF television station in New York City takes on additional significance. (While) I do not know what the ultimate conclusions of this

test may be. I think I can enumerate the possibilities."

... Speaking of the conversion problem, from more than 46 million VHF tuning receivers, to a like number of UHF, the Commissioner drew upon his boyhood with the comment "conversion of electronic gadgets is not new to the American scene. In my own lifetime as a boy in Chicago, I witnessed the gradual conversion from direct current to alternating current. If we can put men into space, and I believe we can, American know how can certainly make an improved receiver that will receive both (the) UHF and VHF signals with comparable efficiency."

Discussing what the New York City UHF test might prove, Commissioner Lee made four pertinent points.

(A) *"It may demonstrate that the UHF is a superior service in a metropolitan area, and that we may safely move television into UHF."*

(B) *"It may demonstrate that UHF will not work well within a metropolitan area, and we will have to continue to use VHF in such areas."*

(C) *"It may demonstrate that UHF will work well, but because of the economic factors relative to making it work well, it might not be practical in large metropolitan areas."*

(D) *"It may develop improved receivers and improved broadcasting techniques that would make it (UHF) more competitive with VHF."*

MOVING MOBILE RADIO INTO THE VHF RANGE

The Commissioner next proceeded to draw attention to the accepted problems current in the VHF two-way mobile ranges (essentially 40-50 mc., 150-165 mc.), including overcrowding, splitting original 40 kc. channels to 20 kc., and even 10 kc.; a hundred and one private users and government agencies searching for new frequencies daily, etc. To Commissioner Lee, the dissemination of the VHF television region would be a quick and painless coup, with the two way services receiving the bulk of the split. Commissioner Lee noted "I proposed last year that the Commission move all television to UHF and thus give the 12 tired VHF channels to mobile services. This would help both the television and mobile industries by providing new incentive to operate UHF stations . . . accordingly the means would be provided to realize an effective nationwide television system."

BUT HOW?

In moving his San Francisco "UHF Push" to a close, Commissioner Lee noted there are several avenues of approach to the VHF to UHF change. He quoted from experience instances where UHF has proved effective (although not naming specific markets), and said "Very recently, we (the FCC) undertook to remove two VHF stations from the Fresno-Bakersfield area, and while not fully implemented, four new applications have (already) been received for additional UHF stations in the two markets. It is my confident prediction that the present economy would easily support 750 commercial (TV) stations, instead of the present 560 odd now on the air."

At this point the Commissioner recommended a list of points which he urged that the Commission totally adopt. He hoped, somewhat wishfully perhaps, that the following points would not become known as the "Lee Plan."

PROPOSED

(1) "We should immediately put to rest any notion that the solution lies in squeezing in sub-standard VHF assignments, which in themselves create sub-standard service and have a concurrent depressive effect upon UHF set manufacture and UHF station growth. (In the July, '60 DXing Horizons, Arthur O'Neil, Chief Engineer at WSBT, the nation's oldest operating UHF station said this about sub-standard VHF allocations and the future of UHF. "We are gradually gaining new viewers in areas formerly VHF. This would appear to be due primarily to co-channel and adjacent channel interference of VHF stations becoming more serious, as these stations go to maximum power and tower height.")

(2) "We should, and I might add, we will, press for legislation that television sets transported in interstate commerce be capable of receiving all channels (VHF and UHF) . . ."

(3) "We should move to de-intermix markets where UHF development is ripe, so the sales of UHF (-VHF) receivers will move ahead, and thereby provide incentive to the manufacturer to produce more combination receivers. (This will be an interim plan while number two (above) is put into effect.)"

(4) "We should impose a permanent freeze now on new and improved VHF stations."

(5) "We should allocate available and newly released VHF frequency space to non-broadcast mobile service, both to common carrier and private users. In this connection, as

soon as the necessary rules are formulated, I would permit joint tenancy of the VHF channels on a non-interference basis."

(6) "We should dissolve the table of television assignments retaining only the educational reservations and *existing engineering standards*" (emphasis ours, more about engineering standards in January).

(7) "We should license new UHF stations to the lowest channels available in their particular area, using a system whereby we would assign channels to the licenses we issue in the order we make grants, thereby eliminating comparative hearings . . ."

(8) "We should permit existing VHF stations to operate both on VHF and UHF, contrary to our present rules, until it appears "time to discontinue the VHF service."

(9) (Summarizing here) The Commission would allow a changeover period of five to seven years, VHF to UHF, from the date of the announced order.

(10) "In the event the above course of action was adopted by the Commission, I would put a short temporary freeze on new UHF operations to permit existing operations to apply for the best UHF channel available."

In closing his talk, the Commissioner chose these phrases, "if the commercial stations are to be shifted voluntarily *or otherwise*," and, "If the Commission chooses in its wisdom to follow these principles in whole, or in substantial part, I have no doubt that shortly its objectives would become a reality."

OBJECTIVES

Perhaps to some readers, the overall objective of the FCC in relation to a nationwide television service is not too clear. The FCC, as a solid group with a single spokesman, or as the individual Commissioners, has expressed the television allocation objective a number of times over the years. In its most brief form, it would read "To provide local origination and multiple channel reception to every region of the United States." "Local origination" can only be effected by a station "local to that area served." "Multiple channel reception," likewise, means two or three local channels.

HOW?

How might this be achieved? First of all it becomes obvious that under the "objectives concept" of the Commission, the 12 VHF channels would never be adequate. In its broadest sense, it is questionable whether 56 UHF channels, with 14 Translator reserved

channels, could do the job. But for the purpose of this discussion, let's assume they would.

During the course of conversations this writer held in October with FCC and industry intelligencia, two points were driven home concerning the New York City UHF test (which will be the subject for "*State of The Art*" in January). *Point one*, this quote from the text of a report dated September 20, and issued by the GIAC (General Industry Advisory Committee), participating in the layout of the UHF test. ". . . maximum attention should be given to providing good coverage in close (less than 20 mile radius of the transmitter) with sacrifices, if necessary, in the rural coverage." *Second point*, while DXing Horizons was attempting to track down the reason for point one's appearance in an official statement of policy, we learned that with little exception, no "real interest" appears to be developing in the job ahead to improve UHF tuner design. *Here is the UHF receiving industry's biggest single stumbling block*. Here the industry is stymied with receiver generated noise figures in the 10-12.5 db region.

In other words, the general UHF test thinking appears to be "let's sacrifice coverage outside the grade A area (beyond 20 miles) and worry about covering that later." Either there is great hope for an early tuner noise figure break through (not likely) or, *an FCC planner has a "master plan on paper" for rural area coverage*.

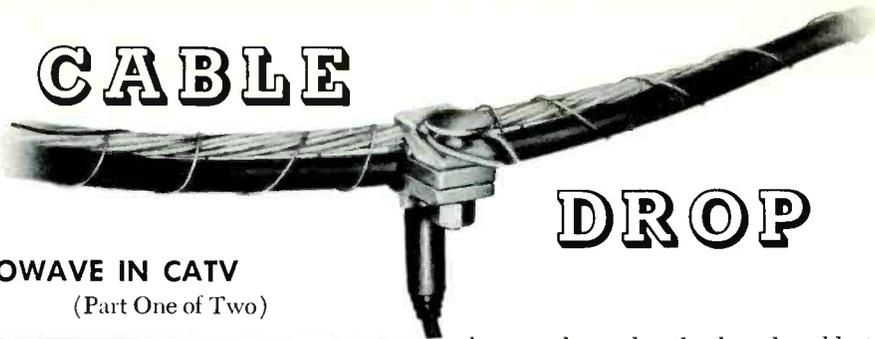
We submit, in hypothesis here, that the following "just might be" a solution now being considered to the rural area coverage problem.

"To help sooth the high power VHF broadcasters, and networks, who will at best be hesitant about giving up 100 mile radius VHF coverage for 50 mile radius UHF coverage, a plan has evolved to grant one maximum power UHF station to each VHF station now operating, and "*where necessary*," ring the fringes of the maximum power UHF station's coverage area with "On Channel Boosters," such as was recently issued to WINR-40, Binghamton, N.Y. (See DXH, page one for November); or as an alternative, should "On Channel UHF Boosters" fail to be stable devices, grant many low and medium power UHF translators, with "origination privileges." The FCC, on paper, hopes this *many for one* trade formula will bring the VHF operators into line.

And, under the overall FCC "allocations objective," with local origination an integral

(Continued on page 30)

CABLE



DROP

MICROWAVE IN CATV

(Part One of Two)

When the FCC terminated its proceedings on Docket 11866 ("In The Matter of Allocation of Frequencies in the Bands Above 890 Mc.") late in September, an aura of non-belief reflected back from the SHF industry. Affecting all users of microwave, and from our viewpoint, the CATV industry in particular, was the general tone of the decision closing the Docket that "the FCC will now accept applications for private microwave use in direct competition with common carriers, even in instances where common carrier service is available." Hurrah! cried the CATV industry, now we won't have to fight the Common Carrier Bureau. Now perhaps we will get the avalanche of CATV microwave applications moving. "The future for CATV microwave is assured," came the cry.

But what actually has transpired? Have we won a battle, or have we been conveniently tucked into an out of the way pigeon hole at the FCC?

"Microwave in CATV" will attempt to answer these questions for you in this two part series.

VERY BRIEFLY...

What have we won? First of all, it appears now (it must be emphasized the rulemaking "In The Matter of Allocations Above 890 Mc." is still to be finalized) that CATV operators have won the right to operate point to point video relay in the 12,200-12,700 mc. region. As private users, CATV operators may direct their applications through the "Safety and Special Services Bureau" (Curtis B. Plummer, Chief, not the Common Carrier Bureau.

As such, this will move CATV operators around the complexities of the Common Carrier Bureau. *But*, it moves CATV applications under Safety and Special Services regulation, where the FCC can "impose such conditions as non-duplication of existing local station's programs, and/or limit the number of channels to be transmitted simultaneously, etc." In

other words, under the broad *public interest powers*, vested to the Safety and Special Services Bureau, the FCC may impose conditions on the grants which would be foreign to grants issued by the Common Carrier Bureau.

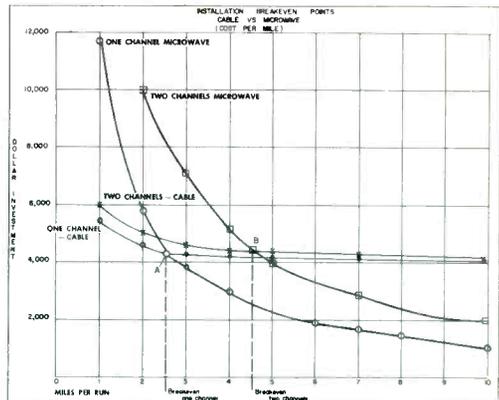
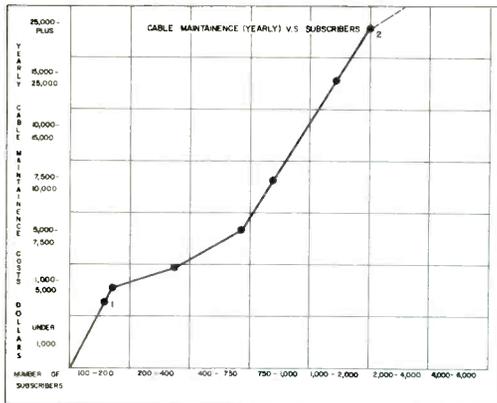
It boils down to economic impact. The Commission, under this new service for CATV, will be allowed to study the economic impact of the CATV system on an area's local broadcasters. So, *strike one*, against the CATV "victory."

Now strike two. How many manufacturers of 12 Kmc equipment are ready to sell and service equipment with video handling capabilities in this region? DXing Horizons is surveying the scene now, and we will report in January. It is known, however, that for every 50 mile hop now covered by 6 Kmc units, 12 Kmc units covering the same path will require a minimum of two, and in most cases, three hops. Even if the 12 Kmc equipment is priced about equal to 6 Kmc equipment (which it is not), the cost of additional relays will be considerable. Other annoying factors (rain attenuation, lower tube life span, narrower beam width, higher receiver noise figures) are hardly offset by the increased gain possible with equal dish antenna sizes.

However, despite these disadvantages, DXing Horizons believes the microwave CATV future is bright indeed. The FCC will apparently still issue 6 Kmc CATV permits, after the usual hassle, through common carrier service. Most of the problems cited in the paragraph above are technical, and cost factors. In both cases, greater use of the almost unknown 12 Kmc region, and industry research will solve these problems.

WHO USES THE MICROWAVE

All manufacturers of microwave equipment (i.e. Collins, Raytheon, Philco, RCA, Motorola) maintain private files and surveys on the type of CATV operations now using, or planning to use, microwave links. As an integral portion of this two part series on *microwave in CATV*, DXing Horizons has tapped the



files of several of these firms, as well as the cumulative results of 102 microwave survey sheets recently returned to a major manufacturer of CATV line equipment. We feel the 102 survey sheets in particular indicate in detail the current interest in CATV microwave and probably represents the most accurate accumulation of data to date in this almost unknown facet of the CATV field.

For direction, the vast majority of the CATV operators (i.e. those not now using microwave, but "interested") look naturally to those operations using microwave. In many cases the fears expressed over cost, FCC licensing procedures, and reliability can be answered by the experiences of firms with microwave.

"THE BIG CHUNK"

58 of the total CATV systems replying to the questionnaire (total replying—102) said in effect, "Yes, we would like to use microwave in our installation, but . . ."

27 replies noted "No, we don't want to use microwave."

13 replies indicated "We now use microwave," or "We are now installing microwave."

The remaining four replies were incomplete, and did not enter into the tabulations, which are detailed here and in January.

THE USERS

Those thinking about microwave indicated the greatest stumbling blocks to date, in their microwave plans, were (A) cost, (B) the FCC freeze on CATV microwave applications, and (C) the non-availability of low power microwave equipment for short hops of 5-15 miles.

Surprising to DXing Horizons, seven of the 13 CATV firms stating they are using microwave, or are now installing it, have fewer than 1,000 subscribers. The smallest has but 200.

The remaining six connect to systems numbering from 1,500-3,000 receivers. So it might be assumed that the size of the system served is not necessarily an important factor in underwriting the cost of microwave.

WHEN INSTALLED?

Six of the thirteen now using microwave installed the equipment after the CATV system was constructed. Six more said they were sitting on an FCC application, awaiting a judgment. The remaining microwave user stated he planned microwave into his system from the beginning.

HOW MANY CHANNELS?

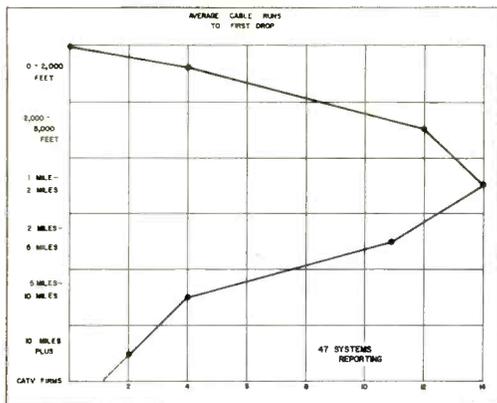
13 of the 13 microwave users indicated microwave accounted for only a portion of their program reception. Two of the 13 use microwave to bring five channels to their systems, one brings three channels, another two, and the remaining three use microwave for a single channel. Two of the systems bringing a single channel on microwave have five channel systems, but find the cost for the "one in five" worthwhile in customer satisfaction.

WHY DO THEY USE MICROWAVE?

Better signal quality (8 out of 13) was the biggest single factor for adding microwave to the CATV system. Seven indicated they could not find an adequate signal location near their service region. Two noted bad weather at the antenna sites made a remote microwave unit a good buy. One of the 13 hit close to home with "more channels mean more customers."

MICROWAVE REPEATERS AND SYSTEM MAINTENANCE

Have microwave costs been equal to, greater than, or less than expectations? Three systems reported costs were equal to forecasts, three stated these costs were lower, and one indicated the costs for maintenance ran higher.



No correlation is possible with costs, but for information value, five users report they use no repeaters in their microwave system. Three state they use a single repeater point, and one each uses three hops, five hops and six hops.

Chart number one provides the Cable Operator with a quick check on calculated verified "average cable installation costs" for increasing system lengths, and a set of companion figures for the use of "microwave links," in lieu of cable runs, for the same distances covered.

Chart number two is a slightly different approach to maintenance figures, based on this interesting thesis. In sorting through mountains of data to prepare this series, DXing Horizons noticed a definite correlation between the number of subscribers and the yearly cable maintenance cost. The relation is obvious enough of course. The more subscribers, the more cable needed to inter-connect, and the greater expenditures for cable maintenance. Notice if you will the points on chart two marked 1 and 2. Point one locates on the curve where 100 subscribers and approximately \$1,250 yearly maintenance intersect. Point two falls on the curve where 2,000 subscribers and \$27,000 yearly maintenance intersect. In other words, a 100 subscriber system costs the operator approximately \$1.25 per connection for servicing maintenance per month (or \$12.50 per year). This figure includes labor, skilled and otherwise. At the 2,000 subscriber point, the Cable Operator is paying \$27,000 per year for maintenance, (again including labor), or approximately \$13.50 per subscriber per year, or \$1.35 per month. How does your system compare with this national survey average?

While this may seem to have little to do with microwave, it does indeed. When an op-

erator computes his cable operating expenses (including all cable, and amplifiers, from antenna site, through town, to the last drop), and weighs them versus microwave expense, he will want to include the entire system costs to reach the per subscriber cost, not just that part of the system from the antenna to the first bridging amplifier.

WHAT THE WOULD BE USERS WANT

Chart three depicts the cable runs now in use by 47 system operators who are in favor of adding microwave, "but." Their reasons for the "but" falls into three categories. (A) "The current FCC muddle in granting microwave for CATV use has scared us into waiting to see what will eventually happen," and (B) "What we need is a low cost-low power system to serve our needs in the under 15 mile hop category," and (C) "A complete package with 10-25 percent down, and 3 to 5 years to complete payments." Many were in favor of having the equipment installed by the factory; some indicated they would do the installation. In these two categories there was a 40-40 split, with the remaining 20 percent depending on a "local" service company to install the microwave equipment. One operator suggested a unit with 3 to 5 video channels on one carrier (with sub-carrier audio). Another suggested a common power supply for three transmitters, while a third wanted a common supply for his three projected receivers, as a means of cutting high costs. Another suggested "a sync stretcher, better noise limiting, and use of the Western Electric 417A for better I.F. noise figures." Several indicated "if we put in microwave, we would move our antenna site to a better location." One thought manufacturers should make lend-lease agreements with systems operating with fewer than 750 subscribers, as a form of financing. Two (one in Washington, another in the deep south) stated "the telephone company will not permit us to feed our system with microwave, as our pole use agreement with them states we must use cable to feed the system with any signals we carry on our cable and their poles."

39 of the 58 systems, replying they would like to use microwave "but," stated the high initial cost was the stumbling block. 17 (an appreciable number) stated they were not familiar enough with microwave to go into its installation. In this vein, another operator queried stated, "Why don't microwave manufacturers hold 'schools' so we can learn what it is all about."

(Continued on page 30)

HORIZONS UNLIMITED*

CATV BUYERS

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EXCLUSIVE CATV BROKERS

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- Let us show you investments with three to five years short term complete return of capital.
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- Our job is to find buyers of competent ability and financial responsibility.

For discreet representation, sound advice and quick results — contact the CATV authority recognized throughout the United States and Canada. More than 90% of the CATV system sales to date, have been handled by DANIELS & ASSOCIATES, Inc.

DANIELS & ASSOCIATES, Inc.

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Canadian Headquarters — — 31 Quebec Street, Guelph, Ontario, TAYlor 2-2030

**Number two of a series. Shown, the Ventnor, New Jersey CATV dish bringing New York and Philadelphia television to 2,200 system subscribers.*

TRANSLATOR

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

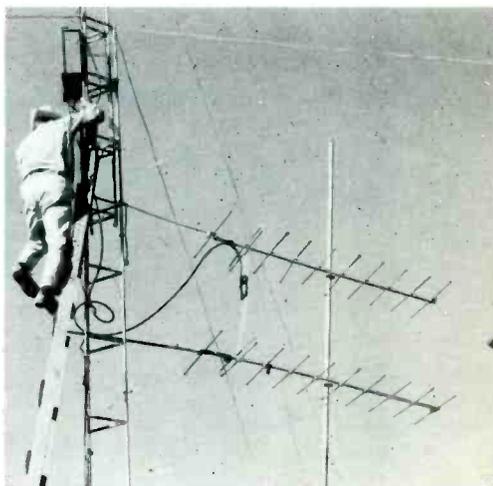
TOPICS

The Charlie Starr Story

One of the most unusual stories destined to come from the VHF Booster world, when the story of small town TV is finally written, will tell of a Montana-Wyoming rancher who never had the back off his radio before he installed his three hop VHF relay. His name is Charlie Starr, and his business is ranching . . . big ranching. Charlie raises cattle ("don't know how many for sure . . . but there's a passle of 'em"), and grows wheat "when the weather is right." Charlie's ranch is big . . . 5,000 acres big. So it is only natural that he does things in a big way. But Charlie's ranch is also isolated. In this modern day world of six lane super highways, seven channel television and five hour flights from coast to coast, Charlie Starr lives 80 miles by road from "the nearest town with a movie house," and "too far from any town with a radio station to hear anything at all in the daytime."

Its not to startling to learn, then, that Charlie Starr wanted television in the worst way for his ranch. The Starr Ranch-sted consists of several implement buildings, Charlie's ranch house, and a new unit under construction for his son-in-law.

Editor Bob Cooper, flying with pilot Keith Anderson and Gene Bartlett of Mid America Relay Systems, set down in a Cessna 180 at the Starr Ranch around three in the afternoon, October 4th. After introductions, we took a five minute ride to the top of a nearby ridge where the Starr "channel six Booster" is situated. Photos one and two show the Starr channel six Booster installation. In photo one, Charlie Starr is coming down the tower after checking the MARS RX-17 unit inside. In photo two, the Booster itself rests in the Blonder Tongue "outdoor line box." The cable coming down the tower on the left goes to the channel 11 stacked yagis, shown in photo one. These yagis pick up signal from Starr's first Booster unit, operating at the off the air pick up point, 32 miles to the southeast. The signal



CHARLIE STARR, 25 miles north of Weston, Wyoming, checks out his channel six VHF Booster. Television is Charlie's only contact with the "world on the outside" in a region devoid of daytime radio, newspapers, off air direct television, and roads.

originates at KOTA, channel 3, Rapid City, travels 90 miles to the channel 11 pick up point; there is converted to 11, and then re-broadcast with one watt output beamed at the Starr Ranch. At the top of the tower in photo two, stacked channel six yagis rebroadcast the "Starr Booster" in two directions. Dead ahead is the Starr Ranch, one-half mile airline downhill. To the right, 25 miles south, Weston, Wyoming. The people of Weston have erected a Booster of their own (under Starr's guidance), picking up the Starr channel six beamed signal. Starr estimates the channel six unit operates with one watt, one-half of which is directed the 25 miles to Weston. At Weston, the channel six signal is converted to channel 9, and reradiated to cover the small town.

The channel 11 signal, from relay number one, spans the 32 miles of Wyoming-Montana rangeland crossing over land even jeeps and other four wheel drive vehicles can't manage *in the middle of the summer*. But along the line, about half way between Starr's Ranch and the channel 11 site, the *Homestead Mining Company* operates a small gold mine. Approximately 25 families live in this no man's mining

(Continued on page 12)

*Secretary, National TV Repeater Association, Tri-State Repeater Association.

Serving the Television World

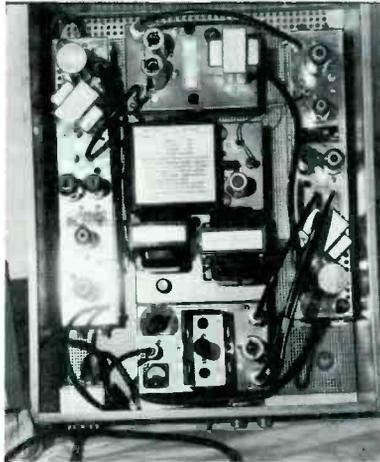
from the Heart of America

M.A.R.S.

"WESTERN AMERICA'S MOST ACCEPTED VHF BOOSTER IS NOW A VHF TRANSLATOR!"

**M.A.R.S. RX-17B
One Watt
VHF Translator**

- *One watt peak video, one-half watt peak audio output.*
- *40 DB AGC control range maintains 2 DB output range. Overall system gain, 110 DB.*
- *Premium Quality 10,000 hour tubes used in all functions where only the best will perform, and last.*



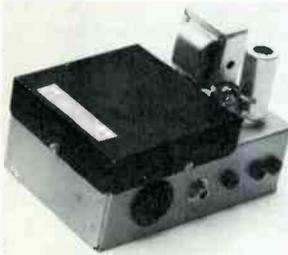
EXCEEDS ALL FCC VHF TRANSLATOR REQUIREMENTS

- (1) .01% Oscillator drift from minus 30 degrees C to plus 50 degrees C; 90-130 vAC, 60 cycles.
 - (2) **AN INDUSTRY FIRST!** Unique automatic shut off and code identifier (AUTO FIER) uses photo diode and transistor circuitry. Fool-proof under all weather and temperature conditions in western America.
 - (3) All harmonics down 60 DB or more. All spurious emissions beyond 3 mc., down at least 30 DB. The RX-17B, complete in its own self contained cabinet, draws only 145 watts while transmitting.
- Price:** \$1,097.00 complete, aligned, with all tubes, regulator and cables.

The most respected name in western America **Repeater Television**, now first with a broadcast quality **VHF Translator** for rugged western America.

"The very best costs less when its labeled M.A.R.S."

AUTOFIER — FOOLPROOF AND RUGGED! Built to operate in all western climates, Alaska to Arizona, where reliability is a MUST!



Unique diode and transistor circuit identifies your Translator, and shuts it down when the AGC bias voltage deviates beyond the preset control range.

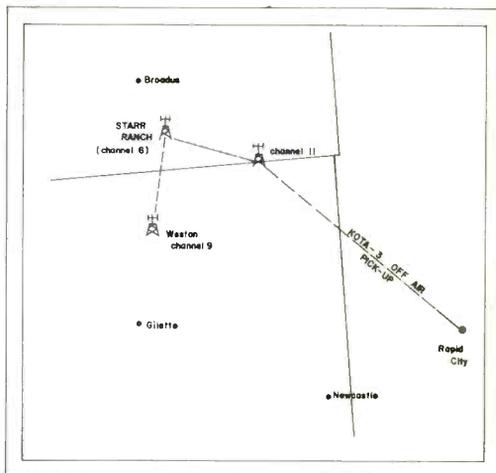
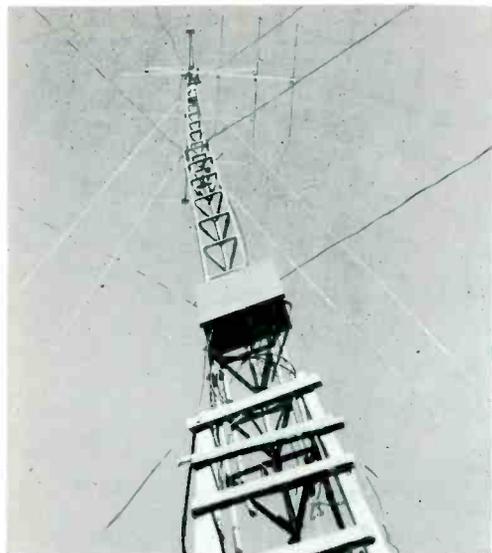
REMOTE CONTROL (Option)

LANDLINE OR RADIO REMOTE CONTROL is FCC specified unless your Translator can be reached and shut down on 15 minutes notice in "any weather." Here is the inexpensive answer to landline control, using a jack output on the RX-17B, this metered switch operates in series with the relay coil.



Hundreds of mountain and hill top installations throughout the west, operating for more than five years are performance proof that M.A.R.S. delivers the signal. **MID AMERICA RELAY SYSTEMS** — A quality VHF Translator from the company that knows western TV best!

MID AMERICA RELAY SYSTEM, INC.
601 Main Street
Rapid City, South Dakota



"THE STARR CIRCUIT," covering approximately 90 air-line miles to the pick up point at the channel 11 Booster, 32 miles on channel 11 to the Starr Ranch and channel 6 Booster, and 25 miles more to Weston and the channel 9 Booster. Starr purchased his three VHF Boosters sight unseen, and installed them himself on peaks "he thought might work." *They did!*

R.E.A. (Rural Electrification Administration) is pretty helpful to the ranch folks. I just told them I wanted power strung up to 'yonder' hill, and they obliged. Only charge us for the watage used too you know." "And," he chuckled, "you know that little one watt Booster doesn't use much power."

And we couldn't help but chuckle ourselves, remembering the fights waged against illegal VHF Boosters by another government agency, the FCC, while *here were a couple* (and we suspect there were hundreds more in the same category) *being kept alive by the generosity of the R.E.A., another "government agency!"*

FUND DRIVE COMPLETED

Washington State Booster operators joined the Tri State TV Repeater group (consisting of units in Idaho, Wyoming and Montana) to conduct a United Fund Raising Drive, designed to provide the funds necessary for Booster-Translator adaption, and continued operation in 1961. The TV broadcasting stations in these areas (as well as those serving these regions, although not within the four states) are to be thanked and congratulated for their *over the air* aid in raising the funds.

The Booster Fund Drive week ran from November 13 to 19. Many clubs report they had a difficult time establishing estimated conversion and operating costs, because at Fund Drive time, no manufacturers of Booster-Translator gear had announced prices on their equipment. It may be early spring before some clubs know if their fund raising effort was "good enough."

TRI STATE TO OFFER TRANSLATOR EQUIPMENT DATA

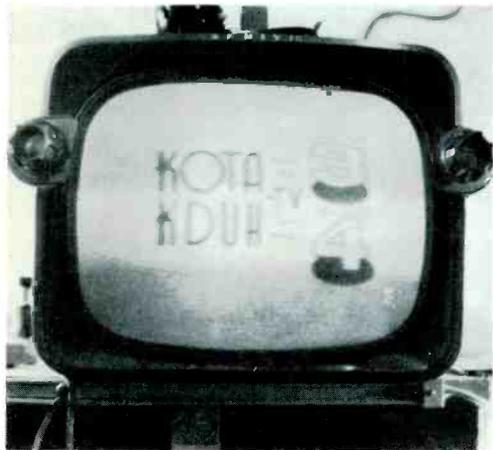
As most Booster operators are aware, the manufacturers of this line of equipment are in the
(Continued on page 14)

AT THE TOP OF THE TOWER, a pair of four element channel six yagis, twisted 90 degrees, cover the Starr Ranch, and beam the KOTA signal on to Weston, Wyoming, 25 miles south. The one watt VHF (Translator) Booster is mounted in the "outdoor" box just above the ladder.

camp. Unfortunately, they are not able to receive the channel 11 signal, located as they are at the bottom of a valley. But the mining company erected a Master Antenna System, climbed a nearby "hill," scooped in the microvolts from the channel 11 Booster, and cabled the signal down the hill to the mining camp community.

CHARLIE AND POWER

"How do you get power to these isolated Booster sites," we asked Charlie. Starr chuckled, and answered "Well, you know the



PROOF SUPREME that the Starr relays do perform. This station break was noted on Starr's "test bench receiver," using only simple rabbit ears to pick up the channel 6 unit, one-half mile distant.

FLASH - - -

Here's the product you've been waiting for to help you meet the new F.C.C. regulations. **Video Utility Company** is proud to present its own design and manufacture of an automatic on/off code deck that is flexible, universal and economical.



ECONOMICAL:

Add 2nd and 3rd channels for much less than the cost of the first.

FLEXIBLE: Handles up to three channels in one unit.

UNIVERSAL: Can be used with any VHF system.

Automatic on/off unit available separately without code deck if you are repeating another translator: code deck easily added later if you change to repeating a TV broadcasting station directly.

Power requirements: 115 volt A.C., 60 cycle.

DISTRIBUTORS' INQUIRIES INVITED

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Dedicated to the Advancement of Low Power Television

COMMUNITY

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INDUSTRY

TRANSLATOR TOPICS

(Continued from page 12)

process of having their proto-types "type accepted." Late word from the FCC in Washington indicates most manufacturers will have this type approval by mid-December. This will include, in some cases, type acceptance for both complete Translator units and the "add on units," such as the code-identification and automatic shut down devices offered by many companies.

Tri State Repeater Association (write in care of your editor, Box 833, Livingston, Montana) is working with manufacturers to build up an equipment data file. From this, with the aid of the manufacturers and field servicing companies, Tri State hopes to be able to provide member clubs with necessary cost and conversion data. (EDITOR'S NOTE: DXing Horizons pages also provide an excellent quick check directory of current equipment specs and prices. All of the new equipment will be found monthly in these pages.)

347-A CONFUSION

What was Washington engineered to be a simple task of paper work for currently operating VHF Boosters, has turned out to be something else again, to some Booster groups. Form 347-A, which when completed, enrolls, or "registers your Booster," with the FCC, was originally scheduled to be filed not later than October 31, 1960. However the FCC extended this filing deadline until December 30, 1960, at their general meeting October 19. Fortunately for many clubs, this extension occurred just in the nick of time. Even as we write in late November, may clubs are still "talking about" filing form 347-A. Let it be emphasized that the FCC has bent over backwards to help Booster Clubs and individuals, most of whom have never been concerned with Federal Government forms before, except to file for income tax returns and crop parities! Therefore, any Booster operator who decides he can afford to let his 347-A and subsequent 346 filing go untouched, is asking for his own reward. Time and time again Booster operators, your editor included, have been told by area radio and television station operators "How fortunate we are to have such leniency from the FCC." Let's see that we don't jeopardize this coveted position we have with the FCC.

WHAT IS FCC FORM 346?

This is your Booster's proposal to build and operate. By filing Form 346, your Booster will be filing for permission to operate a transmitter in the VHF spectrum. By not filing, you leave yourself open to two distinct repercussions. Without controls over who uses which channel, and where, havoc would result overnight. It takes the watchful eye of a body or group "with everybody's needs at heart" (not just a local group thinking only of itself) to keep chaos from becoming an accomplished fact. In short, by not registering with the FCC (form 347-A), and by subsequently not telling the FCC how you plan to modify your existing unit to meet the more than fair FCC regulations for VHF Booster-Translators, you become an outlaw. Now who wants their picture in the post office?

The second distinct repercussion may hit closer to home to the more lawless readers. You have spent \$500, \$1,000, perhaps \$2,000 on your VHF Booster. This does not include the hours of donated

time and equipment. But you fail to register with the FCC. So, in theory, they do not know you exist. Now let's assume another group, on the "other side of the hill," or, "across the pass" decides they want a VHF Translator. So, they apply for a one watt unit on the channel you are using. When both units are on the air, co-channel interference is terrible! Maybe not in "their town," but it is in yours. But—you can't complain to the FCC... because after all, your unit doesn't exist! According to FCC files it doesn't anyhow. So you are defenseless. Not only that, but chances are your unit will cause a little interference in your neighbor's reception area as well. So they might complain "that channel 4 unit in Cow Creek is sure giving us a lot of trouble." End result? The FCC finds out you have a unit operating after all.

VHF Translators, you see, are but a small portion of the radio services occupying a very big spectrum. Harmonics, spurious emissions, etc. from your unit may interfere with other radio services, even though your Booster's signal has no direct on channel competition from other Boosters. A change in weather can change the operating characteristics of a Booster Translator, not constructed to FCC type approved specifications. After many months, or even years of trouble free operation, "time itself" may cause a harmonic to develop, landing perhaps right in the local sheriff's band, or overhead, aviation band. The possibilities for detection are many... many too numerous to list here. Rest assured however that the purposeful neglect on your part of following the 347-A and 346 filing procedures may result in your whole town going without Repeater television while the FCC decides which way to hang you up for display.

Deadline for filing 347-A forms is December 30. If you don't have 347-A blanks on hand, write to your editor.

FORM 346 EXTENSION POSSIBLE

The Washington State Reflector Association has asked the other state groups to join with them in requesting an extension of time (deadline) for the filing of Form 346 (notification of intention to modify or build). WWSRA contends winter weather, already more than apparent in the Rockies, will stop most clubs in the Northwest from taking the measurements and getting the information they need to complete form 346. Francis Adams, past president of the WWSRA, said "our channel coordination and technical committee cannot complete its work in the short time remaining before the snow drifts make transportation impossible."

Adams suggests a delay until May 1, for form 346 filings. He notes, however "I don't think there will be any need to extend the October 31, 1961 deadline for completion of Modifications." Most groups agree that the summer ahead, '61, should provide sufficient time for making the necessary modifications and changes. It will be a busy summer however!

NETWORK PERMISSION FREEZE "THAWING"

TV station permission for rebroadcast of their signals by both the existing UHF Translators and the building VHF Translators has assumed almost identical patterns. The stations are only too glad to extend their own permission for your unit to rebroadcast programs over which they have con-

(Continued on page 32)

That 6922 Again!

While the Amperex Frame Grid Triode 6922 (also known as the ECC/88, and 6DJ8) has been available on the world market since mid 1958, its entry to the weak signal scene in the United States and Canada is quite recent. There has been much data published in DXing Horizons (Page 13, March '60, Page 7, July '60) and elsewhere leading to the general consensus "that properly used" the 6922 Frame grid triode will give superior performance over the standard 6BK7A, 6BQ7A series of dual triodes, now in use in tuners and head end amplifiers.

TUBE SUBSTITUTION

Some experimenters have apparently tried direct tube substitution of the 6922 for the BK and BQ series. Such practice seldom produces improved performance. In the 12 channel VHF tuner, it is necessary to (1) reduce the supply voltage to the 6922 to 90 volts per section (pins 1 and 6). (2) Change the cathode resistor to a value of 80-120 ohms (pins 3 and 8).

Failure to reduce the plate supply voltage, and adjusting the cathode resistor will result in excessive current draw by the 6922. With the normal BK-BQ series 120-125 volts per section applied to the plate circuits (pins 1 and 6), the excessive current drawn by the 6922 will shorten tube life, deteriorate the noise figure to a point where it is no better, or even worse, than the BK or BQ tube originally in the circuit and change the AGC curve (causing the AGC to be less effective on weak signals).

MCS STRIPS

Many field conversions apparently have been made to the Blonder Tongue MCS strip amplifiers. In this case the 6922 is substituted for the 6BK7. In such cases, unless the aforementioned changes are completed, the tube switch throws additional load on the power supply, changes the AGC curve and shifts the band pass alignment to the video side.

BLONDER TONGUE C.B. AND WINEGARD WBC-4

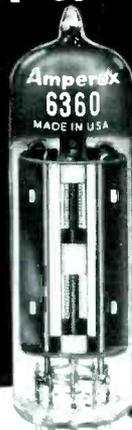
In January the new "WEAK SIGNAL TECH NOTES" department will report on 6DJ8/6922 circuits in use in these two popular units. The B-T C.B. unit is a single channel amplifier designed for antenna mounting, while the WBC-4 is a broad band amplifier-splitter designed to feed up to four receivers. Used to drive a single receiver, it delivers an average of 12 db gain over channels 2-13.

NOISE FIGURE — NOT GAIN

It is important to understand that the 6922, as used in a tuner, or a head end amplifier, will seldom give appreciable voltage gain over a BK or BQ series tube. However, the 6922 exhibits a higher transconductance, and therefore has a lower internal noise figure. As such, it does give better gain (through improved signal to noise ratio) when properly operated.

SUPPORT WEAK SIGNAL
EXPERIMENTATION —
SUBSCRIBE TO DXING HORIZONS TODAY

It's the **EXTRAS**
that
make a
good
tube
GREAT!



Amperex® 6360

MINIATURE, HIGH-SENSITIVITY
VHF TWIN TETRODE

with these Amperex EXTRAS:

- 14 watts anode dissipation in a miniature envelope
- 30 watts plate input up to 200 Mc (ICAS)
- internal neutralization
- ruggedized heater for mobile service
- standard, 9-pin button base

TYPICAL RF OPERATION, CLASS C,
TWO HALVES IN PUSH-PULL
For frequencies up to 200 Mc

	ICAS		
DC Plate Voltage	300	250	200 volts
DC Grid No. 2 Voltage	200	—	— volts
Grid No. 2 Resistor	—	27	8.2 K ohm
DC Grid No. 1 Voltage	—45	—	— volts
(Fixed or from common resistor)	—	18	15 K ohm
DC Plate Current	2x50	2x40	2x42 ma
DC Grid No. 2 Current	3.0	2.4	3.1 ma
DC Grid No. 1 Current (approx.)	3.0	2.5	3.0 ma
Driving Pow. (approx.)	0.20	0.15	0.18 watts
Plate Dissipation	2x6	2x3.5	2x3.4 watts
Grid No. 2 Dissipation	0.6	0.45	0.55 watts
Grid No. 1 Dissipation	2x0.1	2x0.15	2x0.18 watts
Power Output (approx.)	18.5	13	10 watts
Useful Output Power	16	11.2	9.0 watts

The 6360 by Amperex:

Used as a Class A₁ Amplifier in Leading VHF Translators

Other weak signal favorites by Amperex:

- 6922/ECC 88** High gain, low noise cascade RF amplifier
- 6EH7/EF 183** Extremely high gain
- 6EJ7/EF 184** I.F. pentodes

At all leading
radio parts distributors



ask **Amperex**
about extra-quality
ham tubes

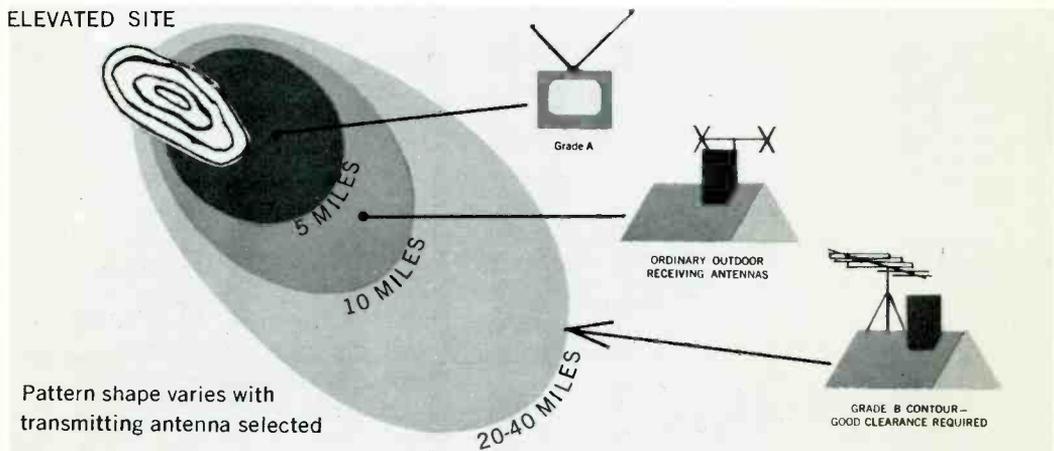
Amperex ELECTRONIC CORPORATION
230 Duffy Avenue, Hicksville, L. I., N. Y.

NOW! *Advanced concepts*

The **EMCEE** VHF

for simplest installation

ELEVATED SITE



Pattern shape varies with transmitting antenna selected

Bring clear, crisp VHF Television to your community in accordance with FCC rules part 4, sub part G.

TECHNICAL DATA

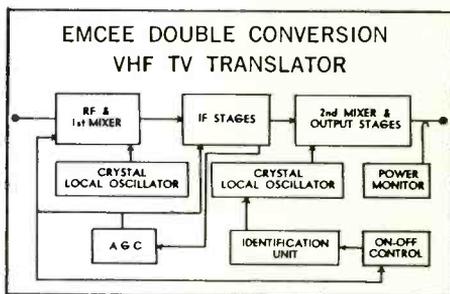
Input: Down to 50 Microvolts on 75 ohm line

A.G.C.: Range 40 db for 2 db output variation

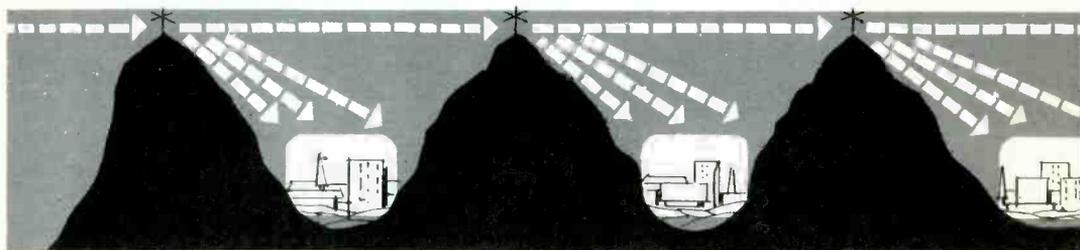
Output: 1 watt with no measurable sync compression;

75 or 300 ohm

Mountings available: 8¾ Rack or cabinet; self-contained outdoor housing



TRANSLATORS MAY BE RUN IN TANDEM TOO!



ELECTRONICS, **M**ISSOURI

262 East Third Street

cept...integrated design...

TRANSLATOR

rd maximum performance!

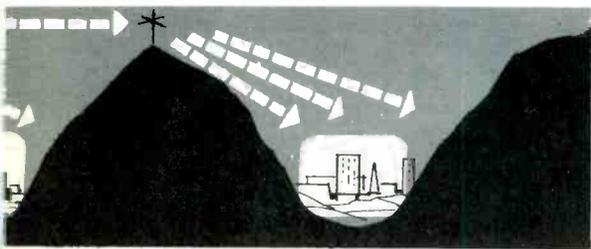
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TV Reporting

(REPORTING REMINDER—DX reports to appear in the January column must be in Modesto no later than December 18.)

PROPAGATION ROUND-UP

Several severe aurora disturbances sent shimmering bands of red and green over the southern reaches of Canada and the northern U.S.A. numerous evenings during late October and early November. One of the most intense Northern Lights displays occurred November 12, peaking around midnight EST, or the wee hours of the 13th.

Perhaps connected with this disturbance was unusual Sporadic E activity November 14-16. Occurring late in the reporting period, it is not known if these openings hit east of the Mississippi. Short skip to 500 miles over the Pacific Coast was reported on channels 2 and 3 around 2200 EST on the 14th, as well as other skip as high as 98 mc. in the FM band, between California and Colorado, Oklahoma, Kansas, Texas and Nebraska.

November 16 produced the first double hop (skip beyond 1,500 miles) E skip for the month of November in ten years of record keeping. While testing 20 elements of the 40 element Meteor scatter antenna array for channel two (to be detailed in a special report beginning in February DXH), Editor Bob Cooper found E skip on channels 3, 4 and 5 between 1138 and 1205 EST. Identified were KRLD-4 Dallas, WBAP-5 Fort Worth and KFDX-3 Wichita Falls, all Texas. At 1227 the E skip on channels 3 and 4 had returned, and a pattern was appearing on channel 2. At 1229 EST the channel two station identified as "The Alabama Educational Television Network," WAIQ in Andalusia. The WAIQ signal stayed on the screen in and out of sync, peaking at 20 microvolts several times, until 1309 EST when channel two signed on the air in Oakland. The distance from Modesto's DXH lab to the WAIQ transmitter at Dazier, Alabama is some 2,032 miles.

LATE REPORTS ON OCTOBER 6 AURORA

DX reporter Frank Wheeler, WW3AC, Erie, Pa., details his experiences with the tremendous aurora of October 6, noting he had signs of auroral interference until 2300 EST that night. His first aurora identification was WSB-2, Atlanta, Georgia! This is the furthest penetration into the south of auroral signals we know of to date. Frank caught the WSB ID at 2230 EST. He also notes auroral signals (no identifications) on October 21 (0240-0245) and October 26 (0130-0145, 2300-2315 EST).

EQUIPMENT SURVEY — VIDEO DXERS

(Part One)

More than occasionally, new readers to DXing Horizons write to ask about the "special equipment" necessary to DX on the TV bands. We give the usual form letter reply which includes advice on installing a big antenna high and clear, proper use of quality lead in line and the selection of a receiver with a low noise figure, good gain and high adjacent channel rejection features.

Earlier this year, DXH asked the nation's largest TV DX club (the American Ionospheric Propagation Association) to conduct a survey of its members. WE wanted to know what equipment is in

greatest use in the DX field. The first results of this survey are now in. Part two will appear in January in this column.

WHERE ARE DXERS?

82 DXers replied to the survey sheet. Interestingly enough, 54 of these were in the Midwest, east through the Great Lakes states and on into New England. The Rocky Mountain states, and the Gulf Coast states exhibited the fewest DXer replies, and we conclude, the fewest DXers. The Pacific Coast ranked third behind the Northeast and Midwest in that order.

RECEIVERS

82 DXers of video own 106 receivers. 36 of these receivers were Zeniths (more than one-third), 12 were RCAs, while Philco and Admiral claimed 6 each. Magnavox, Crosley and the Mattison people claimed four each, while the remainder had two or fewer in the tally. Zenith and Mattison receiver owners for the most part report they purchased their receivers "strictly for DXing," while the remainder bowed to family whims in selecting their units.

ANTENNAS

As in the receiver department, the antenna tally produced a clear cut leader... Winegard. The Winegard CL-4 model, with its many variations over the years, claimed 36 owners (out of 82 reporting). Channel Master antennas were in the second spot with 20 total users, Taco antennas totalled ten owners, and from there down the line.

UHF ANTENNAS

Unlike the VHF antenna department above, the UHF survey showed an even spread between five brands reported. JFD and Taco were tied for the first spot with 14 antennas each, while Channel Master, Walsco and Amphenol were further down the line.

ANTENNA ROTARS

The hands down popularity leader in the rotar department was Alliance, with 44 units in use (26 were model U-98 rotars). Second spot went to CDR rotars, 24 in use.

NEXT MONTH

More survey, as well as a product report on this page for the JERROLD TRAP EASE adjacent channel filters, low and high bands.

DX PREDICTIONS

(Now listed monthly for DXer convenience.)

December 1-15: Slight chance for E skip, channels 2-6, most any day between 1500 and 2100 LST. Most likely dates: Dec. 9, 10, 11, 12, 13.

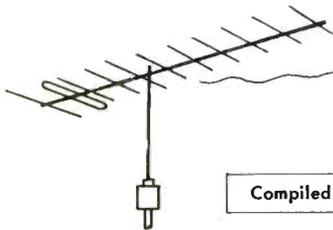
December 10-14: Geminids Meteor Shower, one of the best of the year. Watch east-west paths between 2130 and 0100 LST north-south paths 0500-0700 LST. Peaks early on the 13th.

December 16-31: Good chance for E skip, channels 2-6, 1500-2000 LST. Gulf coast and western areas most likely, with widespread reception of Mexico City stations likely around 1700-1900 LST. Most likely dates, December 22-28, 30-31.

FLASH—E skip openings are reported at press time occurring over Western U.S.A. November 25, 1900-2200 EST. Channels 2-5 affected.

FM HORIZONS

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



FM DX continues to be had throughout the United States far into the autumn. While there are relatively few reports covering the period since mid-October, the quality of previously unreported DX in late September and October is high. The month of September, 1960 has, in fact, proven to be one of the best such months for tropospheric reception in the memory of many.

Stanley Harper, Lisle, New York, lists such September DX as WKRC-FM 101.9 Cincinnati, WTDS 91.3 Toledo and WFIN-FM Findlay 100.5, all Ohio for Sept. 5; WCBM-FM 106.5 Baltimore Md. at 9:30 a.m. EST Sept. 10; WXPB 88.9 Philadelphia, Pa. Sept. 21, and the 250-watt WVAM-FM 100.1 Altoona, Pa. on Sept. 26. Harper's sole October catch was the new WBYO 107.5 Boyertown, Pa.—his 332nd FM station.

"Undoubtedly September 26 was the most spectacular day in my years of DXing," writes W. G. Jung, Forest Hill, Maryland. Between 5 and 8 p.m. that evening, 13 stations were received at distances up to 400 miles. From the Boston, Mass. vicinity, WBCN 104.1, WEEI-FM 103.3, WXCN (Providence, R.I.) 101.5, and WXHR (Cambridge) 96.9 were heard. WWSW-FM 94.5 Pittsburgh, Pa. was received at 6:45 through semi-local, co-channel WDAC Lancaster, Pa. WPIT-FM 101.5, WCAE-FM 96.1, WKJF 93.7, and a weak WDUQ 91.9 rounded out Jung's Pittsburgh catches. Other DX included WKWK-FM 97.3 and WWVA-FM 98.7 Wheeling, W. Va.; WOMP-FM 100.5 Bellaire, Ohio; and WYZZ 103.3 Wilkes-Barre, Pa. Using a 10-element FM yagi antenna and a Heath FM-4 tuner, 103 stations have been received by Jung.

Operating from Tyndall Air Force Base, which is 10 miles southeast of Panama City, Florida, Norm Metcalf, has a National Criterion tuner attached to a folded dipole antenna hung from the ceiling of the barracks. On Oct. 20, WERC-FM 106.9 Birmingham, Ala.; WSB-FM 98.5 and WPLO-FM 103.3 Atlanta, Ga. were heard and reported in the hopes of eliciting verifications from the stations involved. Other reports went to WMIT 106.9 Mt. Mitchell, N.C. for reception on Oct. 21 and 31, and WDAE-FM 100.7 Tampa, Fla., received Oct. 28.

Since installing a 10-element Channel Master FM yagi antenna with rotor atop a 25-foot mast Oct. 8, John Ebeling, Minneapolis, Minn., has been busy collecting the DX. Three stations received that day were WDFH 95.5 and WKFM 103.5 both Chicago and WOPA-FM 102.7 Oak Park, Ill. Oct. 9 and 10 resulted in the reception of KFAB-FM 99.9 Omaha, Neb.; WROK-FM 97.5 Rockford and WBBM-FM 96.3 Chicago, Ill. Other mid-month DX included WMKE 102.1 Milwaukee, WFAW 107.3 Fort Atkinson, and WISM-FM 98.1 Madison, all Wisconsin. The new KDMI 97.3 Des Moines, Iowa was received through the sidebands and sub-carrier information of KWFH 97.1 just five miles north of Ebeling's listening post, on Oct.

24. The aurora was responsible for the reception Oct. 11 of WMHE 92.5 Toledo, Ohio; Oct. 25 of WMRI-FM 106.9 Marion, WRSW-FM 107.3 Warsaw, WTTV-FM 92.3 and WFIU 103.7 Bloomington, all Indiana, and KHOL-FM 98.9 Holdrege, Nebraska. The auroral reception was obtained from 7 to 9 p.m. CST, and 11 p.m. to 1 a.m. Oct. 26, with the last such catch being WAMV-FM 101.1 East St. Louis, Illinois.

Concerning the aurora, Ebeling notes that for such reception, the antenna had to be pointed within five degrees of due north, "otherwise no reception at all was possible." Due to the fair amount of distortion that accompanies auroral reception, "a person really has to be down and dig for station identifications," comments Ebeling. The Ebeling receiver is a Sherwood S-2200 tuner.

Your editor received an interesting tape from Ed McMullin, Hemlock, Michigan, on which was recorded some of the DX that could be heard after 11 p.m. EST Nov. 11 on his National Criterion—a tuner with which McMullin is quite pleased, especially in terms of its fine sensitivity. The antenna is a 12-element FM/Q yagi atop a rotator. Although Nov. 11 was not above average for DX, such stations as WHAD 90.7 Delafield, Wis.; WERC-FM 99.9 Erie, Pa., and WDBN 94.9 Barberton, Ohio were clearly identifiable. A recent catch was WGGG 91.1 Goshen, Ind.

James Hughes, Saginaw, Michigan, reports the verified reception of WQFM 93.3 Milwaukee, Wis., received on his car Blaupunkt. He also notes that your editor's reception report from Duluth, Minn. to WFBE 95.1 Flint, Mich. is "framed and hanging on a wall in their main studio."

Reporting from Lee's Summit, Missouri, Robert W. Boggs had such October DX as KSTL-FM 98.1 St. Louis, Mo.; WHLA 90.3 West Salem, Wis.; KJRG-FM 92.1 and Newton, Kansas. Earlier in the summer, WHAD 90.1 Delafield, and WHRM 91.9 Wausau, Wis.; WFMV-FM 93.9 Madisonville, Ky. were logged.

FM/Q

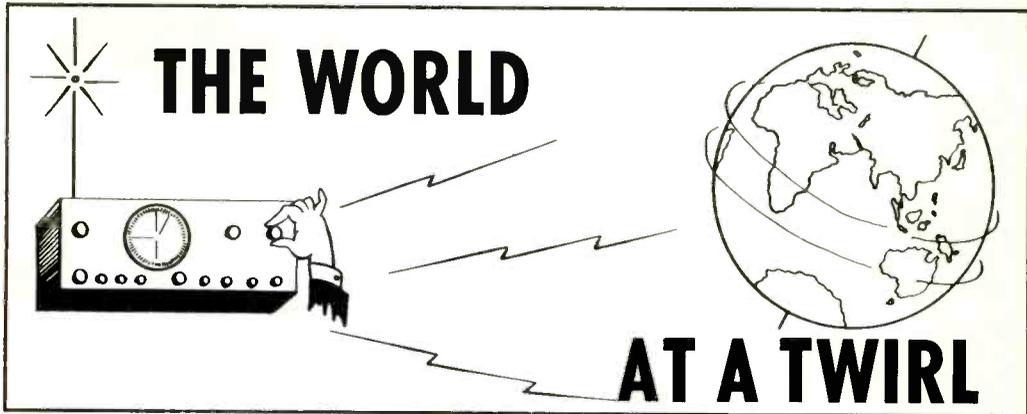
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FM/Q WETHERSFIELD 9, CONN.



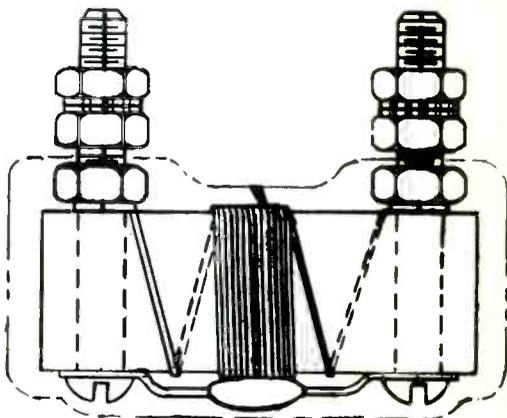
Edited by DXing Horizons Shortwave Editor
Ken Boord
948 Stewartstown Road
Morgantown, West Virginia, U.S.A.

DXing Horizons Tests *The* SWL-7 ANTENNA

In March of this year, when DXing Horizons was proudly displaying its "third month of service" banner, we built and tested a shortwave receiver kit by Heathkit Company (see page 3, March DXH). At that time we noted one of the prime purposes of the Shortwave Department would be to overcome an almost total disregard for shortwave listeners which had grown up over the past decade. In short, the engineers and manufacturers, it seemed, had forgotten SWL's existed. *And we meant to do something about that situation!*

Now we can't claim direct congratulations for the Mosley SWL-7 shortwave listener antenna, but we do like to think our agitation is finding some sympathetic listeners on the part of manufacturers.

But we can claim, and back up with figures, a gold star report for the Mosley SWL-7 Antenna! To say we are impressed is an understatement of the first order. First of all the complete "take the parts out of the bag and put together time" was 55 minutes. This included cutting proper lengths of tinned copper wire from the 45 foot roll supplied (only 39.5 feet needed), wrapping the cut pieces into the proper sequence between the color coded 8 weatherproof trap assemblies (see diagram one), connecting one end of the 100 foot roll of 75 ohm twin lead to the center insulator block, and then soldering all of the connections. *While it is not necessary to solder the connection points*, we did so. Total time from



MOSLEY TRAP ASSEMBLIES, such as this one, consist of wound "tuned" units designed to resonate the SWL-7 on each of the SW bands from 11 to 49 meters.

box to finish; 55 minutes, plus another ten minutes to mount the dipoles.

RESULTS

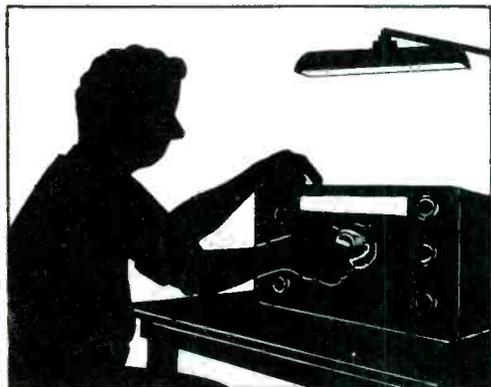
Let it be said that few SWL's have the time or patience to build and erect tuned dipoles for each of the SW bands between 11 and 49 meters. We all know that such a procedure will give the best economical results on all bands concerned, but how many do it?

We compared the SWL-7 gain with a long wire (130 feet long) on the 31-, 25- and 19-meter bands. Both antennas favor southern Europe and North Africa on one lobe, south-eastern Asia on the reverse lobe. Result; two weeks of daily registered meter readings... the SWL-7 ran 8-14 db (1.3 to 2.3 S units) at all times ahead of the 130 foot long wire.

ADVICE

That if you don't yet have an SWL-7 in the air at your location, here is the Christmas present to pester the powers that be for. Cost? \$14.75 complete from the Mosley Company, 4610 N. Lindbergh Blvd., Bridgeton, Missouri.

SHORTWAVE PROFILE



Mr. George R. Cox
New Castle, Delaware, U.S.A.

"I first began as a BCB DXer in 1947 and, after logging the then 48 States, I became interested in SWBC DXing through Ken Boord's *International Shortwave Department* in RADIO AND TELEVISION NEWS (now ELECTRONICS WORLD) magazine," says George R. Cox, 147 Atlas Drive, Collins Park, New Castle, Delaware, U.S.A.

"I was then using a HALLICRAFTERS S-38 receiver," George continues. "It has been wonderful to be a follower of a hobby that to this day never ceases to harbor enthusiasm within me.

"With the recent addition of Kuwait (4.967M, heard at 2100 GMT), my SWBC country log now stands at 172. Of these countries, 101 were logged between mid-1948 and 1950. Shortly thereafter, greetings from Uncle Sam curtailed my DXing activities somewhat. Then, in 1953, I got back into circulation again.

"I have QSLs from 120 countries. Among my favorite veries are those from Madagascar, 7.375 (250 watts); Bata, Spanish Guinea, 8.800 (400 watts); New Caledonia, 3.355 (500 watts); Ireland, 17.840 (1.5 kw.); Benguela, Angola, 9.165 (250 watts); Douala, Cameroon, 9.150 (600 watts); Novosibirsk, Siberia (USSR), 5.225; Papeete, Tahiti, 12.080 (600 watts); Forces Broadcasting Service, Malta, 4.782; British Honduras, 10.600 (200 watts); CKFX, Vancouver, British Columbia, Canada, 6.080, 10 watts.

"Although I occasionally roam as high as 25 mc, my favorite parking spots are in the 90-, 60-, and 49-meter bands. I still check the medium-wave band regularly for any foreign activity that may be taking place.



George R. Cox, New Castle, Delaware, U.S.A., is one of the world's foremost DXers—both on SWBC and the BCB. His present equipment includes a HAMMARLUND HQ-180 triple-conversion set, with a HALLICRAFTERS SX-9 as a stand-by receiver; a SCOTT RCH receiver for long-wave DXing; a RME DB-22A preselector; a MEISSNER frequency calibrator; a REVERE tape recorder, and two home-made antenna tuners.

"While many DXers hold on to their receivers for several years, I enjoy acquainting myself with a new one about every two years or so. I am presently using a HAMMARLUND HQ-180 triple-conversion set, with a HALLICRAFTERS SX-9 as a stand-by receiver. A SCOTT RCH receiver is used for long-wave DXing.

"Also used are a RME DB-22A preselector, a MEISSNER frequency calibrator, a REVERE tape recorder, and two home-made antenna tuners (from designs furnished by Ab Saylor, Virginia).

"Two antennas are available—a 60' long-wire and a 34' vertical; both are fed with 75-ohm coax lead-in."

George is a member of the UNIVERSAL RADIO DX CLUB and the NEWARK NEWS RADIO CLUB... and has been a valuable contributor to the *Shortwave Department* of DXing HORIZONS since its inception.

It is indeed a privilege and a pleasure to dedicate this issue of the Shortwave Department of DXing HORIZONS to an old and loyal friend... one of the world's top DXers... both SWBC and BCB... George R. Cox!

—KEN BOORD

Sample Copy Shortwave Readers

Enjoy this issue of DXing Horizons? Want to continue receiving DXH? Use the handy form between pages 2 and 3, to subscribe. \$4.00, 12 issues, of the finest-latest DX NEWS!

ENGLISH LANGUAGE SW HORIZONS

"A monthly review of 'casts heard in North America in the English Language"

By
A. R. "Al" Niblack
420 Shelby Street
Vincennes, Indiana, U.S.A.

With this issue of DXing Horizons a new feature has been added, tailored to compliment the "World at a Twirl" and "At Fade-Out" columns. Its eventual format will list the latest schedules for broadcasts beamed to North America, or, those heard well here even if they are not beamed our way. It is also our plan to occasionally salute a station doing a great deal with ENGLISH language broadcasts.

The offering of additional shortwave subject matter is in line with the publication's policy to give better coverage to this popular and growing hobby. As newcomers to the ranks of shortwave listening are reading DXing Horizons, it is our aim that this column should be a very definite aid and ready reference of "where to tune and when to tune." It is also our hope that it will be of assistance to veteran DXers.

With many overseas countries increasing their transmitting hours, power, beaming and coverage, it is not difficult under ordinary receiving conditions to log 40 to 50 countries in a session at the dials.

Many veteran DXers of today know current world events before the news is known to the press in general. The hobby also offers not only the opportunity to make friends in this country but also overseas. Such relationships make for good will and increased understanding amongst peoples.

MONTHLY LISTENING TIP

For a preliminary trip into the world of SW lets tune to 11.865, at 0130 GMT, for the opening of the North American First Transmission from SBC, Berne, Switzerland. Usually a solid signal, parallels of 6.165, and 9.535, are also used. Programs consist of lively music, impartial unbiased newscasts, and other topical subjects. The second transmission opens at 0415.

The following listing consists of stations currently heard well throughout North America in their ENGLISH sessions.

(Times to tune are in GMT, frequencies in megacycles.)

ARGENTINA — R. Nacional, Buenos Aires, 11.730A, 2300.

AUSTRALIA—R. Australia, Melbourne, 11.710, 1230.

BULGARIA—R. Sofia, Sofia, 9.7000, 0100.

CANADA—CHOL, Montreal, 11.720, 0330.

CHINA—R. Peking, Peking, 15.115, 0215.

CONGO REP.—R. Brazzaville, Brazzaville, 11.725, 0115.

COSTA RICA—TIFC, San Jose, 9.645A, 0430.



"The World Today" feature of the BBC reached its 100th birthday on Nov. 25. Here are some of the busy "The World Today" team making last-minute additions to the script before recording. The feature is heard in the BBC General Overseas Service for five days of the week and is aired at 1715 GMT in the N. Am. Service.

CZECHOSLOVAKIA—R. Prague, Prague, 9.550, 0300.

ENGLAND—BBC, London, 12.040, 0200.

ECUADOR—HC1B, Quito, 11.915, 0215.

GUATEMALA—TGNB, Guatemala City, 9.668, 0330.

HAITI—4VWI, Cap Haitien, 9.770, 0330.

HONDURAS (BR.)—BHBS, Belize, 3.300, 0230.

HUNGARY—R. Budapest, Budapest, 9.833, 0015.

JAPAN—NHK, Tokyo, 11.800, 0530.

LIBERIA — ELWA, Monrovia, 11.825A, 0230 (WEDS. ONLY to North America).

MOROCCO—Tangier, VOA Relay, 9.615, 0300.

NEW ZEALAND—ZL4, Wellington, 15.280, 0400.

POLAND—R. Warsaw, Warsaw, 9.675, 0100.

ROUMANIA — R. Bucharest, Bucharest, 9.570, 0300.

SENEGAL — Nat. Station of Senegal, Dakar, 11.895, 2015-2045 (may VARY).

SPAIN—R. Nacional, Madrid, 6.130, 0315.

TURKEY—R. Ankara, Ankara, 9.515, 2315.

VATICAN STATE—Vatican Radio, Vatican City, 11.740, 1820.

Now, for a real thrill let's try the following list which includes stations heard in North America but which fall into the category of semi-rare or rare DX, depending upon your geographical location.

AFGHANISTAN—R. Kabul, Kabul, 15.385, 1900.

AUSTRIA—CE121, Vienna, 6.155, 0500 (gives ENGLISH ID and schedule).

EGYPT (UAR)—R. Cairo, Cairo, 11.915, 2130.

KOREA (SO.) — Voice of Free Korea, Seoul, 11.925, 1445.

THAILAND—HSK9, Bangkok, 11.910, 1030.

TAIWAN—BCC, Taipei, 15.345, 0145.

Though it may come as a surprise to some, our neighbors below the border while airing very little ENGLISH programming, do at times sign off in ENGLISH. An example is CP38, La Paz, Bolivia, 9.440A, 0230. Be on the lookout for many other SA examples of this, especially around sign off time.

Best of DXing and see you in January.

A.R.N.

Propagation Horizons

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

Because the sun is nearly three million miles closer to the earth during the winter months, a seasonal daytime peak in ionization takes place, resulting in high daytime MUFs and exceptionally good propagation conditions from shortly after local sunrise to sunset.

Winter propagation conditions, coupled with continued high sunspot activity should make the 11 and 13 meter bands optimum during the day for the next several months.

In addition, good DX should also be possible to many areas in the 16 and 19 meter bands.

Since the condition of the ionosphere depends on solar radiation, and as winter days in this hemisphere are short, there is a sharp drop in ionization after local sunset, resulting in rapidly decreasing MUFs, so that the 41 and 49 meter bands become optimum during the evening and night hours to most areas of the world.

Atmospheric noise levels as well as ionospheric absorption are at a minimum during winter nights, so there is a good possibility of DX in both the 60 and 90 meter bands during December and January. As sunspot activity continues to decrease, more and more openings in these bands are expected. Although action in the 60 and 90 meter bands is not expected to reach a maximum for another few years, things are really expected to start getting hot this winter.

The tables at the right show the bands most likely to be heard between the locations shown. For example, the table at the top of the column is centered on the Western U.S.A. Using this table, we can see that at 0600 GMT, the 31 meter band is best to Eastern Europe.

By Comparison, the table in the middle is centered on the Eastern U.S.A., and shows, for example, that at 0600 GMT the 41 meter band is optimum to Eastern Europe.

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

Readers are invited to participate in the development of this column by submitting questions, items of interest to our readers, and suggestions which will lead to improving it.

SUNSPOT COUNT FOR OCTOBER—As hrd from HED5, 9.545, Berne, Switzerland. **OCTOBER AVERAGE**—81.3. **PREDICTED**—NOV. 98; DEC. 95; JAN. 92; FEB. 90; MARCH 88; APRIL 86.—Grady C. Ferguson, North Carolina.

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

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

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

Abbreviations: No—North, So—South, Nr—Near, Eur—Europe, Afr—Africa, SE—Southeast, LA—Latin America, Aust&NZ—Australia and New Zealand.

AT FADE-OUT

(The following pages of DX News represent the combined listening and reporting efforts of DXing Horizons SW readers in 73 countries, detailing the very latest available SW DX news. All times are in GMT.)

CALL BOOK GOODWILL . . .

If YOU have an "expired" edition of AMATEUR CALL BOOK that you would like to "share" with a ham or a SWL overseas, please get in touch direct with Clif Evans, K6BX, Box 385, Bonita, Calif., U.S.A., who conducts a Call Book Goodwill Program (see page 24, August DXH). K6BX says he has approximately 350 letters from SWLs in other countries—and 1,200-plus similar letters from DX amateur friends overseas—pleading for the gift of a CALL BOOK. This program merits full cooperation!

AFGHANISTAN—R. Kabul, 15.385, hrd w-N-E 1915A, SINPO 44434; QSL'd after 3 mo. (Young, England)

ALBANIA—R. Tirana, 7.152A, noted 2130 w-ENG. by woman, mx. (Rowell, Minn.)

ALGERIA—R. Algerie, 11.835, noted in Fr. 2130. (Rowell, Minn.)

ANDORRA—Andorradio, 6.305M, tuned 2245 w-mx to 2258 when gave ID in Fr., Sp. and closed w-"good" march tune. (Ferguson, N.C.)

ANGOLA—CR6RD, 4.851, Nova Lisboa, noted w-beautiful piano mx 2120 and man in Pt., vy clear sig. (Cox, Dela.) CR6RZ, 17.795, hrd 2105-2230 w-Pt. mx, N-Pt. 2215. (Rowell, Minn.)

AUSTRALIA—VKQ2, Sydney University at Sydney, New South Wales, 2.800, 300 w, at present has TEST xmsns; plans to operate in 1961 at 2300-1230 dly w-lectures and refresher courses for listening audiences; also has applied for a BCB fq. (Cushen, N.Z.) VLY25, 25.735, Melbourne, found in lang 1540 and hrd to close 1545 in ENG.; anncd for ABC in Asian Serv. (Ferguson, N.C.)

BRAZIL—The prgm, "Jornal das tres Americas," frm R. Dragao do Mar, 4.775, Fortaleza, is hrd 6 days per wk, now starting 0220 w-N-E-Sp.-Pt. (Newhart, N.J., Roth, Conn.)

CANADA—CJRX, 6.010, Sydney, N.S., hrd w-gud sig 1005 w-"Rise and Shine" prgm, including religious talk, wx rpt, ID 1010; seldom audible on West Coast; faded arnd 1045. (Balbi, Calif.)

CAPE VERDE IS.—CR4AA, 3.956, Praia, noted w-classical mx 2145 and man in Pt.; weak in Dela. (Cox)

CHINA—Peking, 11.820, strg 0220 tune-in w-Sp. (Niblack, Ind.) Urumchi, Sinkiang Prov., 7.053, fair 1130 w-oriental prgm, woman anncr. (Cox, Dela.) NEW Peking fq 17.810 hrd in ENG. 0300-0400, faair; NOT parallel 17.745; latter in WCNA xmsn is parallel 15.060, 11.820. (Balbi, Calif.) Hrd 1900 w-N-E on 15.060, 11.650, 9.457 to Eur. (Pearce, England)

CONGO (REP.)—R. Brazzaville, 21.500, excellent in ENG. 1430-1500. (KBLP) African Service R. Brazzaville noted 1630-1715 gud level. N-E 1700, 11.800 (Cooper, Calif.)

CONGO (THE)—NEW is Leopoldville, 9.700M, hrd frm arnd 0425 to 0545; ENG. session 0530; much native-type mx; at 0430 cock crows,

also has native drums; note on gong at stn breaks; gud level. (Niblack, Ind., Rowell, Minn.)

CUBA—A Cuban is noted on NEW 6.435A fq arnd 0430 in Sp.; strg in Ind. (Niblack) Stephenson, Okla., rpts COCW, 6.410, R. Rebelde, Havana, hrd 0030-0200 in Sp.; frequent time checks. Rowell, Minn., lists this one on 6.440, hrd 0100-0430. All three may be same stn? (KBLP)

DAHOMY—R. Cotoneou, 4.870, hrd 0600 w-N-Fr. (Saylor, Va.)

DOM. REP.—HI3U, 9.485, hrd in Sp. 0505-0700 s-off, dual HI2U, 6.210. (MacKenzie, Calif.) HI3U noted 2150 when woman was answering listeners' ltrs in ENG. to 2155 ID, piano mx, 2157 commercial; 2200 man w-N-Sp. (Ferguson, N.C.)

ECUADOR—HCJB, 17.890, Quito, hrd in ENG. w-"Caribbean Mailbag" 2340-2400 s-off. (MacKenzie, Calif.)

EGYPT (UAR)—Xmsn to Afr. on 17.690 hrd weakly 2030 w-strg CWQRM; 12.030 outlet strg 1500-1530 in Ar. (Balbi, Calif.) Noted on 11.670 at 0430 in Ar. session. (Rowell, Minn.)

ENGLAND—"Listeners' Corner" of BBC hrd THUR. 0115-0130 on 9.510, 9.580; 1730-1745 on 25.720, 21.470 (best). (Balbi, Calif.)

ETHIOPIA—R. Addis Ababa, "The Voice of Ethiopia," was hrd a few weeks ago widely (thru-out U.S.A., England, N.Z., other locations), TESTING arnd 1820-1840 on 11.875 to W. Eur. and anncg 15.345 parallel for W. Afr.; asked for rpts to Ministry of Information, P. O. Box 1364, Addis Ababa, Ethiopia, However, more recently, Bowker, New Hampshire, flashed that NEWER TEST channels are 11.955, 17.775, hrd arnd 1830-1847.

FINLAND—Helsinki has ENG. to N. Am. FRI., TUE. 1130-1200 on 11.960, 15.190, 17.800. (Wilt, Ohio)

FRANCE—RTE, Paris, Ar. xmsn s-on 0600 on 7.280, 9.585, 11.920. (Balbi, Calif.)

GERMANY (EAST)—RBI, 11.765, Berlin, excellent 1600 w-N-E by man, woman; ID 1615. (Cox, Dela.)

GERMANY (WEST)—VOA, 3.980, Munich, fair 2205 w-pop tunes, usual ham QRM. (Cox, Dela.)

GHANA—Accra, 4.915, hrd 1810 w-specal prgm for Forces in Congo at 1815; SINPO 32333. (Young, England) Noted on 3.366A at 2145 w-dance mx; still on AFTER 2230. (Pearce, England) Some days, BOTH 4.915, 3.366A outlets are fair arnd 2200. (Saylor, Va.)

GREECE—R. Athens, 11.718A, s-on 1720 in Fr., ENG. 1730. (Pearce, England) Noted opening 1855 in Greek, including Nat. Anth. 1900. (Rowell, Minn.)

GUATEMALA—TGZA, 6.167A, R. Club de Guatemala, has ALTERED fq frm LISTED 6.160; noted 0300 w-ID, pop mx; all-Sp. (Niblack, Ind.) R. Nuevo Mundo, TGJA, 5.990, hrd w-Sp. ID 0510; ENG. noted 0400-032 w-tourist info prgm. (MacKenzie, Calif.) TGQB, 11.700, Quezaltenango, hrd 0315 w-ID in Sp., cont'd w-N-Sp.; 0400 had lengthy anncmt; gone when rechecked 0415. (Ferguson, N.C.)

GUIANA (FR.)—R. Cayette, 6.170, noted 0015 w-N-Fr. followed by variety mx. (Buchanan, Mo.)

GUINEA (REP.)—R. Conakry, 4.910, hrd 0615 w-"Eng. by Radio" feature to 0645. (Saylor, Va.)

GUINEA (SP.)—Emisor de Radiodifusion Santa Isabel, 6.240M, strg sig closing 2230 w-final anncmts by man, woman in Sp., then Sp. Nat. Anth.

(SAT. closed 2305). (Cox, Dela.) QSL rcd for this one frn Apartado Correos No. 195, Santa Isabel. Said USUALLY uses 1-kw. xmtr to vertical but when rpt was made was using a 3-kw. fed into a MW horizontal dipole; sent sked as 0630-0700 MON.-SAT., 1200-1400 MON.-SAT. (1200-1430 SUN.), 1700-2100 MON., WED., FRI., 1700-2215 TUE., THUR., SAT.; LISTED fq as 7.160 although was HRD on 6.240. (Berg, Conn.)

HAITI — The TWO NEW 2.5-kw. xmtrs of 4VEH, Cap Haitien, are currently used on 4VE, 1,040 kc MW, and 4VEC, 6,000 in the 49-m. band. (4VEH) Apparently, 4VWI, 9.770A, is using the old 400-w xmtr. (Sisler, W. Va.) Stn officials say they are getting many gud rcptn rpts on the NEW VMTRS. (KBLP) R. Haiti, 4VHW, 6,200, Port-au-Prince, hrd 0015-0200 in Fr. (Rowell, Minn.)

HOLLAND—R. Nederland's wkdy sked to N. Am. in ENG. is 0130-0220 on 9.590, 6.025; HAPPY STN PRGM is MON. 0200-0330, same channels. (KBLP) Hrd wkdays 2115-2215 on 6.020, 11.730, 15.220 w-ENG. to N. Eur., N. Am. R. Nederland, 25.610, noted 1400-1530. (Rowell, Minn.)

HONDURAS — R. America, 6.045 (LISTED 6.050), noted on this fq arnd 0500 tuning; commercials, pop mx; gud level; sp. (Niblack, Ind.) R. El Sol's 6.115 outlet has call HJNE, 1 kw. to horizontal antenna, accgd to QSL-ltr; QRA is Apartado Aereo 1972, Cali. Will verify "long enough" rpts sent in Sp. (Newhart, N.J.)

ICELAND—TFJ, 11.780A, varied by BOTH ltr, attractive (white, blue, black) cd; rpts go to Gudrun Thoroddsdottir, Secretary, Foreign Relations Dept., Iceland State Broadcast Service, Box 120, Reykjavik, Iceland. (Berg, Conn.)

INDIA—VUD, 15.300, noted 0230 w-IS and s-on in ENG., and followed w-N-E to 0245 when went into lang. (Ferguson, N.C.) AIR, 17.810, NEW fq, hrd s-on 0330, all-lang to 0430; fair in Calif. (Balbi)

INDONESIA—Djakarta, 9.585, tuned 1945 w-mx to close w-Anth. 1958 in beam for W. Eur.-N.Z.; asked for rpts to Box 157, Djakarta. (Pearce, England) Hrd in ENG. 1430-1500 on 9.585 (best) and 11.795. (Rowell, Minn.)

IRAN—R. Teheran, 15.105A, hrd 1930-2100 in various langs; NO ENG. noted. (Balbi, Calif.) ENG. is sked 2045. (Pearce, England) Noted in Conn. 1930 w-3 bells, ID in Persian; 2030 Fr.; badly squeezed by BBC, 15.110, and Brazilian, 15.105; fair level. (Schwartz)

IRAQ—R. Baghdad, 7.180, hrd 0415 at gud level w-Ar. chants; slight CWQRM. (Buchanan, Mo.) Noted on 3.297 at 1945 tune-in w-talks in Ar.; hrd on 6.030 starting ENG. b-c 2030; 2055 recheck was in Ar. (Pearce, England)

ISRAEL—Tel Aviv, 9.009, has improved sig arnd 1900-2045 or later. (Rowell, Minn.)

IVORY COAST—R. Abidjan, 4.940, tuned 2230 in Fr. and followed w-dance mx; 2358 ID by man in Fr. and c-d w-march. (Ferguson, N.C.) Some days hrd to 2230 s-off. (Rowell, Minn.) Noted 0630 s-on in Fr., mx; N-Fr. 0645-0700. (Saylor, Va.)

JAPAN—FEN3, 15.257, AFRTS, hrd 0315-0400 w-"Disc'n Data" session; 0400 N-E and wx rpt; SINPO 35433 in Calif.; FEN2, 6.160, noted in ENG. 1000-1030. (MacKenzie) JOZ, 3.925, hrd briefly 1115 w-instrumentals, native lang. (Cox, Dela.) VUNC, 7.275, NEW fq, hrd ID 1600, strg, parallel 6.015, 9.560; NOT hrd on 11.890 lately;

all in lang. (Balbi, Calif.) IS LOCATION STILL IN JAPAN? (KBLP) Latest sked of R. Japan to ECNA is 0030-0130, 17.725, 15.135, 21.520, and to WCNA and Hawaii 0500-0700, 9.525, 11.800, 17.825, 15.235. (KBLP) The 17.725, 15.135 fqs are best in Mo. in the 0030-0310 beam. (Updike)

JORDAN—Amman has REPLACED 9.530 w-7.155; hrd poorly 0330 s-on, strg CWQRM; best arnd 1500-1600; all-Ar. (Balbi, Calif.) Stn hrd on 7.155 by Berg, Conn., in Ar. to 2200 s-off is probably Amman. (KBLP)

KATANGA—R. Katanga, 11.865, is better in Ind. prior to 2100 than arnd 0400 s-on; much native-type mx; annces "Ici Radio Katanga." (Niblack) Hrd in Minn. 1600-1645; long political talk in Fr. by woman to 1625, then man in native to 1643 when woman gave ID and s-off. (Rowell)

KOREA (SO.)—HLKA, 15.125, hrd in ENG. 0545-0600 w-pop mx; went into Korean to 0630; SINPO 54444. (MacKenzie, Calif.)

KUWAIT—KBS, 4.967M, Al Kuwait, initially was logged frn 2100 w-Ar. ID and N-Ar. by man, woman; s-off 2115 w-final ID by man; weak but clear sig; must be NEW sked (perhaps SAT. ONLY?). (Cox, Dela.)

LEBANON—R. Beirut, 8.022M, tuned 2155 w-Eastern-type mx and hrd to abrupt c-d 2230; hrd similarly on several rechecks. (Ferguson, N.C.) Hrd in England 1440 w-pop Western rcdgs; talk in Ar. 1705. (Pearce)

LIBERIA—ELWA, 4.770, Monrovia, tuned 2220 w-mx and hrd to 2258 ID by woman in Fr., man in ENG.; closed; said would be back 0815. Noted on 15.085 at 1940 tune-in w-religious release; at 2000 ID for ELWA w-TEST on 21.535, 15.085 MON.-SAT. 1845-2000, SUN. 1815-2000; asked for rpts and s-off w-Nat. Anth. (Ferguson, N.C.) The 15.085 outlet hrd 1930 w-N-E for M. East. (Balbi, Calif.) Hrd opening 1530 on 15.085. (KBLP)

LIBYA — Benghazi, 9.894M, gud 1920 w-Ar. chants and lang. (Cox, Dela.)

MALI REP.—R. Bamako, Soudan, 4.835, hrd 0615 tune-in w-native mx. (Saylor, Va.)

MARTINIQUE — Fort-de-France, 5.995, hrd 0035-0100 in Fr., mx. (Rowell, Minn.)

MAURENTANIA—R. Mauretanie, 4.855, hrd 0715 w-native mx. (Saylor, Va.)

MEXICO—After several "tries," finally got QSL w-printed form ltr XEHH, 11.880; signed by J. Manuel Ortuño B.; listed XERH, 1,500 kc MW; XEHH, 11.880, XERR, 15.110. (Stephenson, Okla.)

MONACO—"Trans-world Radio," 9.705, noted fading in arnd 2130 and at 2200 w-ID in BOTH ENG., Fr.; requests rpts. (Niblack, Ind., others) Hrd in New Hampshire 1930-2230. (Bowker)

MOROCCO—R. Marocaine, 11.735, noted w-N-E 1815; 1830 Fr. (Pearce, England)

MOZAMBIQUE — R. Clube de Mocambique, hrd arnd 1800-1900 or later; sometimes in Fr. to the Congo, other days in Pt.; powerful level in Conn. (Berg)

NEW ZEALAND—Wellington, 15.280, noted regional wx rpt 2100. (Niblack, Ind.)

NIGERIA—Lagos, 4.990, hrd w-local N-E 1807. (Young, England) Noted in Minn. 0502 w-devotions in ENG. (Rowell) Roth, Conn., Buchanan, Mo., report a Nigerian stn on 4.855 to 2230 when closes w-Nigerian Nat. Anth.; usually QRM'd "out" by 2130 by R. Maurtanie, same fq.; has N-E 2225. Saylor, Va., repts this one hrd 0600 tune-in to 0610 w-N-E by woman, and believes is a "NEW" stn in eastern Nigeria.

PAKISTAN—APK, 11.885, Karachi, gud w-N-E 0230; poor w-QRM frm Paris 0030-0115. (Sisler, W. Va., Rowell, Minn.) Hrd on 21.590 w-N-E 0800, 1200; on 15.145 w-N-E 1445-1545 and N-E at slow speed 1530-1545. (Pearce, England)

PERU—R. la Cronca, 9.400A, Lima, noted on this fq lately arnd 0245 in Sp. (Niblack, Ind.) Accgd to info direct frm stn, R. Nacional del Peru still uses 6.082, 9.652, 15.150, Lima; 9.610, Inquitos; 9.550, Tumbes. OBX4M, 5.980, R. Panamericana, hrd 0445-0510 w-orchestrals. (Newhart, N.J.)

PHILLIPINES—DZH7, 9.730, hrd in ENG. 1540-1545 w-"Back to the Bible" hr; also 0730-0800 w-"Christian Brotherhood Hour." (MacKenzie, Calif.) FEBC, 11.920, hrd 0845 w-religious prgm in ENG. (Saylor, Va.) DZH4, 6.000, Manila, noted 1510 in Ohio. (Miller)

POLAND—Warsaw, 11.805A, hrd w-N-E 1230. (Pearce, England; KBLP) Anncces ENG. to N. Am. 1130, 1230, 1300 on 17.800, 15.275, 15.120; 0030, 0100, 0230, 0300 on 15.275, 11.800, 9.675. (Pearce)

PORTUGAL—CSA27, 9.740, noted 2300-0400 to N. Am. in Pt. (Rowell, Minn.) Hrd 1400-1430 in ENG. on 21.495. (KBLP)

PT. INDIA—Verie-ltr rcd frm Emissora de Goa for rpt on 17.835 outlet (which has NOT been hrd lately); verie sent registered airmail was signed by Joao Mesquitella, Director. (Berg, Conn.)

ROUMANIA—Wilt, Ohio, lists R. Bucharest's sked to N. Am. as 0130-0230, 11.810, 9.510, 7.225, 7.195, 6.190, 5.980; 0300-0330, 0430-0500, 11.810, 9.570, 9.510, 7.225, 7.195, 6.190, 5.980.

SARAWAK—R. Sarawak, 4.950, Kuching, hrd 1200 w-BBC N-Malay; N-E 1300 frm BBC. (Balbi, Calif.)

SENEGAL—R. Senegal, noted on 4.950 at 2205 w-native mx; ID 2215; fair sig; on 11.895A hrd 2024 w-N-E, preceded by N-Fr., ID in BOTH ENG. Fr. (Buchanan, Mo.) The 4.950 outlet hrd 0630 s-on parallel 11.895A, strg; NOT hrd lately on (former) 7.210 channel; sked wklys 0630-0800. (Balbi, Calif.)

SOMALILAND (FR.)—R. Djibouti, 4.780, hrd 5045 w-native and Fr. vocals; 0600-0620 N-Fr., the ns-off w-HORN ID "that sounds like a mule braying!" (Saylor, Va.)

SPAIN—RNE, Madrid, recently noted on 9.605 at 0315-0330 w-Andalusia mx; may have been TESTING? (Rowell, Minn.)

SUDAN—R. Omdurman, 11.855, tuned 0423 w-chants in Ar.; 0430 lang annmnt, march, N-Ar. to 0440, and ID for "Omdurman," then cont'd w-native mx. (Ferguson, N.C.) Hrd in Minn. frm 0415 s-on. (Rowell)

SURINAM — Paramaribo noted lately on 15.463A, MOVED frm LISTED 15.405; pop mx w-ID 0030; fair strength in Ind. (Niblack) QRM'd at 0330 s-off; in clear, strg 1030 in Dutch recntly. (Balbi, Calif.)

SWAN IS. — R. Swan now b-c 2330-0400 on BOTH 6.000 and MW 1,160 kc; first half-hr is ENG., w-drama followed by nx; goes into Sp. 2400; QRM'd by Haitien, same channel. (Bowker, N.H., others)

SYRIA (UAR) — R. Damascus, FORMERLY 5.675, noted on 5.704M excellent 2145 w-Ar. chants; also logged 0425 in Ar. (Cox, Dela.)

TAHITI—Papete, 6.135, noted 0440 in Fr., S9 in Minn. (Rowell)

TAIWAN (FORMOSA)—BED58, 17.785, hrd opening 0130 w-N-E to 0137, song in celebration of Chiang Kai-shek's 74th birthday (10-31), and other items to 0158. (Ferguson, N.C.) BED56, 17.890, NEW fq noted parallel 17.785 to USA 0130-0200; all-ENG., including N-E; also anncces 15.345, 11.735 (NOT audible). (Balbi, Calif.)

TANGANYIKA — Second Network of TBC noted on 4.785 at 1810 w-local N-E; light mx 1840, when fades out in N.Z. (Cushen)

THAILAND — HSK, 7.300, Bangkok, Home Serv., hrd regularly now w-gud sign in lang 1000-1540 s-off; ID in ENG. 1537. (Balbi, Calif.)

TOGO—R. Lome, 5.045, hrd 0615 w-N-Fr. by woman. (Saylor, Va.)

TUNISIA — R. Tunis, 11.970, has ALTERED LENGTHENED sked; lately noted to 2300 s-off in all-Ar. prgms; gud level at c-d although w-heavy QRM on spot. (Niblack, Ind.)

TURKEY—TAT, 9.515, excellent 2315-2400 to N. Am. (Rowell, Minn., others) TAS, 7.285, noted w-N-E, pop mx for Britain-Eur. 2100-2145, parallel TAP, 9.745. (Pearce, England)

UNION OF S. AFR.—SABC, 25.800, tuned 1425 in ENG. description of football game being played in Brighton, England; two commentators and two translators; now closes on 25.800 at 1500 and anncces as on 19 and 13 m. There is a delay of 4 min in the 13-m. sound-on; rcd QSL for this one. (Ferguson, N.C.)

U.S.A.—Accgd to the U.S. Information Agency, Alpha of Texas, Inc., and Continental Electronics Manufacturing Co., Richardson, Texas, have made the low bid — \$12,173,000 — for construction of VOA's consolidated East Coast radio facility near Greenville, N.C. Total estimated cost of the project — planned to be the most powerful long-range b-c stn in the world—is \$25,345,850, including land, equipment, and construction. Major xmtg equipment will consist of six 500-kw., six 250-kw., and six 50-kw. xmtrs; there also will be smaller xmtrs and up-to-date rcv equipment. The facility will give VOA a strgr sig to Eur., Afr., M. East, and S. Am. Is expected to be completed and in operation by the end of 1962.

USSR—Vladivostock, 4.040M, fair 2145 w-man in Russian, usual CWQRM on spot; vy irreg. Kazan, 4.055M, hrd frm fade-in 2135 w-classical mx and Russian; time pips and final ID by woman 2200 and s-off. Khabarovsk, 9.750M, weak 2235 w-Russian; Stalinabad, 4.635, fair to gud 0140 w-woman in Russian. (Cox, Dela.) At 1430, hrd Khabarovsk on 9.377, Alma Ata on 9.380. (Rowell, Minn.) R. Moscow, 7.150, excellent to ECNA 2300-0600A; noted 0000 parallel on 9.595, 9.620, 9.650, 9.690. (Rowell)

VATICAN—HVJ, 11.740, noted 0030 in Sp. to L. Am.; SINPO 54545. (Buchanan, Mo.) Noted closing 0045. (Ferguson, N.C.) Hrd on 9.646, parallel 11.740, in Sp. 0030-0045, then w-N-E to Philippines to 0100 (TUE., THUR., SAT.), strg on 11.740; same channel hrd 2230-2245 w-N-E, anned for TUE., THUR., FRI.; 17.840 strg 1545 s-on in lang and 1600 w-N-E (MON., WED., FRI.). (Balbi, Calif.) Rptd on 15.120, 21.515 w-ENG. to India-Pakistan 1600-1615 (MON., WED., FRI.). (Rowell, Minn., others)

VENEZUELA—R. Rumbos, YVLK, 4.970, Caracas, hrd 0100-0400 w-mx, talk in Sp. (Stephenson, Okla.) R. Tropical, Caracas, noted MOVED frm 3.345 to 4.900. (Roth, Conn.)

VIETNAM (NO.)—R. Hanoi, 9.840, hrd w-N-E at dictation speed 0900-0930; in lang AFTER 0930; 11.840 outlet QRM'd by Moscow. (Balbi, Calif.)

WINDWARD IS.—WIBS, 15.150, hrd frm 2100; BBC N-E 2200; s-off 0215. (Bowker, N. H.) Also has BBC nx relay 0200. (Balbi, Calif.) Noted on 3.365 at 0110, talk, classical mx, religious prgm, all-ENG.; excellent in Mo. (Buchanan) Hrd on 5.010 at 2200 w-N-E. (Saylor, Va.)

YUGOSLAVIA—R. Belgrade, 11.885, hrd 0100-0130 in Sp. w-nx, mx; QRM. (Niblack, Ind.) "Yugoslavia Today" feature in ENG. noted on 9.505 at 1830-1900; included modern dance mx; strg level in Minn. (Rowell)

LATE PRESS TIME SW NEWS

BELGIUM—Brussels noted on 9.765, parallel 11.850 at 2115-2300, 2315-0100 (to N. Am.); N-E 0045; strg on 9.765. (Balbi, Calif.) Also noted by Rowell, Minn.

CANADA—CGA4, 9.485, Canadian Overseas Telecommunications Corp., Drummondville, Que., noted 0045-0200 w-tuning and ID speech rcdg; later made contact w-London. (Stephenson, Okla.)

CEYLON—Commercial Serv., R. Ceylon, 15.2-65, opens 0130; N-E 0200; recently not found then on 15.120 outlet w-native prgrmg. (Balbi, Calif.)

CHINA—The 11.945 Peking fq is a "powerhouse" sig in Va. in ENG. 0100-0300. (Saylor) Peking is using 9.840 parallel 11.945, 15.115 in ENG. to ECNA 0100-0300; and 11.820 paralel 15-060, 17.745 to WCNA 0300-0500; N-E on the hr. (Balbi, Calif.)

DOMINICAN REP.—R. Caribe has been "wandering" arnd the 19-m. band lately; hrd 1330-0600 on 15.080, 15.060, but more recently on 15.065, parallel 9.485. (Balbi, Calif.) Hrd in Minn. well on 15.055A. (Rowell) May have DROPPED 49-m. band outlet. (Berg, Conn.)

ETHIOPIA—R. Addis Ababa, 11.955, is widely hrd in USA arnd 1820-1845A dly w-TESTS; annces 17.775 in parallel but this channel seems inaudible. (Schwartz, Berg, Conn.; Balbi, Calif.; Niblack, Ind., many others)

GUINEA (REP.)—Sked for R. Conakry is 0630-0800, 1200-1330, 1800-2000, 4.910; 0630-1330, 7.1-25. (Pearce, England)

HONDURAS—The Honduras stn on 9.705 was noted 1300 on SUN. w-fine mx session. Seems to annce as "La Voz de Suyapa," Tegucigalpa. (KB-LP) Call is HRDS; sked is 1130-0400. (WRHB)

WRHB61—The 1961 Edition of WORLD RADIO HANDBOOK will be available in JANUARY from the usual sources. Cost is again \$2.70.—K.B.

INDIA—AIR noted opening 0130 now on 15.1-05, 11.710, 9.590 in lang. (Balbi, Calif.) Hrd on Found on 11.710 arnd 0230 w-N-E. (Saylor, Va.)

INDONESIA—ENG. for Eur.-N.Z 1900-2000 frm Djakarta is now over 9.585, 11.820A. (ISWC) 9.705 at 1630-1705 s-off in dialects. (Rowell, Minn)

ISRAEL—Rowell, Minn., says Tel Aviv, 9.009, now is hrd as EARLY as 1700 to 2100A in many langs, including some ENG.

JAPAN—R. Japan noted on 6.080 now to WCNA 0500-0700, parallel 11.800, 15.235, 17.825; 6.080 channel also noted 1300-1400 in General Asian Serv., and to India, M. East, Eur., 1500-2100; hrd on 11.725 at 0930-1030 to N.Z.-Australia; also

hrd 1445 w-N-E; 7.185 outlet noted 0900-1030 to S. Am. in Sp. parallel 11.705. (Balbi, Calif.)

KOREA (SO.)—HLK5, 964, strg 1430-1530 to USA and 1600-1700 to Hawaii—REPLACING HLK6, 11.930; uses ENG., Korean. The 11.930 channel noted to Hawaii 0730-0830, REPLACING 15-125; ENG. to 0800. (Balbi, Calif.)

MONACO—Accgd to anncmt hrd, Trans-world Radio, 9.705, by now should be on NEW sked of 0630-0830 (complete?); asks for rpts to Monaco or to 114, Woodmore St., London W1, England; S9-plus sig in Va. during recent TEST 0630-0830. (Saylor)

NEW CALEDONIA—R. Noumea expects to have ENG. frm JANUARY ONWARDS for listeners in Australia, New Zealand, Fiji, Solomon Is. (WRHB)

NEW GUINEA (AUSTRALIA)—VLT6, 6.130, Pt. Moresby, hrd 0900-0942; started w-N-E; "drowned out" by het-whistle by 0942. SINPO 34-333 in Md. (Hyson)

PERU—OAX4T, 15.150, Lima, has an interesting Peruvian Indian mx prgm SUN. 2230. (Rowell, Minn.) A NEW stn is R. Ica, Ica, OAX5C, 9.590, 1100-0500. (WRHB)

SINGAPORE—BBCFES, 11.820, noted in all-ENG. session w-variety prgm, ID, drama 1020-1055; QRM'd by Moscow AFTER 1030; SINPO 44444. (Hyson, Md.)

SUDAN—R. Omdurman, 11.855, hrd 1845 in Ar. (Rowell, Minn.)

SWEDEN—Stockholm now uses 9.725 at 0100-0215 to ECNA, 0230-0345 to WCNA, 0400-0445 to S. Am.; strg sig, in clear; REPLACED 11.805. (Balbi, Calif.)

SWITZERLAND—Berne has a NEW ENG. session to Afr. dly 0515-0600, 15.315, 17.785; 14-45-1630, 21.520. (DSWC)

TAIWAN (FORMOSA)—"Voice of Free China," Taipei, is hrd on 17.785 at 0130-0200 to USA, all-ENG.; annces 15.345, 11.725, 7.130 in parallel; the 6.095 channel noted 1005-1120 w-ENG. to 1050, then Japanese to c-d; annces 15.345, 17785 in parallel; 6.095 has REPLACED 7.130, hrd in Chinese 1400-1500. (Balbi, Calif.)

TURKEY—R. Ankara now has ENG. to Eur. 1815-1830 on 7.285. (ISWC)

UNION OF S. AFR.—SABC, 3.376, noted 0430 w-devotionals; Springbok Radio, 9.720, hrd w-N-E 0430. (Saylor, Va.) SABC NOT HRD on 21.525 lately 1400-2000; still noted, however, on 15.265. (Balbi, Calif.) Was hrd recently on 21.495 at 1500 in Afrikaans. (Rowell, Minn.)

USA—KGEI, now anncg as "The Voice of Friendship, FEBC, San Francisco," has REPLACED 17.795 w-15.225; N-E 2300. (Balbi, Calif.)

VATICAN—HVJ, 17.840, hrd opening 1645 in Ar. (SUN., TUE., THUR., SAT.); 11.085, 15.120 may parallel. (Rowell, Minn.)

WINDWARD IS.—WIBS noted on New 11.8-55, MOVED frm 15.150, fair sig 2100-0215. (Huff, Balbi, Calif.; Niblack, Ind.)

DEADLINE—PLEASE SEND YOUR TOP-NOTCH ITEMS TO REACH ME BY THE FIRST DAY OF ANY MONTH FOR "WT" SECTION. Send ONLY "RARE CATCHES" TO REACH ME BY JAN. 10 for "AT FADE-OUT" in FEB. DXH. Thanks for your FB cooperation! QRA is Ken Boord, 948 Stewartstown Road, Morgantown, West Virginia, U.S.A. See YOU next month? . . . 73 . . . K.B.

MEDIUM WAVE

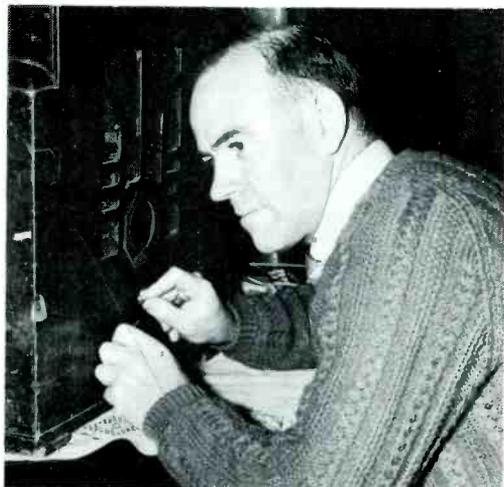
DXing HORIZONS

Edited by *DXing Horizons*
Medium Wave Editor

Glen Kippel

905 So. 2nd Ave., No. 3
Sterling, Colorado, U.S.A.

This month's Medium Wave section is dedicated to one of the world's foremost DX enthusiasts—Ken Mackey, of Dunedin, New Zealand. Ken's record stands for itself—2,045 verifications, from 111 countries!



Ken began DXing in September of 1938, and his first verie came from 3XY in Australia. After serving in the 20th Armored Regiment 2nd NZEF, in Egypt and Italy, Ken returned home and resumed DXing at Long Beach, a location which he found ideal for DX.

Five Beverage antennas are in use at Long Beach, ranging in length from 200 to 1,000 feet. Two 1936 Patterson domestic (American-made) receivers are used, each having ten tubes. One is fitted with a Q-multiplier, which Ken says, "comes in quite handy at times."

Ken also comments, "During our summer, listening commences about an hour before sunset when stations from North America come through. By dusk the dial is jammed. Soon the Australians are through and once in they dominate the dial. Frequency checks from the U.S. usually come through around 8-9 P.M. and it is also the best time to try for any special DX programmes. Midwinter here is best for Asian DX while during the equinox periods of March and August we get Europeans. Africans are also heard at this time but South Africans are only heard on rare occasions.

"I attribute my success firstly to being in a good club to begin with (the New Zealand Radio DX League), being in a good location, to having plenty of patience, good hearing and an understanding wife and family—three boys and a girl."

Best wishes, Ken, and good DX!

— GLEN KIPPEL

KEN MACKEY'S FIVE BEST!

WSKI, Montpelier, Vermont, 1240 kc., 250 w., Jan. 1951
ZBM-1, Hamilton, Bermuda, 1235 kc., 250 w., March, 1960
WKEL, Kewanee, Illinois, 1450 kc., 100 w., Oct. 1956
Capetown, South Africa, 656 kc., 5000 w., August, 1953
Pago Pago, American Samoa, 1120 kc., 50 w., July, 1957

SPECIAL MW DX TEST

DXH is advised by Drayton Cooper, WW4AA, station YNOL-825 kc., Managua, Nicaragua will run a special night long (2300 EST-0700 EST) DX test December 25-26 for all MW DX fans. Taped comments from DXer's MacNeilage (N.J.), Cooper (Ga.) and DXH SW editor Boord (W. Va.) will be highlighted around 0100 EST. Send reports to Dave Solt, Coordinator, YNOL, Apartado 607, Managua, D.N., Nicaragua. Let's have a 100 per cent DXH MW turnout for the test!

SPECIAL MW DX CONTEST

Open to all MW DXers. Contest begins 1200 LST (local standard time) December 23, runs to 1200 LST December 26. Only stations outside U.S.A., Mexico, Cuba and Canada are counted. Scoring: Each 1,000 miles, 1 point; each country 5 points; each continent, 10 points. Send all logs immediately after contest closes to Editor Kippel. Contestants will have until April 1, 1961 to obtain verifications for their loggings. No official winners will be announced until verifications have been totaled. Three separate zones for U.S.A.-Canadian DXers (eastern, midwest, western), and you compete only with those DXers in your zone. Certificates will be awarded to the winners. This is the DXing Horizons LA DX Contest, in recognition of the all night status of many DX stations in Latin America over Christmas morning.

RADIO-CARAIBES DUE ON 840 KC.

Primary tests are to begin over the Caribbean's newest powerhouse between December 5 and 12. Radio-Caribes International will be located on the island of St. Lucia, the West Indies. Following initial equipment tests, hours of operation will be 0500-2200 EST daily. Managing Director Michel Ferry, talking with DXH editor Bob Cooper noted "we are very much interested in reception reports, to plot our expected wide coverage." Send your reports to Michel Ferry, Caribbean Broadcasting Cy Inc., P. O. Box 188, Castries, St. Lucia, the West Indies.

Medium Wave Log Book

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

AMERICA

630 CUBA—CMQ, Havana, hrd 11-2 at 2355, new

Yes, possibly
to be Cuba
"No,"
"No,"

ART

5) coverage, the "On Channel Translator situated near a population might easily be programming. In essence, tele-, within limitations of bud-

6- Mull this... for 30 days, and in January "State of The Art" will discuss the New York City UHF test.

CABLE DROP

(Continued from page 8)
12 KMC PROBLEMS

Admittedly, the use of the 12,200-12,700 MC region will pose many problems only recently solved in the 6 Kmc region. It may be a matter of years before the first CATV applicant applies to the *Safety and Special Services Bureau* for a private microwave license. One manufacturer told DXing Horizons "we believe the FCC will lean heavily on moving *all video point to point applications* above 10,000 MC." Another said "We are not now giving any consideration to the 12 Kmc band."

A third rushed equipment data sheets on both 6 and 12 Kmc equipment, and indicated they were ready to deliver 12 Kmc video relay racks, "at a price differential from the 6 Kmc line."

In January, equipment, propagation characteristics, and price differentials for the 12 Kmc region, in part two of "MICROWAVE in CATV."

Gonset VHF Noise Generator



Brand new from the Gonset Company (801 South Main Street, Burbank, California) is this VHF noise generator with calibrated output, providing "sufficient accuracy for average laboratory use."

The noise generating head is a separate assembly which connects to the main housing by cable (see left hand side). This arrangement allows direct connection of the generator head to the receiver or amplifier under test, reducing stray pick up from interconnecting cables. The 5722 noise diode is located inside the head. The instrument provides direct reading to 25 db into 50 ohm loads.

Nationwide CATV Publicity



A WELL TIMED story in the nationwide circulation TV GUIDE magazine, during the week October 24 to 31 and the tenth anniversary of the Panther Valley Television Co. (Lansford, Pa.) was the cue for an interview over WDAU-TV (22--Scranton, Pa.), featuring Bob Tarlton (r.), President of Panther Valley Television Company. Shown here, Mr. Tarlton receives congratulations from Tom Jones (l.), liaison officer for CATV at WDAU. WDAU-TV represents what is undoubtedly the single largest feed station carried on CATV systems, and is currently used on 56 CATV systems throughout Northeastern and Central Pennsylvania, as well as eight southern New York State counties, totaling 92,000 CATV viewers.

The TV GUIDE story was widely exploited as an excellent public relations tool by CATV operators from Kennewick, Washington to Saranac Lake, New York. The National Community Television Association reports 19 TV stations cooperated with local CATV operators with air time interviews. Other CATV operators exploited the story with hundreds of thousands of article reprints circulated to TV viewers in their areas.

The Legal Front

"SIGNAL RIGHTS CASE—NO DECISION"

Cablevision, Inc., Twin Falls, Idaho, and television stations KSL, KCPX and KUTV met in proxy in San Francisco November 10 as a Judge for the Southern District Court of Idaho heard oral arguments in the so called signal rights case. The case is a very important one to the future of CATV service. The broadcasters asked the court to issue an injunction restraining the Cablevision Company, Twin Falls, from receiving the signals of the three Salt Lake City stations. The broadcasters say they

BLUE PREVIEW*

(*YOU WILL BE BLUE if you haven't subscribed to DXing Horizons —check special insert page 3A for details.)

DXing Horizons thanks each and every supporter for what must be termed a GREAT FIRST YEAR!

Paid Subscribers (check page 3A to see if you are one) in 75 countries and all 50 states have put DXing Horizons on the map in a big way in '60.

But the real fun is just beginning. Check these special — exclusive features coming during the first six months of '61.

**BIGGER MAGAZINE (more pages)
MORE SPACE (for TV, FM and SW)**

and

(1) Cable TV Operators

"Microwave in CATV" (part two)

"Rebuilding an Antiquated System"

"Adding FM to Your System" (two parts . . . one by the foremost expert on FM yagi antennas in the United States!)

"WATCH Your P-R Score"

(2) VHF Booster Operators

"Antenna Site Plotting — Made Easy"

"Conversion Costs — Explained"

"Servicing VHF Translators"

"Proper Installation Techniques"

(3) For ALL TV EXPERIMENTERS

A new expanded **WEAK SIGNAL TECH NOTES**, all about antenna mounted amplifiers, home brew long-long yagis, new tube circuits, the tunnel diode and **much more!**

(4) For TV DXers

A series by DXer extra-ordinaire Gordon Simkin "Selecting a TV DX Receiver"; a three part series, "From Antenna to Receiver," all about your TV DX installation, plus, "TV DX in '60," and "TV DX in '61."

(5) For Shortwave — Medium Wave — FM DXers

In 1961, the DX Listening departments take on a "NEW LOOK." Many new features, special articles and new editors expanding our present 100 percent DX coverage!

NO MATTER WHAT YOUR WEAK SIGNAL—DX INTEREST OR BUSINESS . . . in '61, you will find it detailed first — fast and factual **only**

in DXing Horizons

"You don't dare miss a single copy"

SUBSCRIBE TODAY

Open Editorial

To the VHF BOOSTER-TRANSLATOR INDUSTRY:

Booster clubs, individuals, townships are on the verge of spending tens of thousands of dollars for electronic equipment which they believe will bring their VHF Booster up to an engineering level to qualify it as a VHF Translator. We are concerned, for the people who will be purchasing new equipment, for the actual dollars to be spent, and for the level of technical competence our young industry will be building for itself. We are concerned for the safety of the buyer. We do not feel "caveat emptor" (let the buyer beware) is justified. We believe manufacturers, legitimate service shops, and qualified field engineers should "be aware," for their own protection, and for the protection of their industry.

To explain our concern, perhaps a brief backward glance into the history of the VHF Booster would not be amiss. As all readers know, VHF Boosters began as an illegal broadcast service. Because of this, not a single manufacturer has (until this month) displayed equipment designed to work in Booster-Translator service. Not a single qualified engineer or service technician has been able to state "I sell and service VHF Booster stations."

Over the five year history of the unit, this situation has resulted in a "catch as catch can" situation. Towns, groups, individuals desirous of installing a VHF Booster were forced to purchase equipment intended for other services... installing it themselves with no book of rules to work from, and maintain it themselves. The fact that any of the estimated 1,800 systems in operation today work "at all" is a tribute to the ingenuity of western people who wanted television "at any price," including installing it themselves.

Because no company manufactured a unit specifically for VHF Booster operation; because qualified individuals and service outfits were unable to admit they could tend to VHF Booster installation and operation, the worst possible hodge podge of field equipment exists today. Equipment with no AGC; equipment with broad band amplifiers; TV tuners for converters; on channel Boosters, ad innum.

Because western Americans wanted TV, and because they fought for it in Washington, VHF Boosters are now legal. But with our new status comes new responsibilities. Responsibilities the manufacturers, engineering, servicing and maintenance outfits must assume; and most of all, responsibilities the VHF Booster operators must assume. There must be a general and complete realization that equipment purchased in the past, in operation now, leaves a great deal to be desired. There must be a realization that there will be many new entries into the field including manufacturers and sales and service outlets.

Most of all, there must be a realization that the lowest price is not always the best buy. The servicing firm which promises to "install a system, or modify your existing equipment for less" is not necessarily the firm with the Booster-Translator operator's interest at heart. Right now, before it is too late, manufacturers, engineering firms, sales and servicing firms must realize that unlike the past five years of illegal operation, NOW you have an obligation to the customer. You are installing a legalized broadcasting station... and it had better perform like legalized broadcasting equipment!

Before the non-qualified can cash in on the certain rush for new and modified equipment; before the non-qualified are able to inflict damage on unsuspecting VHF Booster-Translator groups, DXing Horizons proposes a CODE of ETHICS for the industry.

DXing Horizons urges every individual, firm, association or organization now doing, or planning to do "engineering, manufacturing, sales, installation or service work" on VHF Booster-Translator units write to this desk for a copy of the CODE. Now in the process of formalized completion, the CODE contains several very basic pledges "to fair and honest engineering, manufacturing, sales, installation, and service practices." By return mail we will send your firm a copy of the CODE which only YOU can adopt as your standard of fair practice. Signed, it will be returned to our files. We will in turn return a two color copy of the CODE to your office, for mounting in your service shop, plant or whatever. By its display, your customers will know "you prescribe and enforce these standards."

Two final points. Each month, in the Translator Topics section of DXing Horizons, a growing list of "CODE" accepted, ethical manufacturers and their F.C.C. licensed field representatives, and recognized service technicians will appear in print. Booster-Translator operators will be urged to patronize only those firms showing their good intentions by subscribing to the CODE.

Concerning complaints from maltreated Booster-Translator groups: legitimate complaints will be taken up by a committee selected from CODE subscribers. Call it a "Translator Service Association" if you wish. As a possible means of making committee "negative" findings known, full reports will be printed in DXing Horizons.

Lest we be accused of establishing some form of industry dictatorship (which is furthest from our intentions), let it be stated here there need be no such cases for complain investigation, if every Booster-Translator operator, and each firm doing business in this field, does his share in seeing that all effected parties DO subscribe to the CODE, and live up to its intents.

DXing Horizons is NOT accusing anyone of mal practice at this time. But the seeds for phoney promises and cheap "fly by night installations" are being sown... we want to prevent their harvest, and protect the dollars and future TV service of the VHF Booster-Translators.

have a case because "the process of operating a station (i.e. the selection, blending, and broadcasting of network, film and locally produced programs) does in itself create a valuable commercial right which stations are entitled to have protected from "appropriation" (which is a nice word for pirating) by CATV." For good measure, the three SLC stations throw in a claim that "the CATV system creates unfair competition."

The November 10 hearing constituted nothing more than a request for a summary judgment. The broadcasters contend the court already has sufficient information to make a ruling, and that "no court entanglement is necessary." The Cablevision Company, on the other hand, states the case is too complex to warrant a ruling without a trial.

The November 10th appearance was an opportunity for both sides to state why they did, or did not feel a decision should be made on the basis of preliminary data. During the course of the hearing the broadcasters indicated they may be abandoning their contention that they have "property rights" to the television signal. It appears the case is now boiling down to the question of "unfair economic competition," does it, or does it not exist?

Judge Charles Sweigart heard five hours of oral argument for both parties. Cablevision is defended by E. Stratford Smith, of Washington, D.C., and George Schiffer of New York City. The broadcasters have retained Washington and Salt Lake City lawyers. E. Stratford Smith is engaged by the National Community Television Association, the cable TV trade association. His appearance in this very important case was made possible by a NCTA Board of Directors' decision to give full support and financial aid to Cablevision, Inc.

Although Judge Sweigart indicated no decision of the appeal, for an immediate ruling without trial, would be forthcoming before January 16, the NCTA has stated it expects the case to be long and drawn out, perhaps landing in the Supreme Court for final judgment.

New Position — New Name



The long awaited announcement from the National Community Television Association came November 16. Effective January, 1961, William

Dalton will become the first paid president for the nation's cable TV trade association.

Dalton, 51, has long been active in trade associations, and is currently president of Tyrex, Inc., and the American Rayon Institute in New York City. In 1959 his fellow trade association heads selected him as the president of the American Society of Association Executives, which represents a wide range of business and professional groups in the United States and Canada. His background, since graduating from the University of Nebraska in 1930, and attending the Yale and Northwestern postgraduate schools, includes organizational management, public relations and advertising.

The selection of a "chief executive" for the cable industry was made possible by proposals made at Miami Beach in June 1960 during the Association's annual convention. In the past, the president has been elected, and has served without pay. The current president Sanford Randolph, of Clarksburg, West Virginia, will take over a newly created post, Chairman of the Board of Director. In the future, the membership, at its annual convention, will select a "Chairman of the Board," along with board members. The board will in turn be responsible for filling the post of President, should a vacancy occur.

Something's Rotten in Rhinelander

The November issue of DXing Horizons carried a late news item on page 28A concerning a hearing scheduled for October 25 between the Rhinelander (Wisc.) Television Cable Corporation and J. R. Karban, Rhinelander UHF Translator permittee.

C. W. Gilley, operator of the Cable Company reports the story was in error, and notes "In my complain to the FCC, I stated 'Protestant (Rhinelander Cable Corp) herein reiterates that offer to withdraw any and all objections to the grant of the reference authorizations (i.e. UHF translator grants to J. R. Karban) if the Commission or the permittee (J. R. Karban) will provide for protection against electrical interference being caused to the Protestant's service (the Cable Company).' My only objection was that J. R. Karban was building his tower less than 600 feet from mine, and in direct line with the TV stations (in Green Bay). He moved his tower over 1,000 feet, and I withdrew my objections."

Gilley goes on to explain a unique situation he reports exists in Rhinelander. Gilley notes that the UHF Translators are "a commercial venture by J. R. Karban. Karban is charging a lease fee of \$40 for the (UHF) converter for the first year, and \$10 per year rental thereafter." Cable operator Gilley continues "He (Karban) has a contract with other TV dealers in Rhinelander and they agree not to service any TV set that receives the signal from Karban's UHF system without Karban's converter. Now this is a definite violation of the Federal Statutes, Sections 1 and 2 of the Sherman Act. What the Federal Government will do about this, I do not know, but I understand steps are being taken."

DXing Horizons thanks C. W. Gilley for correcting our November story, and we urge the National Community Television Association, of which Rhinelander TV Cable is a member, to look into the allegations and the protection of its member system.

TRANSLATOR TOPICS

(Continued from page 14)

trol (i.e. local live and film originations); BUT, when it comes to the programs they take from the networks, they claim they must await a network ruling. Letters to the proper personnel at the three networks, by DXing Horizons, has drawn very limited response. Only NBC has come out with a proposal, and it is not entirely workable.

Rex Shirts, Vice President of the Idaho TV Repeater Association reports the breakthrough at NBC. According to Shirts, the provisions set down by NBC New York are: (1) "The (VHF or UHF) Translator must rebroadcast the signal of the nearest (mileage wise) NBC affiliate." (2) This ruling will not come into force until February 1, 1961. Until that date, the stations with NBC affiliation are authorized to give interim permission." (3) Each Translator must execute a signed agreement with the network for rebroadcast use of its signals."

Immediate reaction to the NBC PLAN is not good. Many problems develop when a station is affiliated with all three networks, or even two. But the real problem may be the mileage barrier, indicated in the use of the phrase, "the closest NBC affiliate." In most cases where this is not now being done, there is a darn good reason. "Signal strengths over western terrain are not inversely proportional to distance covered." In other words, the strongest, or most useable signal, does not always come from the nearest station, regardless of its affiliation. In fact in some areas of Montana, Wyoming, the Dakotas, Idaho, Washington and Oregon, this is true more often than not. Somebody at NBC has been looking at too many "smooth spheres"!

DXing Horizons joins the club groups in asking that NBC re-evaluate the rebroadcast "rules" with an eye towards more flexibility and individual allowances where terrain and affiliation problems rear their ugly heads.

WYOMING CLUBS GO IT "ALONE"

As mentioned last month, a Master Plan for Channel Coordination has been formulated by the Tri State Executive Committee. The plan includes the hiring of engineers and technicians to aid with the Form 346 plotting and conversions, as well as retaining qualified individuals to keep the VHF units running after the conversions are completed. At publication time, the returns from the isolated Montana and Idaho clubs has not been sufficient to predict the outcome of the proposed plan. TV station support is building however, and some offer everything from checks for tidy sums to outright engineering aid. All TV stations in the Northwest agreed some form of channel coordination must be adopted.

BUT, in Wyoming, clubs have decided to do it themselves with the aid of the state's distributors of Booster-Translator equipment. Wyoming planners say they can do the paper work on form 346 for \$25 per channel, and use testing equipment to be supplied by Wyoming Distributors (who will also sell the new equipment needed). Clubs in Wyoming asking for this service will be charged \$40 per day plus equipment expenses, and travel expenses, by the Wyoming Association consultant making the service call. The Wyoming clubs claim they will save "half the cost" of the proposed Tri State Plan.

WASHINGTON FILING NEWS

There is some concern in the FCC these days over the apparent disregard of the "July 7, 1960" date when any new or prosed VHF Boosters would cease building (or make equipment changes) until they could file for proper 346 construction permits. FCC field sources report many Boosters have come on the air since July 7, and "they are filing their form 347-A's along with the rest, as if they had been on the air prior to July 7th."

As the Number of 347-A forms continue to pile up (although WELL BEHIND expectations, leading the FCC to worry over those who obviously have not YET filed), the FCC has discovered the following facts:

(1) VHF Boosters are operating in Alaska, California, Washington, Oregon, Idaho, Nevada, Utah, Montana, Wyoming, Colorado, North Dakota, South Dakota, Arizona, New Mexico, Texas, Oklahoma, Kansas, Nebraska, Iowa, Minnesota, Vermont and New Hampshire! Late filings have concentrated (at press time) in the SW and Midwestern states.

(2) The most complex "re-building" apparently will occur in eastern Washington and Oregon where the majority (75) ON CHANNEL Boosters are in operation. Nevada and Utah also have their share.

(3) Utah, Arizona and New Mexico have many more units than first suspected. Montana, Wyoming and Idaho have fewer, or so the present filings would indicate.

(4) Maximum power reported is in Arizona where the York-Sheldon TV Association listed their channel 6 unit with ten watts. On the other end of the scale, many groups list their output in volts (10 v., 5 v., etc.), other in current (3 amps—that's what it said; Editor), and still others in type of equipment used (i.e. under "total power output," "Blonder Tongue MLA unit").

(5) In eastern Washington, UHF stations in Ephrata and Yakima are widely used, by VHF Boosters.

(6) One operator (Rolland Kadletz, Salmon, Idaho) has been warned about operating a VHF Booster-Translator in an area served by a UHF Translator (sect. 4.732 (d) of FCC rules).

REMOTE CONTROL PROBLEM

In January, DXH and Translator Topics will feature a story by Mark Hanford of La Grande, Oregon, and his three channel hookup which controls and shuts down his UHF Translators. Many VHF units will need radio control... this will tell you how to do it.

MANY APPLICATIONS FOR CANADIAN BOOSTERS

The Board of Broadcast Governors scheduled a meet November 29, in a public hearing session, during which the following two applications for TV Boosters (satellites) were among those considered.

Nakusp, B.C.—Horace M. Card proposes to establish a 1.25 watt (ERP) unit on channel 4 to relay KXLY-TV, Spokane, to the community of Nakusp. This is the first application by a Canadian VHF Booster group to relay a U.S. station. Several Montana Boosters relay CJHL-TV, Lethbridge.

Sioux Lookout, Ontario—Sioux Lookout C of C proposes two units, channels 9 and 7, to repeat KDAL and WDSM, Duluth-Superior to the Sioux Lookout and Hudson, Ontario areas.

AVAILABLE FROM BLONDER-TONGUE

NEW BENCO LOW POWER TRANSLATOR

MODEL T-1

(FCC TYPE APPROVED)

FEATURES STABLE OPERATION... MINIMIZES 'FALSE' SHUT-OFFS

The new Benco T-1 is the reliable way to increase coverage of existing TV signals. Engineered and manufactured by Benco (Canada) this new translator is now available through the Blonder-Tongue organization in the United States. The T-1 offers a host of advantages over other translators that can be summed up as long life and trouble-free operation, stable operation, foolproof automatic shut-off, and ease of maintenance. It is FCC type approved.

MINIMIZES "FALSE SHUT-OFFS" CAUSED BY SIGNAL FADING — will not shut off unless the input signal from the remote master station falls below 10 microvolts for longer than 4 seconds.

FOOLPROOF AUTOMATIC SHUT-OFF — when the remote master station goes off the air, the automatic shut-off turns off the transmitter even when operating at the end of a long coaxial cable where line amplifiers have been used to re-amplify signals from the receiving antenna. The transmitter will not switch off when remote master stations go off the air due to line amplifiers opening up to full gain and supplying noise voltage to the transmitter, thus defeating the automatic shut-off.

PROVIDES STABLE OPERATION EVEN AT THE END OF POOR QUALITY POWER LINES — voltage regulating power transformer supplies the various units in T-1 with stable voltage. Eliminates stress on components caused by unstable supply voltages.

LONG LIFE AND TROUBLE-FREE OPERATION — full sized, underrated transmitting tube in output stage. Less stress on components due to stable operation.

EASY PERFORMANCE CHECKS — a built-in direct-reading power indicator checks power output; built-in test jacks for monitoring plate voltage and current of output tube.

RAPID SET UP OF CODING WHEEL OF IDENTIFICATION UNIT — The appropriate call letters for your area can be set up rapidly without need to cut copper contacts.

TECHNICAL SPECIFICATIONS

Translates input VHF channels to output VHF channels (2-13).

Primary power source	117 V \pm 20%	60 c/s
Power Consumption		150W
Temperature Ambient	-30°C to +50°C	
Input		75 Ohms
Output		75 Ohms
Recommended Input		50-2000 microvolts
Max. Permissible Power		1 Watt
Overall Noise Figure:		
Low Band		4 db \pm 1 db
High Band		6 db \pm 1 db
Frequency Stability		.02%
Gain:		
50 microvolts input to one (1) watt output		105 db
2000 microvolts input to one (1) watt output		73 db
Maximum gain		135 db
Band Width between Carriers		4.5 Mc (\pm 5 db)
Dimensions of Housing		35" x 28" x 10 1/2"
Weight		130 lbs.

for further details contact—

engineered and manufactured by

BLONDER-TONGUE

9 Alling St., Newark, N. J.

Canadian Division: Benco Television Assoc., Ltd., Toronto, Ontario. Export: Morhan Export Corp., New York 13, N. Y.
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FOR DXers
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Actually touch the raised mountains, valleys, with this 3-D 28½ by 18½ inch molded plastic **DXer's Special Map!** Complete with pull out "slide-O-map" index, which quickly pinpoints 4,000 place names! Actually see where your DX is coming from. Available in U.S.A. alone, or the WORLD! (Specify map desired when ordering.)

SEND FOR BARRY'S "GREEN SHEET" CATALOG TODAY!

Ordering instructions: Minimum order \$5.00. Include \$.50 handling charge for orders under \$5.00. Send remittance with tube orders, add sufficient postage. Excess refunded. Other units F.O.B. Barry Electronics, New York City, unless otherwise stated.

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WORLD WIDE DX LEAGUE — KIPPEL'S MW LOG — DX BROADCAST

DX enthusiasts are reminded of the following three items. *The WORLD WIDE DX LEAGUE* and its operation is making real headway. An important announcement in January will detail its globe circling movement in detail. *MW Editor Glen Kippel's MW LOG of DX Stations* has been unavoidably held up for a new enlarged format, designed to make it of greater use throughout the years, not merely this current season. *The very latest SHORT-WAVE DX NEWS* is yours monthly over WRUL, the third Saturday and Sunday of each month. The DXing Horizons Shortwave Newscast fills you in on mid-month happenings, Saturday (December 17) at 2015 GMT (17.750, 15.380); Sunday (December 18) at 2345 GMT (17.845, 15.380, 11.830).

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