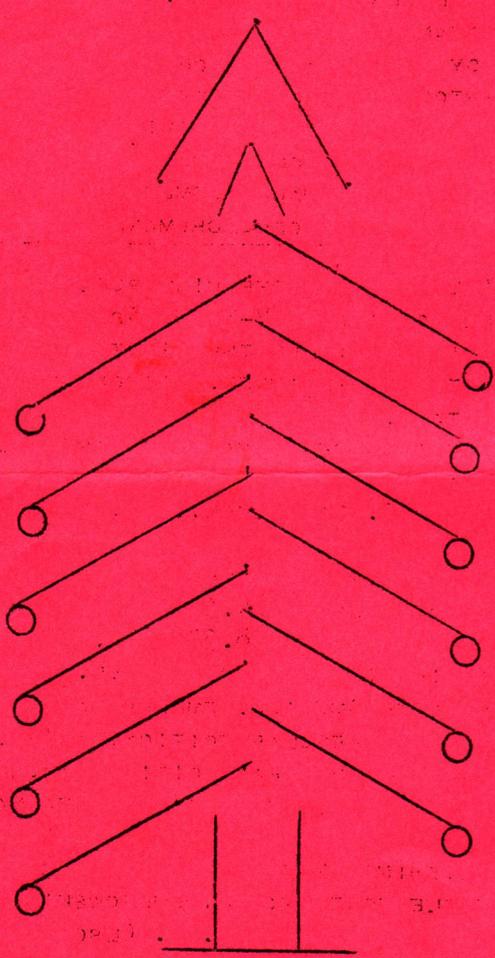


VHF-UHF DIGEST



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DECEMBER

1969

published by
WORLDWIDE TV-FM DX ASSOCIATION

THE WTFDA TV STATION LIST IS AVAILABLE AND CAN BE OBTAINED FROM HQ FOR 50¢ FOR MEMBERS, 75¢ FOR NON-MEMBERS. ADD 15¢ EACH IF YOU WANT FIRST CLASS DELIVERY, (WHICH IS HIGHLY RECOMMENDED DURING THE CHRISTMAS RUSH). SOME OF YOU HAVE INFORMED HQ OF MISTAKES IN THE LIST, AND WE SHALL PRINT AN ADDENDA AS SOON AS THESE MISTAKES ARE ASSIMILATED; THE ADDENDA WILL BE SENT FREE TO ALL THOSE WHO HAVE PURCHASED THE LIST. WE ANTICIPATED WE'D HAVE MISTAKES BUT THIS IS DUE TO HUMAN ERROR AND WAS TO BE EXPECTED.

WE STILL NEED A VHF RADIO EDITOR, AND IN THE ANARC COLUMN WE HAVE OUTLINED THE REQUISITES FOR AN ANARC REPRESENTATIVE WHICH WE ARE ALSO SEEKING.

THE SUNSPOT COUNT WILL BE FOUND IN THE EUROPEAN SCENE FROM NOW ON, SINCE ROGER GETS THAT INFO REGULARLY AND HQ DOES NOT.

EXTRA REPORT FORMS FOR WRITING YOUR REPORTS TO THE TV AND FM EDITORS CAN BE OBTAINED FROM HQ FOR AN SASE. DURING THE OFF-SEASON MOST OF YOU WON'T NEED ANY BUT A COUPLE STATESIDE MEMBERS USE THEM ANYHOW.

FEATURES AND COVERS MUST BE SUBMITTED TO HQ BY THE 15TH OF EACH MONTH OR WE CAN NOT GUARANTEE THEIR PUBLICATION IN THE NEW VUD. HQ STILL RESERVES THE RIGHT TO CHANGE OR REFUSE A SUBMITTED COVER OR FEATURE, OR POSTPONE ITS PUBLICATION WHEN CONVENIENT FOR HQ OPERATION.

IF YOU RECEIVE THIS VUD BEFORE CHRISTMAS CONSIDER YOURSELF LUCKY. LAST YEAR WAS A NIGHTMARE FOR MANY WHO RECEIVED THEIR DEC VUDs IN JANUARY, IF AT ALL. THIRD CLASS MAY BE SET ASIDE TIL AFTER XMAS IF THE POST OFFICE DEEMS IT NECESSARY TO EXPEDITE THE XMAS CARDS, WHICH ARE TOP PRIORITY FIRST CLASS MAIL. FROM THE UNFORTUNATE EXPERIENCE OF A YEAR AGO, A NUMBER OF MEMBERS HAVE BEGUN RECEIVING THEIR VUDs BY FIRST CLASS, REASONING THAT THE EXTRA EXPENSE WORTHWHILE.

WE ARE STILL HAVING TROUBLES GETTING GOOD ELECTRONIC STENCILS OF PHOTOGRAPHS, HENCE THE LACK OF FOTOS IN RECENT MONTHS. PREVIOUSLY OUR ONLY REAL PROBLEM WAS OBTAINING FOTOS CONTRASTY ENUFF TO BE PRINTED, BUT NOW OUR OLD SOURCE OF ELECTROS IS NO MORE AND WE CAN'T FIND A SUITABLE SUBSTITUTE, YET. OFFSET IS TOO COSTLY AND STILL DEMANDS A GOOD DEGREE OF CLARITY AND CONTRAST IN THE ORIGINAL COPY TO BE REPRODUCED. WE STILL KEEP TRYING SO BEAR WITH US.

RENEWALS DUE IN DECEMBER, 1969:

WAYNE PLUNKETT (FIRST CLASS PREMIUM PAID THRU 3/70 BUT MEMBERSHIP DUE NOW.)
DAVE COX AND LARRY VOGT ALSO DUE NOW.

RENEWALS DUE IN JANUARY, 1970:

RANDY MILTIER (FIRST CLASS PAID THRU 5/70 BUT MEMBERSHIP DUE NOW.)

MORRIE GOLDMAN

DAVE POMEROY

KEN CHATTERTON

JERRY DEE

BILL DRAEB

STU GRADE

JOE GRAGG

BOB JACOBY

DAN KNEPPER

ED KOWALSKI

ROD LUOMA

JACK SCHMERMUND

TODD SCHUMANN

VHF-UHF DIGEST IS THE OFFICIAL PUBLICATION OF THE WORLDWIDE TV-FM DX ASSOCIATION. VUD IS PUBLISHED THE FIRST WEEK OF EACH MONTH AT MILWAUKEE, WISCONSIN BY THE HQ STAFF.

MAKE REMITTANCES PAYABLE TO THE CLUB AND SEND TO:

WTFDA,, Box 5001, MILWAUKEE,, WI. 53204

MEMBERSHIP FEES IN US FUNDS:

USA, CANADA, MEXICO \$4.50/1 YR.

\$8.50/? YR.

(ADD \$2/YEAR IF FIRST CLASS DESIRED.)

OUTSIDE NORTH AMERICA, MEMBERS HAVE A CHOICE OF THE REGULAR EDITION: \$5/YR.

OVERSEAS EDITION \$3.50.

(RATES ARE FOR SEA MAIL).

THE HQ PUBLISHING STAFF CONSISTS OF 3

OR MORE PEOPLE MONTHLY: F. DOMBROWSKI

G. A. OLSON

D. JANOWIAK

ANYONE ELSE WHO SHOWS UP AT PUBLISHING TIME IS WELCOME. MORRIE GOLDMAN AND BILL HEUSMANN ARE FREQUENT VISITORS.

PUBLICATION IS ACCOMPLISHED OVER A PERIOD OF A WEEK OR MORE, DEPENDING ON THE AMOUNT OF WORK TO BE DONE AND THE NUMBER OF WORKERS AVAILABLE.

WE ARE ENDEAVORING FINALLY TO ESTABLISH A SPECIFIC COLOR FOR EACH REGULAR COLUMN BEGINNING WITH THE NOVEMBER 1969 ISSUE. SEVERAL PEOPLE HAVE MENTIONED THE IDEA BEFORE AND WE NOW FEEL WE CAN ACCOMMODATE THEM SINCE WE BEGAN GETTING A WIDER CHOICE OF COLORS FROM GESTETNER. OUR FIRST EFFORTS INDICATED THE PAPER MAY NOT BE AS ABSORBENT AS A. B. DICK PAPER USED PREVIOUSLY, BUT WE CHANGED INK AT THE SAME TIME AND THIS MAY HAVE CONTRIBUTED TO THE PROBLEM. ONLY TIME WILL TELL WHAT THE TRUTH IS.

MERRY CHRISTMAS, HAPPY NEW YEAR,
HAPPY HANUKKAH, OR WHATEVER.

FCC NEWS & DATA

GARY A. OLSON, APT. 107
5901 W. BROWN DEER RD.
BROWN DEER, WIS. 53223

STATIONS OPERATING (AS OF NOV. 3, 1969)

UHF ETV	105
UHF Com	179
VHF ETV	77
VHF Com	508

TV

Total Authorized Stations On The Air 869

New Stations Reported On The Air:

*WCVN (TV) ch. 54, Covington, Ky., took the air Aug. 15th.

Stations Authorized To Start Operation:

WHMA-TV, ch. 40, Anniston, Ala., 172 kw.

WKYH-TV, ch. 57, Hazard, Ky., 15 kw.

KXMD-TV, ch. 11, Williston, N.D., 130 kw.

(# Note: Stations Reported as Authorized to Start Operations

May have already been on the air for several weeks by the time this data reaches you. There is a delay in the reporting and printing of such authorizations by Broadcasting magazine and TV Factbook Addenda)

New Target Dates Reported:

WSMV-TV, ch. 27, Worcester, Mass., late Dec. 1969

WXPO-TV, ch. 50, Manchester, N.H. (Boston, Mass) starting date moved up to Nov. 15, 1969 from originally proposed Oct. 1st

*WMAA (TV) ch. 29, Jackson, Miss., January, 1970

Miscellaneous Changes Reported:

WGTI (TV) ch. 23, Philadelphia, Pa., delete call letters and CP -- grant has been cancelled

FCC COMPLETED ACTION

Call Letter Changes:

KLYD-TV ch. 17, Bakersfield, Calif., granted KJTV (TV)

WTAF-TV ch. 31, Marion, Ind., granted WSFD-TV (station is still off the air but plans to return)

WIBF-TV ch. 29, Philadelphia, Pa., granted WTAF-TV

New Call Letters Issued:

*Louisville, Ky., ch. 68, granted WKMJ (TV)

*Pierre, S.D., ch. 10, granted KTSD-TV

*Evansville, Ind., ch. 9, granted WNIN (TV)

*Pueblo, Colo., ch. 8, granted KTSC (TV)

Miami, Fla., ch. 45, granted WFCB-TV

*Pocatello, Idaho, ch. 10, granted KBGL-TV

New Orleans, La., ch. 38, granted WGNO-TV

Tyler, Texas, ch. 14, granted KGEA (TV)

*Salisbury, Md., ch. 28, granted WCPB (TV)

Other Changes Allowed:

WHAG-TV, ch. 25, Hagerstown, Md., ERP to 513 kw. - ant. to 1230'

KYAY-TV, West Monroe, La., ERP to 2.24 kw.

WGSP-TV, ch. 50, Washington, D.C., ERP 813 kw. - ant. to 480'

KHVH-TV, ch. 4, Honolulu, Hawaii, ERP to 100 kw. - ant to -140'

KIHP-TV, ch. 18, San Bernardino, Calif., ant to 2130'

*WNIN (TV) ch. 9, Evansville, Ind., ant. to 580'

KVFD-TV, ch. 21, Ft. Dodge, Ia., ERP to 414 kw - ant. to 1160'

WKTO-TV, ch. 30, Nashville, Tenn., ERP to 520 kw. - ant to 1400'

ACTION APPLIED FOR OR REQUESTED

Applications For New Stations:

*Missoula, Mont., ch. 8 (Garryowen Butte TV Inc.) 286 kw.

Greensboro, N.C., ch. 2, (Greensboro TV) 100 kw. -- channel occupied by WFMJ-TV

High Point, N.C. ch. 8, (Furniture City TV) 316 kw. -- channel occupied by WGHP-TV

****S.C.A.*****

PAGE TWO

WRMN-fm ELGIN ILL. gtd 67 kc
WOKK-fm Meridian Miss. gtd 67kc
*WKES(FM) Chattanooga Tenn gtd 67 kc
KEBC(FM) Oklahoma City 67 kc
WRSJ-fm Bayamon P.R. gtd 67 kc
WNIB(FM) Chicago 67 kc
CJOV-fm Kelona BC freq.unknown prob.67kc

WXLN(FM) Savannah Ga 67kc
WBIL(FM) Biloxi Miss. 67kc
WLYK-fm Milford Ohio 67 kc
KKMA(FM) Pryor Okla. 67 kc
KGBC-fm Galveston Tex. 67 kc.
CKQS(fm) Oshawa Ont. Can.gtd SCA--channel
not specified,prob.67kcnct

CANADIAN POTPOURRI

Lots of news this month, and a beginning of the UHF era in this country,
Sudbury Ont. Applic. by Hyland radio-tv Ch.9 plus 95.5kw V, 19kw Audio ant 849'
" " " " North Star Bc. 126kw relay CJIC*TV Sault SteMari
Sud.Ch.9Plus North Star Bc. 126kw Video, 25.3kw Audio 1,038' aat.
" " " J.C.Lavigne 126kwV 25.2kw A. 523' aat relay CFCL-tv Timmins Ont.
" " " Cdn.Bc. Corp (cbc) 208kw V 45kw A 675'

It looks like quite a battle for Channel 9 plus in Sudbury--a nice tropes stn.
*Toronto Ontario--applic. by CBC to carry on a new educational TV station at
Toronto on Channel 19 minus (yes offset on uhf) with erp of 423kw v, 84.6kw audio
antenna EHAAT 373 feet, directional antenna---hearing Nov.25,1969---I am waiting
anxiously for this one---the first UHF station in Canada---and a local too! By the
time that they would come on the air, the tower would be 1500 feet.
CHCH-11 Hamilton Ont. Canada's 1st independent TV station has been sold for
about 6 million dollars, further details of the purchase are unknown, but programing
should stay the same. They recently got approval to become a CBC affiliate for
Ontario School Telecasts, so if you see chch on tropes with a cbc ident some morning,
don't worry.

Those of you who hear shortwave signals on 100.7 mc, don't worry, it's CHIN-fm
Toronto, relaying the news to its foreign language listners. I can see their
tower from my tv tower.--drat!

UHF DXERS: WNED-tv 17 Buffalo ny now has some money hnd is funning 15-hours daily
with programming and Testpattern.---testpattern before 9 am and from 1130am-130pm.
Late afternoons and early evenings devoted to such favorites as Mrogers in color.
MS DXERS: CKVR-3 Barrie Ont. comes on weekdays at 758 am EST daily with B&W
resolution lines and a few minutes later with music. They ruin my MS from
KTBS AND KWBC In Louisiana which I see daily.

Here's one for all of you needing Channel 36! As of Sa turday Nov.15th
WENY-tv Channel 36 Elmira N.Y. has been on the air. They began testing that
day and will begin regular telecasts (tomorrow) Nov.19th (in time for the
first moon-walk. Wayne Plunkett saw them Sunday night 16th, with a test and
he called them. They will be a primary ABC station running long hours! Gee, I
hope there are tropes to Elmira tomorrow morning during the moon walk.(hi)

Due to time limitations (exams) that's all for this month hope to have more
in January. Have a good holiday season, with lot's of DX and a better 1970.

73's Mark

famous authors

WTFDA MEMBERS ARE BECOMING QUITE WELL KNOWN THRU WRITING IN MASS-CIRCULATION PUBLICA-
TIONS AVAILABLE AROUND THE WORLD. GLENN HAUSER'S ARTICLE IN TV GUIDE SOME 4 MONTHS AGO
IS NOW HISTORY, BUT FEW KNOW THAT HE ALSO HAS BEEN WRITING REGULARLY FOR A DENVER SUN-
DAY NEWSPAPER. AND OF COURSE HE ALSO HAS A REGULAR PROGRAM ON RADIO NEDERLAND.

GARY OLSON'S ARTICLE HAS JUST BEEN PUBLISHED IN 1970 COMMUNICATIONS HANDBOOK,
SO BUY A COPY AND READ ABOUT IT FOR YOURSELF.

ROGER BUNNEY HAS HAD SEVERAL TECHNICAL ARTICLES PUBLISHED IN RECENT MONTHS IN
PRACTICAL TV IN ENGLAND, (WHICH ALSO ENJOYS A GOOD CIRCULATION AMONG WTFDA MEMBERS).
HE HAS HAD AN ARTICLE ON DX WITH NUMEROUS PHOTOS IN ANOTHER BRITISH PUBLICATION, AN
ENGINEER'S MAGAZINE, SOME MONTHS AGO. AND NOW HE REPORTS AN UPCOMING ARTICLE IN YET
ANOTHER PUBLICATION, PRACTICAL WIRELESS; THIS ARTICLE WILL BE ABOUT A PAGING-S TATION
CON VERTER WITH A LIST OF PAGERS FROM WTFDA AND A PLUG FOR WTFDA.

CONGRATULATIONS AND THANKS GO OUT TO ALL OUR FINE WRITERS FOR THEIR EFFORTS TO
MAKE WTFDA KNOWN TO THE WORLD. WHAT HAVE YOU DONE LATELY? BILL HEUSMANN WAS INTERVIEWED
BY A LOCAL PAPER AND THE NEWS SERVICE DISTRIBUTED IT NATIONALLY. LOCAL PAPERS ARE OFTEN
INTERESTED IN UNUSUAL HOBBIES, SO WHY NOT TRY TO GET YOURSELF (AND WTFDA) SOME PUBLICITY?

WESTERN TV DX

Dennis Park Smith
321 Santa Barbara St.
Santa Barbara, California
93101 U.S.A.

December 1969

Deadlines: 12th of each month

There were traces of Es reported during October, on 11 and 17; F2 was noted on 27 and 31. A news item made mention of a stagnant air inversion with fog in upper Midwest in early November; there was a little tropo reported but perhaps it was more extensive further east. It was a foggy layer that brought some good DHF DX at end of January 1960 in upper Midwest US east of Mississippi as some of you well remember.

Glenn Hauser, 1312 West Oak Ave., Enid, Oklahoma 73701 (Sep, Oct, 8 Nov) (Times CST)

Yes, I'm back in Enid prior to departure for Thailand, where I should be by the time you read this. The Enid address will serve as a forwarding point until I find my exact QRA over there. My last month in Denver saw absolutely no TVDX, except a surprise Es opening in late September, with unID on ch 3. Back in Enid, I discovered with no surprise, that my rotor is still stuck in the direction of Dallas. If I were ever home longer than a few weeks at a stretch, it'd be worth getting fixed. Anyhow, there was a bit of tropo from the appropriate direction (November) (new underlined):

6 Tr 0755 KWIX-10 Waco TX CBS nx, clear till KTEN TP 0800
0830 KHFI-42 Austin TX Today show
0830 KDTV 39 Dallas TX TT & color bars; 0855 s/on, 0857 devotional, 0900 stox
7 Tr 2231 KHNE-29 Hastings NB S/off listing all stns, incl. ch 12 Merriman, SSB (300 mi.)
8 Tr 0852 KLNI 15 Lafayette LA NBC cartoons; 0858 promo Sesame Street (NET!), 0859

air pollution PSA, ID; peak 0940, out by 0950; no sign of WWOM-26
Perhaps will have some more Enid TVDX to report next time. It may be a month or two before I can adequately set up for DXing in Nakhon Ratshasima. Possibly I'll find a number of non-DX matters to occupy my time, but I'll try to resist them, hi. 73.

(All I can say is--good DXing in Thailand, Glenn. dps)

Bob Cooper, Jr., 6221 Norman Road, Oklahoma City, Oklahoma 73122 (8 Oct- 7 Nov) (CDT)

October generally according to the books in this region. Virtually no tropo, a couple of very weak Es openings, and MS DX when I could manage the time to work at it.
Oct 11 MS 1320 TP burst strong enough to lay over top of semi-local KVOO, pattern had very wide wedges running from about 45° thru center to 210°, call apparently upper left, this was a Sunday but seemed late to me for ANYone to be on with TP, dir. north; 1930 VERY weak Es to east ch 2, spreading to SE on ch 3 at 2000 and SE/E ch 2 2025, co-channel beat bars only, no IDs. 10-14 tropo 2130 KHTV 39 Houston (420 mi) fair, w/others to S, closer, up to Grade-A quality; 2200 KHFI-42 Austin (340 mi) good level. 10-15 tropo 0015 WWOM-26 New Orleans (575 mi) fair w/movie; 0020 WAND-17 Decatur IL NE (560 mi) fair building to good at sign-off, signs of WJLY-14 also; 0022 KDNL-30 St Louis MO fair to good. This was interesting opening because VHF was virtually normal and conditions stretched from more than 400 mi S by SE to 560 mi N by NE of me on UHF KHFI-42 carries movie AFTER Carson, incidentally, and KDTV 39 Dallas now has a movie running well after 0100 most weekday nights. 0647 KHFI-42 still in at sign-on time, not quite the signal from 'earlier' in AM and gone by 0800. 10-17 VERY weak Es ch 2, NBC, lasted apx 15 min, no ID. 10-20/21 monitored ch 7 for MS during annual Orionids meteor shower, which was a "swarm" shower this year, i.e. bursts came in groups or swarms over 5-10-minute periods, then virtually nothing for 30 minutes or more. One such swarm around 0100 on 20th produced several good super-bursts of a movie on ch 7, but KETV Omaha at 420 mi was still on and strong enough to make overriding difficult. Bursts as late as 0221 on ch 7, from NE. 21st produced burst from WDBJ-7 Roanoke VA at 0419 and again at 0424; another probably color-bar burst at 0544 from WMAL-7 Washington DC. Overall, the Orionids was too spotty and results both mornings were no better than an average non-shower morning.

Nov 7 tropo 2200 weak opening to Nebraska, Kansas, etc; KHNE-29 Hastings (350 mi), K75CB translator Russell KS (240 mi), KXNE-19 Norfolk NB (425 mi), KMEG-14 Sioux City IA (485 mi) and a handful of other UHF translators logged. 73.

(Interesting useful description of the Orionids shower, Bob. dps)

Bill Heusmann, 2804 Brattleboro, Des Moines, Iowa 50311 (13 Sep- 9 Nov) (Times CDT)

With a pretty miserable antenna and a TV that's about ready to give up the ghost (a broken UHF tuner I can see, but a missing ch. 2???) . DX here isn't the greatest. Finally, though, a little trop, and most importantly, F2 picked up to the point where European TV audio was heard on two occasions. (NEW underlined.)

September:

16 Tr 2356 KROC-10 Rochester MN
2358 KTIV 4 Sioux City IA, audio
thru local KØ4EW

17 Tr 0012 KCAU- 9 Sioux City
0021 WQAD- 8 Moline IL
0027 WDAF- 4 Kansas City MO
0100 KETV 7 Omaha NB
2300 KVFD-21 Ft. Dodge IA

18 Tr 0017 KMEG-14 Sioux City

19 Tr 0715 KVFD-21 Ft. Dodge
2300 KELO-11 Sioux Falls SD
KGLO- 3 Mason City IA
KQTV 2 St. Joseph MO
2355 KROC-10 Rochester

20 Tr 0015 KMTV 3 Omaha VG
2029 KQTV 2 St. Joseph
2030 KOLN-10 Lincoln NB
2202 KELO-11 Sioux Falls
2205 KMEG-14 Sioux City
2207 KEYC-12 Mankato MN

21 Tr 0623 KHQA- 7 Hannibal MO
0631 KMBC- 9 Kansas City
0635 KQTV 2 St. Joseph
0641 WDAF- 4 Kansas City
0642 WGEM-10 Quincy IL
0654 KCMO- 5 KS City(all KC. V's w/IHTP)
0700 KCAU- 9 Sioux City VG

October:

2 Tr 2300 KSOO-13 Sioux Falls SD, ID as
floater on WHO-TV

3 Tr 0003 KEYC-12 Mankato MN
KROC-10 Rochester
0019 KSTP- 5 St. Paul
0022 WCCO- 4 Minneapolis
0034 KTCA- 2 Minneapolis/St. Paul
0037 WIBW-13 Topeka KS

4 Tr 0002 KAUS- 6 Austin MN (tent.)
0038 KPLR-11 St. Louis MO
0045 WGEM-10 Quincy IL, VG w/TP
0053 KMBC- 9 Kansas City

27 F2 1035 BBC-1 41.5 MHz (3800-4000 mi)

31 F2 1030 ORTF- 41.25 MHz (4000+ mi)

November:

9 Tr 0035 WKBT 8 La Crosse WI
0036 KCRG- 9 Cedar Rapids IA, almost
perfect

0040 KAUS- 6 Austin MN
0103 KFVS-12 Cape Girardeau MO (350mi)
0111 WSAU- 7 Wausau WI (280 mi)
0117 WEAU-13 Eau Claire WI
0615 KHQA- 7 Hannibal MO
0619 WISC- 3 Madison WI
0640 WGEM-10 Quincy IL
0640+ unID-6 WLUC-???????

BBC-1 was received with surprisingly strong signal. Unfortunately, my tape recorder chose that moment to start interfering with the radio, so nothing taped. ORTF wasn't nearly as good. Part of reception fairly clear and successfully taped. V., V. poor BBC-1 also seemed to be there, little if any audio heard. F2 seems a little worse since then. 73 and good DX.

(Excellent, Bill. Your F2 loggings are the highlight of the column this month. dps)

Randy Miltier, 1760 Whitwood Lane #3, Campbell, California 95008 writes a short note that no DX has been noted since his last report. Yes, Randy, those Eastern guys don't know when to stop getting the DX....

Dennis Smith in Santa Barbara reports that southern California inversion (tropo) conditions this Autumn, as noted on the Panasonic portable FM, have been much below that of previous years. Last year, steady reception of VHF-UHF TV-FM up to 200 miles along the coast south to San Diego - Tijuana through much of the winter was heard whenever it wasn't raining. This year, only occasional days have been good; there has been more unsettled weather though not much precipitation yet this season.

Otherwise, schoolwork has occupied most of the time during this period.

Best of DX to all

Dennis

Conducted by
David T. Janowiak

TECHNI/CORNER
December

3661 South 46 Street
Greenfield, Wisconsin 53220

QUESTION/ANSWER SESSION, Cont.

DIFFERENCES IN VIDEO/AUDIO POWER LEVELS

Question: "Why are audio power levels of US TV stations so much less than video levels", asks Bill Lipis. "Mexican and Canadian stations generally use a 2:1 ratio, but US stations use a greater ratio," Bill continues.

Answer: I'M not too sure about this one, but I would guess that it is a matter of need. That is, the lower audio power levels in the US produce all the audio that's generally needed because of present receiver design. Other countries probably will follow suit.

Years ago, US stations generally followed the 2:1 ratio. For example, a "maximum power" low band TV station would run 100 KW of video and 50 KW of audio power. High banders were limited to 316 KW of video and usually ran 158 KW of audio. UHFers had a million watt ceiling for video power, but now so many are running 2, 3, million watts that the ceiling must be 5 million watts or so, but few stations can get authorization to use this much power.

As RF tube design improved in the late 1950's, however, sets with hot front ends (tuners) and hot frame grid tubes emerged. A set with only three well designed IF stages with high gain tubes easily outperformed the old standby four IF stage sets using 6CR6's, etc. In tuners, the 6BK7, 6BZ7 cascade RF stage shoved the pentodes into oblivion in early 1950's, but even this was improved with low noise 6CW4Nuvistors and 6GK5s and 6HA5s used recently. All of this meant more usable voltage and, since the audio portion is very small compared to the video information, stations could easily reduce audio power. True, some sets went to two IFs, and if color hadn't hit it big then, most black and white sets probably would have followed suit. However, the need for a good wide band/high gain IF was great with the color push, and most manufacturers kept three IF stages in their "top of the line" color receivers.

Since I've DXed TV off and on since 1955 and used several sets of various quality, I can safely say that "low" audio levels are almost never a problem. On the contrary, with good low noise equipment, audio is almost always better than video during a weak tropo opening. And if the DXer feeds his audio into a good audio amplifier, he usually notes noisy, but easy to copy, audio long before the video syncs in on a weak tropo signal. True, during fade periods of tropo, video only may be received, but this is an exception.

For skip, anything goes. Anyone who has DXed E's has had perfect video from a skipper, but audio from another skipper or a local. Fading excellent E-skip openings or double hop, audio or video only is common. In fact, double hop KEYE 3 California and XEW 2 Mexico have been received with excellent (but brief) video, and KOTI 2 Oregon was heard over solid KOOK 2 Montana video in the "good old days". Only KTVU 2 California was seen and heard with strong signals, and even then the audio was murred by the aurora hash as this was received during a great aurora E's opening of Sept. 1960. (In reminiscing, I recall returning late from a date with the now Mrs. Janowiak and being greeted by my puzzled dad. He couldn't figure out why the reception had been fading for the last 45 minutes of a network cowpoke show he had seen two hours previously on our local! I couldn't explain it to his satisfaction, and when the show ended five minutes later, KTVU's slide didn't interest him at all, even with my raving about double hop. He went to bed and so did I a few minutes later as the skip ended. Like Bedford Brown, it seems that I always had dates during the best DX conditions.)

SOL FOR SCA RECEIVERS

The FCC recently banned the sale of multiplex SCA (Subsidiary Communications Authority) receivers sold through Lafayette Radio. (SCA adapters for use with audio amplifiers have been advertised for years by several electronic magazines. Some manufacturers advertise "complete lists" of SCA stations.)

SCA receivers pick up background music intended for subscribers such as restaurants, super markets, etc. This information is transmitted as a subcarrier to a conventional FM station.

In the opinion of the Justice Dept., "unchallenged use of the private transmissions of SCA broadcasts is illegal if the listener realize sa gain." Logically, this gain is thought of as financial benefit by a nonsubscriber. However, big brother apparently considers the pleasure of listening to uninterrupted SCA music (or DXing SCA stations) as substantial gain; thus the ruling.

CR WIELDS A BIG STICK

In the November Techni/Corner, I noted that Consumer Reports had recently rated Heath Color TV sets not acceptable because of poor picture resolution and lack of an a-c interlock. They refused to test the sets further.

After I wrote the article, but before publication, I received the Heath winter catalog. It included a timely note that "in production" changes were being made on all color sets, and for those who had color sets, modification kits were available free.

The changes involved "new circuitry to improve picture clarity and test pattern resolution and an a-c interlock for added safety". Sound familiar?

This action by Heath bears out what I've known for years: CR has a huge influence on the sale of consumer goods. I've seen several similar cases where manufacturers "improved" their products immediately after CR rated them poorly.

I'm anxious to see if CR now will completely test a modified Heath color set and compares it against others. Heath hopes so, I'm sure.

The a-c interlock is self-explanatory; it should have been included if, as Heath claims, the set can be repaired safely and easily by the nontechnical. Other changes were components on color circuit boards and a peaking coil. Improved resolution is the aim of the peaking coil, which normally is added in the video amplifier stage to peak its response by adding to the bandwidth.

73's

VHF RADIO IN NOVEMBER

APPARENTLY BILL HEUSMANN AND MYSELF ARE THE ONLY TWO PEOPLE DXING THE PAGERS THIS WINTER SINCE I NEVER HEAR FROM ANYONE ELSE. BILL REPORTS HEARING RUSSIANS AT ABOUT 35.4 MHZ IN LATE AFTERNOON LATELY, BUT OTHERWISE CONDITIONS HAVE BEEN RATHER BAD FOR SEVERAL WEEKS SINCE HE GOT BBC1 AND ORTF THE LAST WEEK IN OCTOBER.

I PRESUME THE PAGERS ARE IN DAILY OR ALMOST DAILY EVERYWHERE, BUT THE MUF JUST DOESN'T GET MUCH HIGHER OVER A REALLY LONG INTERCONTINENTAL PATH. SINCE I STARTED A NEW JOB ON 17 NOVEMBER, I'M AWAY FROM HOME DURING THE GOOD HOURS 6 DAYS A WEEK AND HAVE LITTLE TIME TO LISTEN, BUT I TRY WHENEVER I CAN. NOTHING EXCITING TO REPORT THOUGH.

FM DX for December 1969

FM DX

Roger W. Winsor
718 N. Fremont Road
Valparaiso, Indiana
46383

Deadline the 10th of each month

Richard Clark 4110 Bayview Drive Fort Lauderdale, Florida 33308
Hi everyone! I have started all over again in DXing FM, because I have moved to Florida. So far only 1 FM antenna is up now on a 20 foot mast. Here is what I have so far. 11/4 WIXX 105.9 Oakland Park, Fla @1200, WMJR 100.7 Ft. Lauderdale, WFTL 106.7, WSRF 103.5, all same @1300, WEDR 99.1, WKAT 93.1, WBUS 93.9, WOCN 94.9, WIOD 97.3, WJHR 96.3, WTHS 91.3 all Miami. WVOG 99.9 Boca Raton, Fla. w/SCA, WPBF 107.9 Palm Beach w/SCA, WWOS 97.9 same city @1500, WXOS 100.3 Plantation Keys, Fla @1630 and WYOR 105.1 Coral Gables, Fla @1700. 11/5 WEAT 104.5 Palm Beach @2100. 11/6 WWPB 101.5 Miami @1400, WINK 96.9 Ft. Myers, Fla @2000, WWBA 107.3 @2100, WFLA 93.3 both Tampa @2130, WHMS 92.1 Hialeah, Fla @2200 and WORJ 107.7 in Mt. Dora, Fla @2300. 11/8 WTAN 95.7 Clearwater, Fla @2100, WDBO 92.3 Orlando, Fla @2130, KQUE 102.9 Houston, Texas @0130 (new record station), and WQXM 97.9 Clearwater, Fla @0600. Well that is all for now. 73s. (Good luck Dick)

Joseph Fela, Jr. - 167 Goodwin Avenue - Newark, New Jersey - 07112

As the FM season has just about ended, I thought I would list the last of my DX following the Oct. 5-6th opening. On 10/8 WRNW 107.1 NY was well atop semi-local WRLB at 9:06PM and at 9:42 WHCN 105.9 Conn. was logged over local WHBI 105.9. I managed to find one spot where WHBI's signal drops using the rotor which made that reception possible. On 10/11 there was some odd reception with WFMD 99.9 Md. over strong semi-local WEEX most of the day. Nothing else out of the ordinary noted. Finally on 11/10 WIOV 105.1 (ex-WGSA-FM) was logged 5:20-5:30AM when local WRFM turned on their carrier. Locally WMMM 107.9 seems to have boosted their power. I guess this was the CP for 50kw ERP. They aren't very much stronger here but are just enough stronger to kill groundwave reception of WXTC 107.9 Md. Also locally WCBS 101.1 has gone live rock and is AN-5 or WN-6, believe the former. Another new ANer is WBJH 101.5 in Trenton. They are running AN-6, // to WBUD 1260. It's interesting to note that WEEX now IDs as WEEX-FM and AM. 73.

Dennis Smith 321 Santa Barbara St. Santa Barbara, California 93101

The coastal inversion of southern California has been erratic this fall, not as consistent as usual in this season. I haven't consistently checked the FM band, but during good conditions on October 29, an apparently new Mexican FM station was found, which may be Tijuana's first FM. All-spanish, light music selections and occasional commercials. IDs sound like "Radio Moderna en Frecuenci Modulada", or similar, could get nothing sounding like call letters; my Spanish isn't much at all. Seems to be on 99.3 on my portable, I think. Although quite clear at times, it doesn't have the overall strength of some others from San Diego area, so it may conform to US Class A 3kw maximum for that frequency. Heard Tijuana mentioned occasionally, full-time schedule (but don't know the specific hours), don't know if stereo but may be if new station. Except for this new one, Mexican GW and tropes have been nil for Calif. FM DXers (XFTV-6 & XFWT-12 Tijuana are the only TV; XHS-23 Ensenada has never been seen if it actually exists). The only other Baja Calif. FMs heard at all were by Glenn Hauser on Es on Aug. 6, 1968 XHW 90.0 La Paz BCS (tentative) and XFSS 88.8 Ensenada BCN. Neither have been heard by any California FM DXers. Best of DX, Dennis.

Fred Nordquist 302 Sandra Lane N. Syracuse, New York 13212

10/4 all tropes 0158 WGPR 107.5 Detroit, Mich @s/off, 0159 UnID 107.9 to WSW all folk rock mx, probable WNOB, @??? 0200 WWWW 106.7 Detroit W-4 headlines, 0202 WAMO 105.9 Pittsburgh, Pa. Double WAMO, 0210 WWOL 104.1 Buffalo, NY now 24 hrs, cw mx and 0215 KQV 102.5 Pittsburgh, Pa. w/Steel City wx, // to KQV 1410. Fringe stations noted on, after 0245 LT 10/4 WIV, WEIV, WOIV, WJIV, WRPI, WENY, WBLK, WFBF, CHSC, CHUM, WNYR, CKDS, WHFM, CJRT, all Syracuse stations off the air.

Carlton Howington 13880 Greenland Ave. Uniontown, Ohio 44685

9/14 WUJC 88.9 from WABU @9AM. 9/15 WBVB 106.3 @8:21PM with religious prmming.
 9/16 WMIT 106.9 good @1AM, WLBR 100.1 @1AM s/off and Cincinnati BB on 92.1, 101.3,
 101.5, 103.1, 105.5, 99.3, 106.7, 101.9 and 101.1. New ones were WVOW 101.9 and
 WPKE 92.1 (#17 on 92.1). WENY 92.7 noted @2:11AM AN w/RR good signal. In the PM
 new WCHS 96.1 w/good signal all evening. 9/18 WMST 105.5 on late w/BB @0145. 9/18
 WEJL 107.1 good from 0120 to 0200 s/off. 9/21 WVNO 106.1 off all day and hrd new
 call WKGO from WTBO-FM. 9/25 good tropo to south KWAM 101.1 and WMC 99.7 all AM
 600 miles and WBRC-TV-6 @0030. 9/27 WVIZ 104.9 new in Mercer, Pa. @0611 w/much
 WCJW 104.1 QRM. 9/29 Aurora at 9PM WHLA 90.3, WHAD 90.7 and WHKW 89.3 noted.
 10/1 WGHN 92.1 @0030 till 0100 s/off (#18). 10/4 WHUS 91.7 @0058 ID, WKCR 89.9
 0100, WNEW 102.7 0135, WOR 98.7 @0150, WPIX 101.9 0200, WCBS 101.1 0231 s/off,
 WNCN 104.3 just over WOMC @0208, WPKN 89.5 0215, WABC 95.5 0230, WRPI 91.4 0400,
 WBAI 99.5 0300, WHTC 96.1 6:30PM, WMBI 90.1 local like all day, WFNY 92.1 11:30P,
 10/5 WMIL 95.7 0030 w/cw mx, WPKE 92.1 on late w/BB @0200, WKLO 99.7 0200 s/off,
 WVOW 101.9 w/BB @0150, WCRA 95.7 local like for a few hours around 10AM, WGRE
 91.5 1054 AM, WANG 98.5 over local WERE @11AM, WHKK 100.9 ID @ noon, WIAA 88.3
 s/on local like 1:01PM, WBCM 96.1 2PM, WCRM 95.3 2-3PM like a local, WHMD 91.5
 3:20PM, WAMC 90.3 and WUHY 90.9 local like 8PM. 10/6 WGBH 12:01 s/off like a
 local 540m., WPKN 89.5 strong 0030, WBT 107.9 0030 ID, WGTS 91.9 0032 s/off,
 WCCO 106.9 0041, CFMO 93.9 0137 o/CKLW, WQXR 96.3 & WABC good @0145, WBAI 99.5 0200,
 WTIC 96.5 0205, WRPI 91.5 0203 s/off. 10/11 local WCUE off at 1:09PM and heard
 WPEL 96.5, this is one of my most wanted stations. 10/19 WPAG 107.1 and WVMO 98.3
 @0100 s/off. All of the above were EDT., rest is EST. 10/27 new WYSU 88.5 in
 Youngstown at 7PM s/on w/classical mx in stereo. I guess tropo is over for another
 year, but keep an eye open for an Es opening in early December, and maybe one or
 two tropo opening in the midwest. A few years ago there was a good tropo opening
 on New Years Day, UHF was wide open all day. This winter I am going to build four
 FM yagis and put them on my 90' tower in the spring, each antenna will be 17' long
 with 8 elements, a total of 32 elements. The stock cost me around \$42, the boom
 in 1" square aluminum and the elements are 3/8" round aluminum stock. FM verie
 total up to 417 as of 11/11/69. 73's and Merry Christmas. (Ah for a 90' tower RWW)

Glenn Hauser 1312 W. Oak Avenue Enid Oklahoma 73701

My last month in Denver was utterly FMDXless: weather was pretty frigid, if that's
 any excuse. Now, in Enid, it's Indian summer and tropo ex have been fair to good
 at times. I put up my 10 element FM antenna again, just temporarily, after I saw
 what was happening on the TV screen. So far nothing very unusual logged on FM,
 but several new but nearby stations. The antenna is horizontal, only about 20'
 up, so doesn't clear the trees, and reception suffers noticeably. Here's the log:

7 Nov	0835 CST	KVRO	105.5	Stillwater OK	"Big Fanny" balad, ID; KNDR nulled
	2321	KWFC	97.3	Springfield Mo	prog promo, ID, hymn
	2331	KWOE	106.9	Clinton OK	local ad, ID, sports..sounded like Lonnie Preston, late of KSWB-8
8 Nov	0800	KINB	107.3	Poteau, OK	KARD nulled; cw mx, Wilburton ad, 0801 ID, nx, massacring local names
	0803	KKMA	104.5	Pryor, OK	AIR nx, but with Oklahoma Nx Net (ONN successor to INN), 0805 ID, wx
	0819	KSEO	107.1	Durant, OK	cx mx, local ad
	0845	KEEL	93.7	Shreveport IA	YET mx (Yesterday, Today, Tomorrow)
	0945	KWKH	94.5	Shreveport IA	rock, talk a minimum; 1029 ID

Should have more to report next time; I leave Travis for Thailand on 11/26. Insig-
 nificant AIC's are allowed only 100# of baggage, so I'll be forced to ship or mail
 a lot of my DX eqpt. over, including FM tuner and amp. Speakers, TR, antennas,
 I expect to acquire upon arrival, or mail order them as a last resort. Until the
 next, 73.
 (Glenn, the very best to you in Thailand. You should have some good BCB DX too!

Bob Cooper, Jr. 6221 Norman Road Oklahoma City, Oklahoma 73122

Not a memorable month. Most DXing activity limited to MS, since tropo was vistically non-existent. 10/9 up for possible effects of Giacobinids MS. No show other than unusually heavy ping count on 93.7 from NNW 0455 to 0520 or so. Some station testing w/lkc note was in/out several hundred times, but no ID heard. 10/12 WFCJ 93.7 Miamisburg, Ohio on burst w/ID 1315 CDST. MS burst count up higher than normal through 2000 CDST or so. 10/14-15 mildly improved tropo to NE and due south. KTBC 93.7 340 miles best to south; nothing over 400 miles to ne. 10/20 Monitored FM 0025-0630 chasing any possible meteor enhancement from the annual Orionids. This is usually a fairly good shower, but was disappointing this year. Until 0200, the usual WJFM, etc noted. 0210 WMC 99.7 and KWAM (new ca 11) 101.1 Memphis in on tropo (420 miles). KWAM programs cw apparently 24 hours. 1800 new KINB 107.3 Poteau, OK noted on air also cw mx. 10/21 Repeated 10/20 chase 0037-0600. 0100 WKJF 93.7 Pittsburgh on burst w/s/off. 0102 WBLK 93.7 NY on burst and ID. 0302 WDBN Medina, Ohio 94.9 on burst w/ID and at 0324 a 10 second burst on 94.9 identifying AM outlet CKLB and FM CKQS-FM Oshawa, Ontario (1140 miles). Bursts morning of 21st came in "swarms" with several super burst in 5@10 minute span, then virtually nothing for 30 minutes or more. All in a very poor showing. 1905 new KSKU 102.3 Hutchinson, Kansas noted on air. 10/28 0204:30 WJFM 93.7 w/s/off anct, noting would return to air at 0600 EST. So Roger they are off for four hours nightly....your chance to MS DX on this channel! 11/7 2300-on weak tropo opening to Nebraska area, central and northern. KICS 93.5 Hastings (350 miles) and others out to 400 miles noted with fair signals. 73, Bob.

Bruce Elving 522 North 12 $\frac{1}{2}$ Avenue East Duluth, Minn. 55805

The first major change in my equipment since 1956 has recently been made. I have retired the Harman Kardon "Theme" tuner with which I received 548 FM stations. Previous to 1956 a Zenith AM-FM table radio was in use, which in 8 years gave me 291 stations. The new receiver is a Fisher 500TX, which boasts field effect transistors and crystal filters for freedom from overload from powerful TV and FM XRs nearby (a real problem at this location) and high selectivity. I really do not know why the Heathkit AR15 is so highly touted when the Fisher's printed specs and performance on a side-by-side basis with the Harman Kardon show it hard to beat. The selectivity is especially good, with a clear separation possible between local WWJC 105.1 and KEAM 104.7 St. Cloud, Minn; or local KUMD 89.1 and WCAL 89.3 in Northfield, Minn. Furthermore, I got a deal on the 500TX which brought its price close to the AR15's kit price; and the 500TX has front panel speaker switches and pushbuttons that are lacking in the Heathkit. During a DX opening, Es or tropo, one can set pushbuttons on different desired stations and very rapidly tune in two or more stations, and the technique helped the early morning of August 23 to pick up, in short order, WCBY 105.1 Cheboygan, WMBN 96.7 Petosky, both MI, and CKCY-FM 104.3 Sault Ste. Marie, Ont., while later that day I grasped WZZM 95.7 to complete my Grand Rapids, MI. Other DX includes WPC 97.7 Mornmouth, Ill, KVOX 99.9 and KQWB 98.7 both Moorhead, Minn; WVLE 104.9 Kaukauna and WRFW 88.7 River Falls, Wis. and on 10/4 WFMB Springfield, Ill. 104.5, KILR 95.9 Estherville, Iowa. The 500TX has a useless, for DX, "Autoscan" tuning system and lacks a variable threshold muting control, however.... Just prior to my dumping the Harman Kardon, I picked up, on 8/12 WDTR 90.9 Detroit on MS for about 2 minutes @5:28AM CDT, and I mailed them a copy of my tape. I did so to WCAL and WOI, which I also hrd, by tropo, of course, but did not receive verifications. I was disappointed that stations that were interested enough to conduct a special broadcast for a DX club would not bother to verify reports that they received during said test. The other major change here is that I have installed a steel tower imbedded in concrete and standing 34' above ground at this hillside location topped by the 12 element FM/" antenna and rotor. The older 8 element Winegard yage and its rotor remain intact at a somewhat lower elevation. It is extremely difficult to discern any difference between 2 antenna systems side by side. 73.

Frank Merrill, Jr., 10673 Saline-Milan Road, Milan, Michigan 48160 EST

Frank Merrill is alive and hiding in Milan, Michigan! Fortunately I didn't quit DXing, only went about 10 months without an outside antenna, though, which is about like quitting. Hi. The antennas were installed on 8/9, with a Channel Master rotor, and I immediately started cleaving up on the nearby new stations; later on it switched to things of a better calibre: 8/9 trop 2128 WKTN 95.3 Kenton, Ohio w/Indian BB, last hrd on 98.3; 2135 WBCH 100.1 Hastings, Michigan; 2159 WNIL 95.3 Niles, Michigan w/Detroit Lions FB; 2334 WGHM 92.1 Grand Haven, MI w/\$ background mx. 8/10 WTNS 99.3 Coshocton, Ohio @1000. Tough: WFRO/WSWM/WABX QRM. 8/11 0453 WBUR 96.3 Columbus, Ohio ex WTVN; 1710 WEKU 88.9 Richmond, Kentucky w/bad CKWW splatter. 8/15 2105 WATZ 93.5 Alpena, Mich. good sig w/background mx. 8/16 1900 WWCW 88.9 Buckhannon, WV chicken rock, amazing sig; 2110 WOUB 91.3 Athens, Ohio w/chicken rock. 8/17 0202 WBFB 92.5 Rochester, NY classical mx, ex WBFB; 8/18 WNUW 99.1 Milwaukee, WI Hitparade 69 format, now AN \$. 8/19 WJML 98.9 Petosky, MI terrible WBFB QRM-WSWM off. 8/22 WCBY 105.1 Cheboygan, MI @0011 w/BB. 8/26 0230 WSAI 94.1 Cincinnati ex WJBI chicken rock. 8/27 0125 WENY 92.7 Elmira, NY AN, rock mx, loud! Only 700 watts. 0143 WHCU?? 97.3 Ithaca, NY, OC here AN from due east...? Loud. 0201 WYZZ 92.9 Wilkes-Barre, Pa "Wyzz stereo center" is NSP. Hrd. about 6 times since, are they 100kw or something? (VJ #5 lists 7500 RWW); WHFM 0222 98.9 Rochester AN w/rock mx, tuff w/WBFB; 0416 WJEJ 104.7 Hagerstown, Md w/wx, loud; 0429 WAVA 105.1 Arlington, Va. "News radio WAVA"; 0532 WPQR 99.3 in Uniontown, Pa. end of nx thru much QRM; 0545 WJFR 101.7 Dover, Ohio Indian BB, promo on WJFR-AM. 8/28 KGRC 92.9 Hannibal, Mo. jingle/chicken rock. 8/31 CJOY 106.1 Guelph, Ont. AN clx, mx. ERP? (100kw). 9/1 WDAC 94.5 Lancaster, Pa. NSP, religious, o/WISW same direction. 9/20 WDFC 95.5 Wausau, Wis. ID, nx, ex WSAU. 10/4 WKTL 90.7 Struthers, Ohio mx from 30's-40's; WGSU 89.3 Geneseo, NY UG rock; WFIM 100.7 Elkhart, Ind. NBC Monitor, ex WTRC. 10/5 0127 WPGU 107.1 Urbana, Ill. UG rock; 0259 WARC 90.3 Meadville, Pa. only 50 watts UG rock mx, Local! 0323 WFLI 92.5 Philadelphia, Pa. thru WBFB, Better Masonian? Jazz; 0415 WPAT 93.1 NJ o/WNAP, background mx; 1431 WNPQ\$ 95.9 New Philadelphia, Ohio background mx, tuff CRPL, WHFD; 1447 CKSO\$ 92.7 Sudbury, Ont. STRONG-listened to it all afternoon, in fact! "Carousel" @ really good background MoR; WUHY 2038 90.9 Philly, Pa. "Radio Philadelphia"; 2050 WAMC 90.3 Albany, NY LIKE A LOCAL! Ask for contributions; 2100 WRPI 91.4 Troy, NY much weaker, oldies rock, after nx. (Chris Lucas, who can I write to there for my verie? No reply yet). 10/6 0020 CKWS\$ 96.3 Kingston, Ont s/off 0025; folk mx, strong. Only 2700 watts?; 0039 WQXR\$ 96.3 NYC finally! Class mx thru CKWS OC; 0105 WUJC 88.9 University Hts. Ohio; 10 watts s/off after UG rock; 0202 CJET\$ 101.1 Smiths Falls, Ont. background mx, NSP/47300 watts per verie; 0259 WPIX\$ 101.9 NYC mention "WPIX news around the clock"; 0340 WFIL\$ 102.1 Philly, chicken rock, WDOK off for the first time in ages, reception verified via phone call to WFIL - too weak to ID; 0359 CKVL\$ 96.9 Verdun, QB local sign, bilingual s/on then Chamber mx; 0419 WNYR 101.3 Rochester, NY cw mx, "Winner 68"; 0500 CHLT\$ 102.7 Sherebrooke, QB s/on in FF, then march mx, local sig! Most distant trop to date @630 miles. Eat your heart out Bill Benns! 0516 CBF 95.1 Montreal, QB this one assumed to be the FF here. 10/11 2128 WMCB 95.9 Michigan City, Ind. potpurri-talk, mx, etc. Hrd. during a day of much rain, Chicago trop, nothing else. 10/26 0007 WWSW 107.1 Saginaw, Mich. NEW STATION NOW NSP (apparently), w/soul mx, gets out well, a very good target. MS on 8/12 taped good IDs off WOI 0507 and WCAL 0511. Es when still using rabbit ears 7/26 1729 WOCN\$ 94.9 Miami Beach, Fla. ex WAEZ "local" on rabbit ears; 1751 WFYN\$ 92.5 Key West, Fla. thru WMHE, most distant US here. Yes, I am using a Channel Master 10 element antenna, the same kind I had been using next door before I got caught without an antenna for nearly a full year. New ANers here: WHFI 94.7 rock, off MM, WAKR 97.5 NSP, WSPD 101.5 Hitparade 69, NSP, 1370 MMs, WIOA off MM, UG, WMOZ religious, off SM, WCJW 104.1 cw, NSP, CJOY 106.1 clx, off MM, WXPW 106.5 usually rock, UG or polkas. I might soon send a list of AN FM stations hrd in Milan. WMM\$ 100.7 pgming rock from 50's-60's on Sunday mornings 0000-0600. I never miss it. WITL has dropped their AN, it made WMM\$ difficult. Last portion of this was edited due to space RWW

Hank Holbrook 7211 Chestnut Street Chevy Chase, Maryland 20015

No DX at all since August. Veries received during 1969 as follows:

92.1 WDYL Chester, Va, vl.3kw; 96.5 WWDB Philadelphia, Pa. vl, ex WHAT 12kw; 89.3 WHHS Havertown, Pa vl, best DX of the season, 8 watts!; 91.3 WTJU Charlottesville, Va. vl 750w; 92.1 WDWL Vineland, NJ vl 3kw; 95.4 WCHR Trenton, NJ PPc 20kw ex-WTTM; 93.5 Georgetown, Del. vl; 92.1 WING Sag Harbor, NY PPc, 3kw; 91.7 WHUS Storrs, Conn. PPc; 98.5 WROR Boston, Mass. vl, 11kw; 107.1 WPGU Urbana, Ill vl, mine most distant report 3kw; 107.1 KDSN Denison, Iowa vl, ditto; 92.9 KFMD Dubuque Iowa vl 76kw; 106.1 WKGO Cumberland, MD vl, 4kw ex-WTBO; 92.1 WCTX Palmyra, Pa, PPc ex-WRLC; 92.3 WCOL Columbus, Ohio QSL 29kw; 88.1 KDPS Des Moines, Iowa vl, 5.2kw, 89.3 KCUR Kansas City, Mo. vl; 93.3 KWKI Kansas City vl, 70kw; 88.1 WESU Middletown Conn. vl 1.85kw; 101.3 WKCI Hamden, Conn. vl 12kw; 88.7 WHA Madison, Wis. vl 72kw; 90.9 WDR Detroit, Mich. vl 17kw, MS DX for WTFDXA; 93.7 WSTW Wilmington, Del. 50kw ex-WDEL; KBER 100.3 San Antonio, Texas PPc from 1968 season. Veries now at 540 stations - 31 states, Ontario, Quebec, Manitoba & Cuba, Bermuda & PR. Merry Christmas to all. 73, Hank.

Roger W. Winsor 718 N. Fremont Road Valparaiso, Indiana 46383

Only new station logged since 10/4-5 was WGLB 100.1 Port Washington, Wis. @1250P w/local spot, much WFMP QRM, as always. I have prepared a list of skeds of Chicago area stations listing format, hrs., if known. EST is used.

90.1	WMBI	Chicago	// 1110 AM 0600-0100 Religious
92.3	WYCA	Hammond, Ind	Religious 0600-0100, 0200 Sundays I believe
92.7	WFXI	Arlington Heights	\$RR, NSP
93.1	WXRT	Chicago	Foreign 100% 0600-0100
93.9	WFBH	Chicago	MoR days, UG rock 0800-0100, off MM I know.
94.7	WLS	Chicago	Just changed to UG \$ rock, 0500-0100
95.5	WDHF	Chicago	\$ MoR 0600-0000
95.9	WMCB	Michigan City, Ind	Mor 0700-2130
95.9	WKKD	Eureka, Ill.	// AM days, MoR, cw nites 0600-0000
96.3	WBBM	Chicago	CBS-FM \$RR, 0600-0000 weekdays, 0200 weekends
96.7	WLOI	LaPorte, Ind.	Mor //AM part time 0600-2200
96.7	WJOL	Joliet, Ill.	\$Mor AN-6, off Wed. AM only 0000-0500
97.1	WNIB	Chicago	100% class, 0600-irreg. end of concert
97.9	WSDM	Chicago	100% jazz YL annr. NSP
98.7	WFMT	Chicago	Classical mx, off MM 0000-0500 \$
99.5	WEFM	Chicago	MoR and class, \$ 0600-0000
100.3	WFMP	Chicago	MoR \$ off MM only 0000-0500
101.1	WMAQ	Chicago	// AM and \$MoR 0500-0000, just changed to 6kw
101.9	WRSV	Skokie	MoR 0600-0000
102.3	WTAS	Crete, Ill.	\$MoR 0600-0000
102.7	WGLD	Oak Park, Ill.	\$\$ rock golden days 0800-0700, GG to 2200, then Scorpio to 0000, YL AN, part time \$
103.1	WEEF	Highland Park, Ill.	weak 1kw, Mor 0600-0000
103.5	WKFM	Chicago	AN-6 \$MoR off MM 0000-0500
104.3	WJJC	Chicago	AN-6 w/cw mx off MM 0000-0500
105.1	WEAW	Evanston, Ill.	MoR NSP now 6kw also, on top of John Hancock
105.5	WAKE	Valparaiso, Ind.	\$ MoR 0600-2200
105.9	WXFM	Chicago	Mor & Jazz NSP
106.3	WLNR	Lansing, Ill.	MoR 1500-2300
107.5	WNUS	Chicago	\$mOr NSP
107.9	WAUR	Aurora, Ill.	#MoR 0600-0000

South Bend stations: WSBT 101.5 \$ MoR 0600-0010; WHME 103.1 Religious and \$Mor 0600-0000; WRBR 103.9 cw, sked unk; WFIM 100.7 MoR w/YL annr, sked unk.; WXAX 104.7 // AM w/religious pgmning 0600-0000 soon to go to 50kw. WKVI 99.3 Knox, Ind. #MoR 0600-2200 so far. Have CP for 1520 AM, so will probably // AM when granted. 73's to all, Merry Christmas, and hope that some didn't mind I edited to get this in.

DX MAILBAG

P.O. Box 5001
Milwaukee, Wis.
53204 USA

Time for another monthly look at the mail. With DX slacking off we find correspondence dwindling as well. No need for that -- drop your mailbag a note this winter. And, watch out for those sneaky mid-winter skip openings. December is a great month for minor Es openings!

Some new members to report:

Richard Barth, 51 Linn Dr., Verona, N.J. 07044
Ken Moses, P.O. Box 248, Newton, N.C. 28658
J.J. Rosenberg, 47 Pannahill Rd., Downsview 485, Ont., Canada

Renewals Received:

Bill Lipis

One of our newer members is Perry Allen, a veteran ham with the call KIZHA. Perry is currently incapacitated due to muscular dystrophy and is located at Center General Hospital in Howard, Rhode Island. He has a wide range of hobbies ranging from automotives to aviation to electronics. Since he's fond of electronic kit building and watching TV, Perry thought he'd try a year in WTFDA just to see what DX on TV and FM is all about. Welcome aboard!

With regrets we note the passing of our loyal supporter Curt Webber. Curt passed away at the age of 77 after a full life. He was instrumental in helping our WTFDA get off the ground just a couple of years ago after WMRC was revitalized into a TV-FM DX club. He'll certainly be remembered by WTFDA and the many other clubs he assisted during his lifetime.

Bob Cooper has some good news. He's working on new pre-amps for widespread use in the CATV field. Bob notes his new circuits will be costly but will definitely perform much better than things currently available. He hopes that more reasonably priced prototypes can be developed for TV-FM DX work. (Bob -- Keep us posted on this! Some of our more ambitious DXers will want to keep on top of what develops). Bob will likely be moving to Arkansas in the next few months -- hopefully to an area free of local V's!

Bill Lipis wishes to use the mailbag as a sounding board once again -- which we're most happy to have him do. Bill says, "There's been much talk about cutting out the non-DX data in the Eastern and Western TV DX sections, but I feel that much of the general equipment talk and the like is more useful than the reporting of what was heard. By the time the bulletin gets to members via third class most any surprise opening would, of course, be gone. I feel very strongly that there should be separate reception reporting and forum type sections". (Does anyone else agree? If so let's hear from you as this question has caused a great deal of comment in recent months at HQ!).

Popular Electronics' Perry Ferrell has forwarded some interesting info. Seems as though some independent DXers around the world are trading audio tapes of their local stations with other DXers-- possibly to allow others to write for veries from distant stations. This, of course, is a sad thing about our hobby; people who trade tapes for this purpose certainly tend to cheapen the fun in DXing. We hope this isn't a widespread problem.

Poor Bob Mallory emphatically writes we should correct his address: "The last two issues of the VUD have come to me with a Blissfield MISSOURI address. The post office has been kind enough to forward them to me, but advised me...(the next) issue should have the correct Blissfield, Michigan address on it." (Bob, we're sorry; mistakes do happen and this one's ours. For anyone else who fails to get his monthly VHF-UHF Digest within a reasonable amount of time please drop HQ a note. We may be able to clear up the problem right away. And if the mails have failed us we'll do our best to get VUD to you on time!) 73's

STATISTICS BANK

Glenn Hauser, FR448427204; DEC
 c/o 388 CSG AFTN 1969
 APO San Francisco 96288

...which is a fancy way to say I'm in Korat, Thailand, by the time you read this. Please continue to report as usual, but allow at least one full week for delivery.

TV RANK

Rank	Stations	States	Provinces	Countries	Who & Where
1	346	42+DC	6	4	Glenn Hauser, Enid OK
2	235	35	6	3	Bill Heusmann, Steger IL
3	215	41+DC	5	10	Robert Cooper, Fresno CA
4	209	37	5	3	Roger Brown, East Lansing MI
5	133	--	--	--	Jerry Pulice, Staten Island NY
--	117	32	4	3	Glenn Hauser, Oklahoma City OK
--	117	31	5	4	Glenn Hauser, Albuquerque & Langmuir NM
6	115	26	3	3	Fred Nordquist, White Sands M R NM
7	100	32	1	5	Pat Dyer, San Antonio TX
--	97	24+DC	4	4	Fred Nordquist, Tulsa OK
--	89	29	2	5	Pat Dyer, Austin TX
--	65	10	--	2	Fred Nordquist, Syracuse NY
--	63	24	1	3	Fred Nordquist, El Paso TX
--	57	18	2	2	Fred Nordquist, Rochester NY
--	47	11	0	3	Bill Heusmann, Des Moines IA
--	44	15	2	3	Glenn Hauser, Denver CO

Only current reports, direct from you to me, will appear in the FM and TV rank listings!

CHANNEL 3 TROPO TVDX RECORDS

Call	Location	Miles	Dxer, Location	Comments
WEAR	Pensacola FL (AL)	565	Carlton Howington, Homestead FL	
KTVK	Phoenix AZ	490	Robert Cooper, Fresno CA	
KIEM	Eureka CA	235	Robert Cooper, Jackson CA	
KCRA	Sacramento CA	290	Eddie Albright, Medford OR	
KEYT	Santa Barbara CA	270	Robert Cooper, Lafayette CA	
KTVS	Sterling CO	115	Glenn Hauser, Denver CO	
WTIC	Hartford CT	335	Robert Seybold, Dunkirk NY	
WEDU	Tampa FL	110	Don Ruland, Holly Hill FL	
WSAV	Savannah GA	450	Carlton Howington, Homestead FL	
KID	Idaho Falls ID	195	Morris Foote, Middleton ID	
WCIA	Champaign IL	570	Glenn Hauser, Enid OK	
WSIL	Harrisburg IL	600	Robert Seybold, Dunkirk NY	
WAVE	Louisville KY (IN)	440	Robert Seybold, Dunkirk NY	
KGLO	Mason City IA	290	Bill Draeb, Kewaunee WI	
KARD	Wichita KS	575	Gary Olson, Barrington IL	
KATC	Lafayette LA	485	Robert Cooper, Oklahoma City OK	
KTBS	Shreveport LA	985	Arnoldo Coro, Marianao Cuba	
WKZO	Kalamazoo MI	770	Glenn Hauser, Enid OK	
KDAL	Duluth MN	740	Frank Hill, Gallipolis OH	
WLBT	Jackson MS	700	Ed Sparks, Odessa TX	
KTVO	Kirksville MO	405	Glenn Hauser, Enid OK	
KYTV	Springfield MO	325	Ray Foster, Monroe LA	
KLNE	Lexington NB	290	Glenn Hauser, Enid OK	
KMTV	Omaha NB	570	Fred von Gunten, Berne IN	
WSYR	Syracuse NY	210	Bryan Rawlings, Montreal PQ	
WBTV	Charlotte NC	290	Robert Berg, Norfolk VA	
WKYC	Cleveland OH	360	Bill Draeb, Kewaunee WI	

was KYW

WPSX	Clearfield PA	145	Jim Pizzi, Rochester NY	
WRCV	Philadelphia PA	1045	Bedford Brown, Hot Springs AR	now KYW
KDLO	Garden City SD	590	B. J. Bingham, Festus MO	
		tie	Glenn Hauser, Enid OK	
KOTA	Rapid City SD	295	Fred McCormack, Des Lacs ND	
WRGP	Chattanooga TN	465	Don Ruland, Holly Hill FL	now WRCB
WREG	Memphis TN	455	Glenn Hauser, Enid OK	
KBTX	Bryan TX	85	Jack Keene, Houston TX	
KIII	Corpus Christi TX	540	Robert Cooper, Oklahoma City OK	
KACB	San Angelo TX	185	Pat Dyer, San Antonio TX	
KFDX	Wichita Falls TX	180	Glenn Hauser, Enid OK	
WCAX	Burlington VT	355	Robert Seybold, Dunkirk NY	
WSVA	Harrisonburg VA	265	Robert Seybold, Dunkirk NY	
WTAR	Norfolk VA	735	Denny Cline, Eastport ME	
KLEW	Lewiston ID (VA)	150	Ray O'Rear, Zillah WA	
WSAZ	Huntington WV	660	Bedford Brown, Hot Springs AR	
		tie	Jerry Don Burch, Hot Springs AR	
WLSC	Madison VI	530	Mark Kozlowski, Buffalo NY	
"CBWFT"	Winnipeg Man	215	Fred McCormack, Des Lacs ND	
"CBHT"	Halifax NS	440	William Grant, Worcester MA	
CKVR	Barrie Ont	445	Gary Olson, Barrington IL	
CKSO 1	Elliot Lake Ont	270	Bill Draeb, Kewaunee WI	
CKOS	Yorkton Sask	210	Fred McCormack, Des Lacs ND	
CMH	Santa Clara Cuba	220	Carlton Howington, Homestead FL	
XHBC	Mexicali BCN	95	Lance Clayton Muller, San Diego CA	was XEM
WIPM	Mayaguez PR	150	Robert Cooper, Frederiksted VI	

AD-DITIONS AND REVISIO-NS

2	WTJD	Terre Haute IN	T	270	Frank Merrill, Milan MI	Pomeroy 175
	KATU	Portland OR		2140	Robert Seybold, Dunkirk NY	Hauser 1105
7	CHLT	Sherbrooke PQ		255	Fred Nordquist, Syracuse NY	Girard 215
	CMBA	La Habana Cuba		705	Ed Bourgeois, Norco LA	Rareshide 685
8	CMLR	Holguin Cuba		430	Carlton Howington, Homestead FL	(CMBF) new
9	KQED	San Francisco CA		235	Dennis Smith, Sequoia Crest CA	Smith&Pizzi 220
11	KNTV	San Jose CA		190	Dennis Smith, Sequoia Crest CA	Pizzi&Smith 180
	CMGH	San Miguel Cuba		745	Ed Bourgeois, Norco LA	(CMAB) new
12	CMBJ	La Habana Cuba		705	Ed Bourgeois, Norco LA	new
13	WOKR	Rochester NY		345	Roger Brown, East Lansing MI	Merrill 320
	CMG	Matanzas Cuba		725	Clarence Rareshide, New Orleans LA	(CMBF) new
15	KLNI	New Iberia LA		555	Glenn Hauser, Enid OK	Cooper 495
16	WBOC	Salisbury MD		345	Robert Seybold, Dunkirk NY	Grant 335
19	WKPT	Kingsport TN		615	Bill Draeb, Kewaunee WI	new
	KAEC	Nacogdoches TX		375	Glenn Hauser, Enid OK	Cooper 320
20	KEMO	San Francisco CA		235	Dennis Smith, Sequoia Crest CA	Miltier 40
	WDCA	Washington DC (MD)		655	Bill Draeb, Kewaunee WI	Pulice 190
21	WXXI	Rochester NY		345	Roger Brown, East Lansing MI	Plunkett 105
23	WCVB	Richmond VA		270	Jerry Pulice, Staten Island NY	Holbrook&Vogt 95
24	WNY	Syracuse NY		425	Roger Brown, East Lansing MI	Plunkett 175
32	WRLP	Greenfield MA (NH)		350	Robert Seybold, Dunkirk NY	Holbrook TIE
34	WBJA	Binghamton NY		425	Roger Brown, East Lansing MI	Merrill 390
36	WMT	Milwaukee WI		175	Roger Brown, East Lansing MI	Heusmann 110
38	KUDO	San Francisco CA		235	Dennis Smith, Sequoia Crest CA	Miltier 40
44	KBHK	San Francisco CA		235	Dennis Smith, Sequoia Crest CA	Cooper 160
	WGBI	Boston MA		190	Jerry Pulice, Staten Island NY	Fela 180
46	WSKG	Binghamton NY		425	Roger Brown, East Lansing MI	Vogt 230
52	WJKV	Keene NH		360	Robert Seybold, Dunkirk NY	new
79	W79AE	Detroit MI		70	Roger Brown, East Lansing MI	Merrill 40
82	K82BM	Coalinga CA		100	Dennis Smith, Sequoia Crest CA	Smith 75
83	W83AB	Detroit MI		70	Roger Brown, East Lansing MI	Merrill 40

Until the next, 73 de Glenn

BOB'S TECH NOTES

BOB'S TECK NOTES

ROLLING YOUR OWN ANTENNAS / THE METEOR SCATTER CONCEPT Page One
'Part Three'

In Part One of this series we talked about evaluating your own TV or FM system to determine whether or not you have sufficient system sensitivity (ie. antenna gain plus receiver gain) to put you into the MS (meteor scatter) league. It should go without saying that IF you do not, you are also going to miss a goodly amount of other DX also (ie. tropo, Es and aurora).

In Part Two we talked about 'Rolling Your Own Yagi Antennas', and gave step-by-step instructions for modifying inexpensive amateur radio antennas for low band or high band DX work.

Here, in the third and last installment of this series, we will discuss a few of the more common tricks that can be done with yagi antennas, and touch briefly on antennas for FM meteor scatter.

The Threshold Point

Every receiving system has an ultimate threshold sensitivity. In a TV receiving system, this can be defined as the point where an increase in signal level present results in the picture locking into sync and the audio becoming understandable. (If your receiver locks into sync before the audio can be understood, or vice-versa, then you have an un-balanced system. Typically, the audio will be heard well before the video locks into sync on most receivers.)

In an FM receiving system the threshold point is simply where a weak signal becomes understandable.

In any TV system that employs an AGC (automatic gain control) circuit (and virtually all do), the receiver threshold point is determined by the setting of the AGC control. The AGC control is sort of like a window. When a weak signal falls into the electronic range (ie. window) of the AGC circuit, the set's gain is automatically boosted by the AGC circuit and the receiver has full gain. For signals that fall below the bottom edge of the AGC window, the set in effect doesn't even know the signal is there and set sensitivity is usually substantially lowered by the AGC circuit.

In essence, with really weak signals, you want to turn the AGC control off, which in turn allows the set to run at maximum gain all of the time. Many receivers have an external, back-of-set, control marked AGC, Automatic Gain Control, or simply 'Local (AGC on)- Distant (AGC off)'.

A weak meteor scatter signal may fall below the threshold point, even when it reaches its peak signal level. If it does, and the AGC circuit never has a chance to trigger on, you probably won't even see the meteor burst. Or, if only part of the burst rises above the threshold sensitivity (signal level) point, you will see only that portion that is into the AGC range of the set.

Other receivers have something called the delayed AGC. In this system, the AGC circuit reaction (ie. compensation) to a sudden signal level change (ie. from no signal to some signal) is delayed electron-

ically. In other words, a sudden burst of signal here hits the set's AGC system, but the receiver doesn't react until here. Perhaps as much as a full second later. In that full second (or whatever the time constant is), the MS burst can peak and fade down or even out. All before the delayed AGC knows what has happened!

In summary, a receiver with an operating AGC system is probably NOT what you want for serious MS DXing. Your receiver's AGC system may have a very low signal threshold point; it may not unduly delay the AGC reaction time (or the delay circuit may be built into the turning off portion of the AGC circuit, where it affects only the point where the AGC reacts to a signal leaving) ... but chances are good that if you have AGC and if the AGC cannot be turned off, you are missing out on some exciting MS DXing.

If you can switch out your AGC with the back panel control, do so when MS DXing. If you cannot do so with the controls provided, look into having a switch installed so that you can do so. In many cases, a simple toggle switch is all that is required, wired in parallel with the existing AGC control potentiometer.

Once the AGC problem is whipped into shape, we have a new threshold situation to face. This is the signal-plus-noise to noise ratio threshold. This, simply stated, is the signal level where a very snowy picture turns from very snowy to only snowy. Or raspy hard to understand sound switches to reasonably clear sound.

To illustrate with some numbers; a certain Zenith receiver was fed a stable (not fading) 20 microvolt signal; a test pattern with call letters. Fifty people studied the picture and two of the fifty could correctly identify the call letters. Now the signal was increased from 20 microvolts to 40 microvolts (double the signal, which is a 3 db improvement in signal level). Now 35 of the 50 people could correctly make out the call letters. Finally the signal was increased to 80 microvolts (another 3 db improvement), and at this point 45 of the 50 people could make out the call letters correctly.

The jump from 20 to 40 was 3 db. So was the jump from 40 to 80 microvolts. But the majority of the observers in this test (which was conducted with over 500 people by Blonder Tongue Labs in 1966) saw the major improvement in the first jump; 20 to 40 microvolts.

Now the same people were shown a 10 microvolt signal on a second receiver (a proto-type unit under development for CATV work). 5 of the 50 could identify correctly the test pattern call letters. When the signal was increased 3 db to 20 microvolts, 40 of the 50 could now clearly identify the call letters.

In short, the threshold of sensitivity of the second receiver was considerably better than the threshold of sensitivity of the first (a Zenith top of the line).

You may wonder what all of this has to do with antennas. We will explain. You probably have had the experience of changing antennas at

one time or another; from a so-so antenna to a better antenna. And when you did so, you found that one or more channels were suddenly better on the new antenna. Chances are your new antenna had a few db more gain than the old antenna, and those extra few db were just enough to match with your receiver's sensitivity threshold, and give you seemingly a several hundred percent improvement on the channel(s) in question.

Remember every receiver has a built-in sensitivity threshold. In some receivers, this may be when a signal goes over 50 microvolts in level; in others it may be 30 microvolts (typically a good Zenith has such a threshold). On the Conrac AV-12E, for example, it is between 5 and 10 microvolts on low band, 10 and 15 microvolts on high band.

Also remember that every time you double the signal level to the receiver, you net 3 db. In other words, the signal level goes up 3 db, and the receiver then has twice as much signal as previously.

Three db is sort of a magic number with antenna stacking also. If you properly stack (or phase, or combine) two identical antennas of any type, you will gain from 2.5 to 3.0 db in additional signal level to the receiver. Stacking two antennas may easily put you above the threshold of sensitivity point for your receiver!

So if we have a single yagi antenna, with 11 db gain, and we stack a second identical yagi to the first one (and do it properly), we will then have 11 db plus 3 db, or 14 db antenna gain. Now if we then go ahead and add to our stacked (twin) array two more identical antennas, properly, we will gain another 3 db of gain; or 14 db plus 3 db = 17 db of gain.

Now knowing what the absolute threshold of a particular receiver is can be important; but very difficult to measure accurately, without a flock of test equipment. One way to find it is to pick some channel where you have a marginal fringe signal, and start increasing the size of your antenna system (ie. adding db's of gain) until you "find" the threshold (it will be apparent). If you know the actual GAIN of your antenna system (ie. can add up the db's of gain), you can then work backwards to determine the threshold fairly accurately.

Television receiver thresholds (which for the more technical member is a function of signal-plus-noise to noise ratio) vary all over the ballpark. Virtually every receiver built, operating to its original factory specifications (ie. all tubes/transistors are up to par, and the receiver is properly aligned - tuned), gets to its threshold by the time the signal levels reach 50 microvolts to the receiver proper. Most receivers bunch between 30 and 50 microvolts, except some of the very cheap portables. The 20-30 range is occupied by only a handful of the very best chassis produced (and all of these since the 1952-53 era) and those that fall under 20 are very rare indeed.

FM receivers are easier to spec (ie. determine threshold for) since virtually all manufacturers of FM tuners/receivers give claimed numbers for receiver quieting with a given amount of signal input. (A typical such claim will be 20 db of quieting for a 2 microvolt signal.) Any FM tuner manufacturer that does not give a quieting figure as related

to microvolts of signal input is probably too ashamed of his figures to want to quote them ... and the potential buyer should be leary of such a unit.

Unfortunately, there are two ways to 'quote' this type of specifications and one method is the 'right' way and the other is just plain 'misleading'. The right and proper way is to quote "signal plus noise to noise ratio" (abbreviated SN/N or S-N to N), and not "signal to noise ratio". If receiver A quotes 20 db of quieting for a 2 microvolt signal, signal plus noise to noise, while the second claims 20 db of quieting for 2 microvolts, signal to noise, the second manufacturer is both mis-leading and the producer of a decidedly inferior receiver. Two two units, side by side, will show the first to be many times more sensitive to weak signals than the second unit.

You are stuck with a fixed threshold point. You already have your receiver, and short of buying a new, better, receiver, there is not much you can do to improve the threshold.

Not much, except, change it!

- (A) Adding a better, bigger antenna won't change the threshold point. But it will put you closer to the threshold (or above it) by giving your receiver more signal to work with.
- (B) The threshold point in virtually all receivers is determined by the noise figure of the receiver's first amplifying stage. We won't go into this subject here this month, except to note that some very interesting strides have been made in this area in the past few months. I now have operating several 'devices' (pre-amplifiers) which are so superior to anything else now available (even in CATV equipment lines) that my Conrac receiver looks 'sick' by comparison!

So let's talk about antenna stacking. Everything noted here applies to FM as well as TV DX.

By doubling the total size of our antenna system, we will double the signal output voltage of the antenna system, at the same time doubling the signal input to the receiver; and gain 3 db system gain. And if we quadruple the size of our antenna system, we quadruple the antenna output voltage and quadruple the receiver input voltage; which is 6 db of additional system gain.

In stacking, or combining, antennas, we must follow the following rules, or we will end up with less than the 3 db gain (each time we double the antenna size). And if done improperly, we may even lose gain!

- (1) The antennas stacked or combined must be of identical construction.
- (2) The stacking or combining, done with wires or cables connecting the signal output of the two antennas together, must be done in such a way that each half of the system (ie. antenna plus inter-connecting cables going to the central joining place) are abso-

lutely identical. This means identical lengths, identical dressing of the cables in and around the antennas and mast, and identical positioning of the cables along the mast or framework that holds up the antennas.

- (3) The method chosen for combining the two antenna outputs together must be one which adds equally the two antenna voltages individually, and, which allows each antenna to maintain its own characteristic impedance (ie. 75 ohms or 300 ohms).

The best, most state-of-the-art method of accomplishing number (3) is the combiner method. This method utilizes a hybrid signal splitter (that is normally used to split a single signal input into two outputs) backwards; ie. so that rather than splitting an input into two equal outputs, it adds together two separate inputs into a single output. The device, the hybrid splitter, doesn't care whether it is connected up forwards or backwards ... it works equally well both ways.

A hybrid splitter is a 75 ohm device, which necessitates using 75 ohm coaxial cable for your system, as I will outline here. (The antennas discussed in the October Bulletin were also 75 ohm devices, so happily there are no matching problems involved here.)

There are many-many splitters on the market today. Some are two way splitters (ie. two outputs), others are four way splitters (ie. four outputs). Many of the cheaper units are designed for do-it-yourself operators. You are interested in obtaining a unit that meets or exceeds the following specifications:

- (A) Type of Unit - Must be a hybrid design device
- (B) Housing - It should be designed FOR outdoor (weatherproof) use. If it is not, you will have to provide a housing for it to keep moisture, dirt, etc. out of it. This can be done by mounting it inside of an upside-down coffee can, etc.
- (C) Impedance - 75 ohms input and output
- (D) Splitter Loss - Not more than 3.5 db for a two-way device;
Not over 6.5 db for a four-way device
- (E) Frequency Range - At least VHF channels 2-13 for a VHF system;
VHF plus UHF for a UHF system
- (F) Connectors - Type 'F' (for RG-59/U cable) preferred
- (G) Isolation - 14 db minimum, 20 db preferable

The physical space (measured in inches) between the antennas is equally important. This distance is a function of the antenna's size (ie. number of elements) and the frequency (ie. channel). This is not a super-critical measurement, but being accurate to within an inch or so is important.

Antennas can be stacked vertically (ie. one above the other(s)) or horizontally (ie. side by side). The db gain is the same in either

configuration. However, the effective gain for a particular type of reception may be greater in one configuration than the other.

When you stack antennas vertically, one on top of another, your antenna directivity (ie. front pattern, front to side ratio and front to back ratio) stays the same with two or more antennas as it was for a single antenna alone. However, the more antennas you stack vertically, the more your antenna gain is concentrated down close to or on the horizon. (A single antenna receives equally well signals that come to the antenna from about ten degrees above the horizon down to the horizon.) A two-stack array (dual antennas) concentrates its receiving power between 7 degrees above the horizon and the horizon. A four stack array, vertically, concentrates its receiving power between 5 degrees above the horizon, and the horizon.

So to concentrate your antenna's gain down close to the horizon, where tropo and ground wave comes from, vertical stacking is the answer.

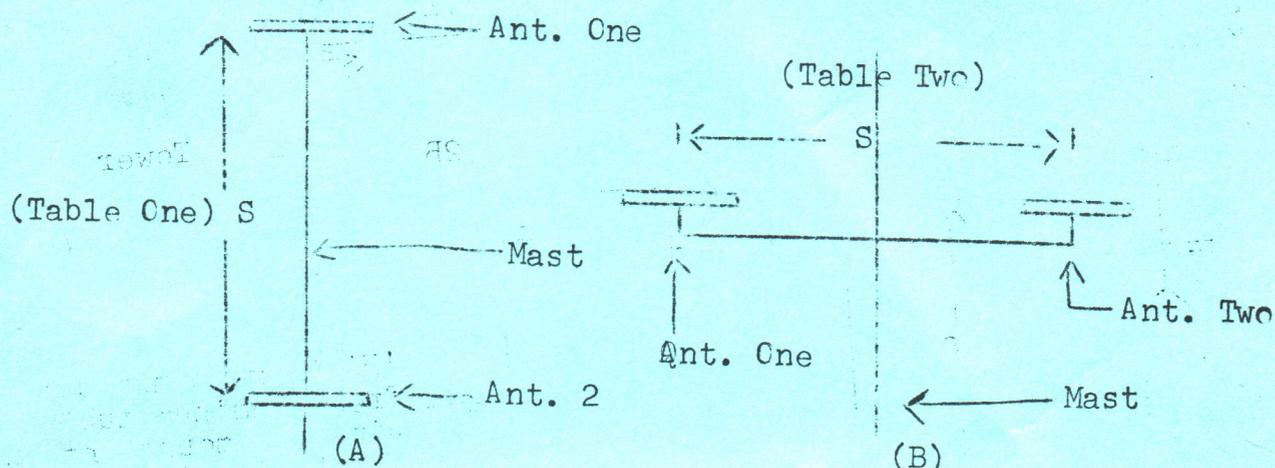
Horizontal (side by side) stacking sharpens up the antenna's frontal pattern. A typical antenna that has a 22 degree wide front lobe or pattern, will become a 15 degree wide pattern when two identical antennas are stacked side by side (properly). Four antennas, horizontally stacked, will net approximately a 10 degree wide pattern. While you are narrowing the front pattern (ie. making a sharper antenna pattern), you are also increasing the front to side ratio of the antenna system, and changing the minor lobes around the antenna somewhat. The front to back pattern remains essentially the same as with a single antenna however.

Horizontal stacking is best for greater directivity, but it leaves your antenna quite receptive to higher angle reception, just as with a single antenna (not stacked); and this means E skip reception is not degraded.

Finally, although vertical stacking does lower your antenna's front receiving angle (see above), this does not necessarily mean it is bad for E skip (which comes to your receiving location at some angle above the horizon.) The shorter the skip distance, the higher the angle of the incoming wave. A dual stack antenna that favors 0 degrees to 7 degrees above the horizon effectively discriminates against signals that come in from say ten degrees above the horizon. A four stack array that concentrates its power down in the 0 to 5 degree region discriminates against anything approaching the antenna system from more than 5 degrees. So a four stack array then becomes a very effective antenna for long single hop E skip. This is because the longer the hop or skip distance covered, the lower the angle of approach of the received wave front. Whereas a single antenna may bring you your most frequent reception (via Es) from stations 900-1,000 miles distant, you will often find a dual stacked array makes the 1100-1300 milers the most frequent received. And a quad (four) stack array makes the 1200-1500 milers the most frequent received. The closer stations are effectively discriminated against by the antenna system. So the DX'er who finds reception distance gaps in his log may be wise to change his antenna system before the next summer E season; to design a system that favors stations at the distances he is lacking in.

And what is true with E skip is identical for meteor scatter. You can improve your receiving situation by designing your antenna system to be the most effective for the distances you happen to be most interested in.

Diagram One, below, shows typical stacking situations for a dual stack (vertical) and a dual stack (horizontal); A and B respectively.



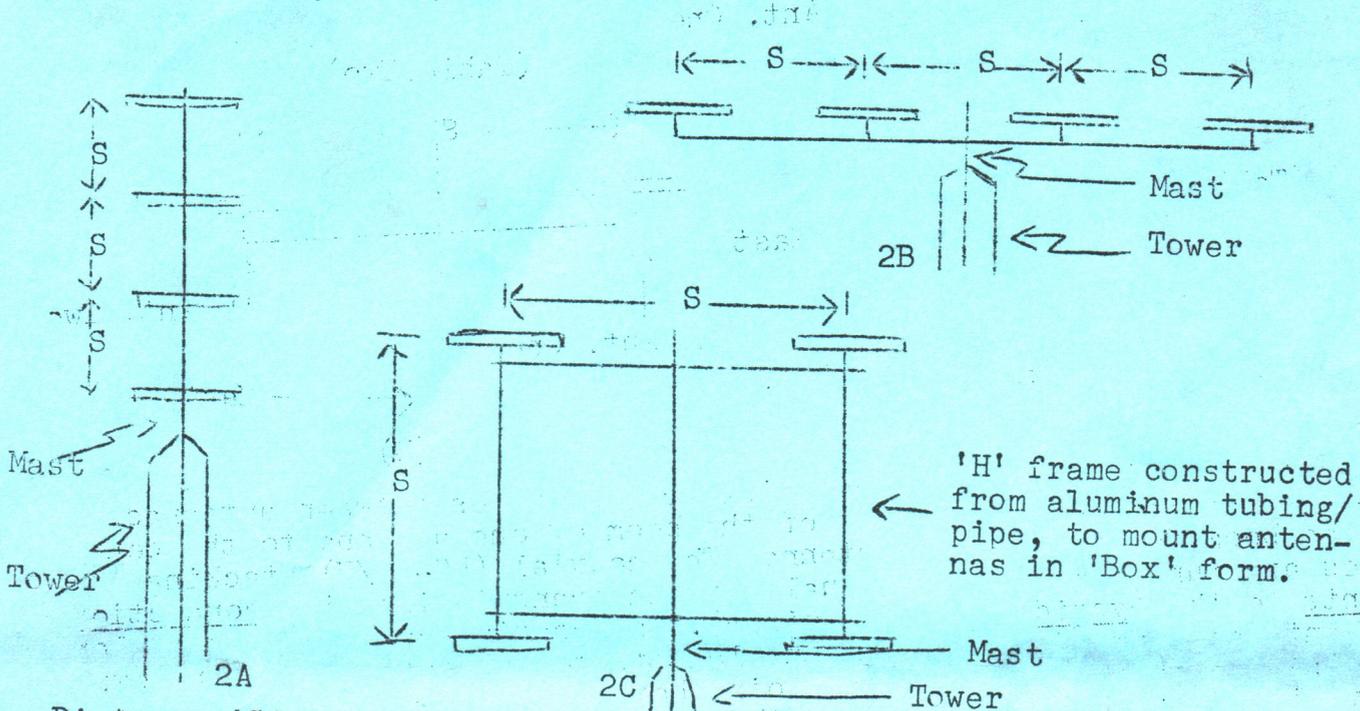
Distance 'S' is the physical distance in inches between antennas. Also, measured from the center of the boom of one antenna to the center of the boom for the second antenna. The coaxial (RG-59/U) stacking lines are run from the individual antenna transmission line connection points to the hybrid combiner (mixer). The coaxial cable is taped along the antenna booms from the driven elements to the mast, and then down (or up) the mast to the central point between the two antennas. There they plug into the hybrid mixer. The cable should run on the opposite side of the antenna boom as the elements mount on (ie. do NCT drape the cable over, through or around the elements of the antenna) and be rigidly taped into position with Scotch Number 33 tape or an equal. All connections between the coaxial cables and the antenna(s) should be prepared with solder lugs, mounted under the transmission line attachment nuts and between two washers. Finally, coat all transmission line connections to the antennas with General Electric G-625 INSULGREASE or an equivalent outdoor insulating (weather protection) material.

The length of the two coaxial lines, from antenna to the hybrid mixer, must be exactly equal, down to the nearest 1/10th of an inch. This includes the solder lugs on one end and the coaxial fitting on the opposite end. HOW LONG is not important - make them just long enough to get from one point (the antenna) to the other point (the hybrid mixer, centrally located between the antennas on the mast).

Stacking four antennas can be accomplished in three different ways. We can stack them four high (vertically), four wide (horizontally) or two high by two wide (so-called box array). We have already discussed four high and four wide. The two high by two wide approach is a combination of the two. This sharpens up the front antenna pattern (directivity) just as two wide would, and it also sharpens up the vertical (horizon to X degrees above the horizon) pattern just

as two high would do. In short, you end up with a pattern that is 0 to 7 degrees above the horizon high by 17 degrees wide. With slightly improved front to side ratios.

Diagram Two, below, illustrates four high (2-A), four wide (2QB) and the box array (2-C).



'H' frame constructed from aluminum tubing/pipe, to mount antennas in 'Box' form.

Distance 'S' is again the distance between antennas. Now we use a four way hybrid mixer because we have four antennas to combine. The mixer should be mounted in a central location, and all connecting cables from antennas to the mixer once again exactly the same length. The two closest antennas will have excess cable, and this should be coiled neatly and taped to the support mast close to the hybrid mixer; not at or near the antenna(s). Vertical stacking distances are now given below.

TABLE ONE - DISTANCE 'S' (Stacking Distance):

Channel No.	Up to 5 Elements, low band Up to 7 Elements, high band	6-More Elements 8 - More Elements
2	145 inches	228 inches
3	132 inches	206 inches
4	121 inches	190 inches
5	105 inches	165 inches
6	98 inches	154 inches
FM	84 inches	132 inches
7	46 inches	72 inches
8	45 inches	70 inches
9	44 inches	68 inches
10	42 inches	66 inches
11	41 inches	64 inches
12	40 inches	63 inches
13	39 inches	62 inches

For horizontal (side by side) stacking, Table Two provides distance

'S' for antenna stacking. In both Tables One and Two, the far right hand column (the greater Distance 'S' dimensions) is for larger antennas of 6 or more elements on low band or 8 or more elements on high band, following the antenna building instructions appearing in the October issue of BCB'S TECK NOTES, in the bulletin.

Channel No.	Up to 5 Elements, low band	6-More Low Band (FM)
	Up to 7 Elements, high band	8-More High Band
2	208 inches	250 inches
3	188 inches	225 inches
4	172 inches	206 inches
5	150 inches	180 inches
6	140 inches	168 inches
FM	120 inches	144 inches
7	66 inches	79 inches
8	64 inches	77 inches
9	62 inches	74 inches
10	60 inches	72 inches
11	58 inches	70 inches
12	57 inches	68 inches
13	56 inches	67 inches

Low band antennas (5 or fewer, 6 or more) element columns include FM antennas of the same number of elements in each table. FM dimensions are for 100 MHz, which means reasonably good performance from 92 to 108 MHz, with some roll-off in performance (1 db or so) at both extremes (92 and 108).

The 'Box' array (two high by two wide) simply consists of a combination of the two tables; vertical distance from table 1, horizontal distance from table two.

Mounting On Tower Sides

For fixed (ie. non-rotatable) antenna arrays that mount on one or both sides of a steel tower, special care must be taken to keep the antennas a minimum distance away from the tower face(s). If you have or anticipate such fixed arrays, write to me directly for these dimensions.

This concludes our special series on Rolling Your Own Antennas, which has been a 'mini' series within the METEOR SCATTER CONCEPT series.

Random Meteorite Table - October Bulletin

The full-year random meteorite 'Rate of Occurrence' table appearing in the October BCB'S TECK NOTES is proving of considerable assistance to this DX'er. It is apparently not 100 percent accurate, but it is considerably more accurate than any similar data I have ever stumbled across. I am finding some random mornings where the MS burst count is higher than the table would 'predict', but few if any mornings where it is lower than the table would indicate. There is no way that I can regularly check MS counts every morning (a couple days a week is about average), and I am interested in hearing directly from others who do regular early morning MS work; low band, FM or high band.

*
* THE PROPAGATION 'WAND' A Summary of Predicted DX
* Conditions December 1 to
* January 15

On a 'trial' basis the BULLETIN will provide, monthly, a summary of likely predicted TV and FM DXing conditions for the coming six week period.

No data exists which will accurately allow the prediction of specific GQDD dates for E-Skip, tropo DX or auroral skip weeks and months in advance. However, past experience can suggest the type of DX that is likely, and the odds of there being unusual conditions favorable to DX during any given period.

Meteor DXing is readily predictable (A special feature detailing this subject will appear in the January 1970 BULLETIN) and meteor shower data listed here should be heeded.

Winter Es Season

Traditionally, the winter E skip 'season' gets underway over the southern portion of the United States around December 1-7. Approximately 10 percent of the days between December 1 and January 15th should produce some E skip DX for DX'ers south of a line from Washington, D:C. to San Francisco. The bulk of the openings observed will occur between 1500 (3 PM) local time and 2000 (8 PM). Channels 2-4 most likely.

Tropo (Ground Wave)

Keep an eye on your local TV weather forecasts. Almost mandatory to produce tropo DX this time of year is a strong, moist warm front moving north into the states out of the Gulf. A slow moving warm front, with FOG or low level moist clouds is most helpful. A combination of extensive ground fog (covering a large area) and quiet (non-violent) weather are the key ingredients for tropo this time of year.

Auroral Skip

This period of the year is NOT usually frequented by strong auroral displays. If one occurs, and you are located north of a line from New York City to Portland, Oregon, watch channels 2-6 between 1900 (7 PM) and 0000 (midnight) for Es type signals coming from east or west of your location. Skip paths of up to 2,000 miles have been reported.

Meteor Showers

December is one of the finest MS DXing periods of the year. December 10-14 is the Geminids Shower which produces MS DX over NW to SE paths 2130-2300; over north/south paths around 0030 and 0330; and SW to NE paths 0500-0630. Peak date is December 12th but 13th is also good. December 22 is the annual Ursids Shower, peaking between 0130 and 1530 on east/west paths (only). Above average random meteor mornings will be December 3,7,10,14,23 and 27.

January 3-5 is the annual Quadrantids Shower. This peaks 0300-0800 for NW to SE; 0800-0900 for east to west and 0900-1400 for SW to NE. This is a very good shower usually peaking on the 4th, 0900-1400. Early January good random morning MS dates are January 2,3,9 and 12.

-end-

MEMBERSHIP LIST OF W.T.F.D.A. (AS OF 15 FEBRUARY, 1970):

LARRY E. ADDISON, 150 RICKARD ROAD, FRIDLEY, (MINNEAPOLIS), MINNESOTA 55432
 PERRY ALLEN, COUNTY GENERAL HOSPITAL, WARD G2, P.O. Box #1, HOWARD, R.I. 02834.....K1ZHA
 ROBERT AST MANN, 191 LOUVAIN DRIVE, KENMORE, (BUFFALO), NY 14223
 RON AZARKIEWICZ, 8453 So. HERMITAGE AVE., CHICAGO, ILLINOIS 60620WA9RHU
 W. JOSEPH BACKARD, SWEET HILL ROAD, PLAISTOW, NH 03865.....W1PBT
 ROY BARSTOW, 247 FAIRMOUNT AVE., HYDE PARK, MASS. 02136
 RICHARD BARTH, 51 LINN DRIVE, VERONA, NJ 07044
 CHARLES L. BATSON, 10453 MEDINA ROAD, RICHMOND, VA 23235
 RAYMOND M. BELL, 413 BURTON AVE., WASHINGTON, PA 15301
 WILLIAM H. BENS, 5575 SPRUCE WOOD DRIVE, CINCINNATI, OHIO 45239
 BALDO F. BISHOP, Box 1678, TALLAHASSEE, FLORIDA 32302
 JOSEPH E. BRADLEY, Box 263, MOUNT VERNON, GEORGIA 30445
 DAVE BRIGHT, 1804 MULBERRY, MUSCATINE, IOWA 52761
 TREVOR BROOK, SAXONHOLME, ORESTAN LANE, EFFINGHAM, LEATHERHEAD, SURREY, ENGLAND...G3WBQ
 BEDFORD P. BROWN, JR., 33 E. CEDAR ST., APT. 19F, CHICAGO, ILLINOIS 60611
 ROGER BROWN, 624 EVERGREEN AVE., EAST LANSING, MICHIGAN 48823
 TOMMY BUCHANAN, 418 CASHUA ST., DARLINGTON, S.C. 29532
 ROGER BUNNEY, TRELAWNE, CUPERNHAM LANE, ROMSEY, HANTS, S05 8JH, ENGLAND
 MICHAEL BUGAJ, 197 BOSTON ROAD, MIDDLETOWN, CONN. 06457
 H. ROBERT BUNDY, Box 114, TRUK DISTRICT, EAST CAROLINE ISLANDS 96942
 HERBERT CAMPBELL, Box 35, R.D. #2, ATHENS, PENNA. 18810
 JOHN F. CAMPION, 107 GILLESPIE AVE., GILLESPIE, ILLINOIS 62033
 PAUL CICERI, 750 CHAMPLAIN AVE., WINDSOR, ONTARIO 21
 RICHARD K. CLARK, 4110 BAYVIEW DRIVE, FORT LAUDERDALE, FLORIDA 33308.....KRP3532
 JOHN COKER, Box 3131, WEST GLEN P.O., PEORIA, ILLINOIS 61614
 HAROLD COOPER, JR., 29800 ANN ARBOR TRAIL, WESTLAND, MICHIGAN 48185
 KENNETH B. COOPER, 136 E. PERALTA WAY, FRESNO, CALIFORNIA 93705
 ROBERT B. COOPER, JR., 6221 NORMAN ROAD, OKLAHOMA CITY, OKLAHOMA 73122.....W5KHT
 DAVID S. COX, Box 16, CARROLLTON, ALABAMA 35447
 RICHARD J. DANIELS, 3125 SOMERSET DRIVE, CLEVELAND, OHIO 44122
 MARION L. DANNELS 3, 5404 MATHEWS ROAD, APT. 5, MIDDLETON, WISCONSIN 53562
 DEINTON T. DAY, 22 CROSS ST., WESTERLEY, R.I. 02891
 LARRY DEE (EASTER), 2426 W. 7TH ST., WATERLOO, IOWA 50702
 ERIC DELORENZO, 35 SYLVAN DRIVE, HYANNIS, MASS. 02601
 CHARLES A. DOBBINS, 12851 LONGACRE, DETROIT, MICHIGAN 48227
 FERDINAND S. DOMBROWSKI, JR., 1311 W. MADISON ST., APT. 11, (Box 5001), MILWAUKEE, WIS. 53204
 DAVID DONAGHUE, 148 HILLCREST LANE, ELYRIA, OHIO 44035
 MICHAEL DONOCK, 2921 BRINKLEY ROAD, OXON HILL, (WASHINGTON), MARYLAND 20031
 WILLIAM J. DRAEB, ELLIS ST., R.R. #2, KEWAUNEE, WISCONSIN 54216.....K9HJN
 LEON DUFFIN, 247 KINGS HIGHWAY WEST, HADDONFIELD, N.J. 08033.....W2ORA
 JOHN DEMMING, DE SURMONTSTRAAT 42, AMSTELVEEN, HOLLAND
 ERIC DOLCI, VIA PALEOCAPA 6, 24100 BERGAMO, ITALY
 ERIC D. DUNKESON, 421 S. RUSSELL ST., ODESSA, MO 64076
 ERIC DYCKMAN, 114 BONSALL AVE., CHESTER, PENNA. 19014.....WA3KFT
 ERIC ELLER, 327 SCLAR DRIVE, SAN ANTONIO, TEXAS 78227.....WA51YX
 ERIC ERLING, 9209 VINCENT AVENUE, SOUTH, BLOOMINGTON, MINNESOTA 55431
 ERIC EDKBERG, RR #2, WALNUT, ILLINOIS 61376
 ERIC EDDY, Box 123, NEWPORT, OHIO 45768
 ERIC ELLER, 1925 E. BOWMAN ST., SOUTH BEND, INDIANA 46613
 ERIC ELLER, 522 No. 12^{1/2} AVENUE, EA ST, DULUTH, MINNESOTA 55805
 ERIC FAIT, 346 WALWORTH DRIVE, CLEVELAND, OHIO 44132
 ERIC FEJA, JR., 150 ROBERT PLACE, SOUTH PLAINFIELD, N.J. 07080
 ERIC F. FERRELL, (EDITOR, POPULAR ELECTRONICS), ONE PARK AVENUE, NEW YORK, N.Y. 10016
 ERIC FLOWER, 419 WABASH ST., MILAN, MICHIGAN 48160
 ERIC FLETCHER, WESRING 59/03, DDR-285 PARCHIM, EAST GERMANY
 ERIC GALLAGHER, P.O. Box 421, IPSWICH, MASS. 01938
 ERIC GARFIELD, 53 GLENWOOD ROAD, TENAFLY, N.J. 07670
 ERIC G. GLENN, 634 So. BEDFORD ST., CARLISLE, PENNA. 17013
 ERIC GLENN, 6120 No. WOLCOTT AVE., CHICAGO, ILLINOIS 60626
 ERIC S. GOLDMAN, 8046 So. EUCLID AVE., CHICAGO, ILLINOIS 60617.....WA9RAQ
 ERIC GRACE, P.O. Box 309, FRANKLIN, TEXAS 77856
 ERIC GRANT, 16 GOULDING ST., WORCESTER, MASS. 01609

DAVID T. JANOWIAK, 3661 So. 46th Street, Greenfield, (MILWAUKEE), WISCONSIN 53220
 JEFFREY M. KADET, 8047 Park Overlook Drive, Bethesda, (WASHINGTON), MARYLAND 20034
 DAN KNEPPER, 1318 Potomac Drive, Toledo, Ohio 43607
 ALBERT J. KOPEC, R.D. #1, Himrod, N.Y. 14842
 MARK J. KOZLOWSKI, 306 Riverside Avenue, Buffalo, N.Y. 14207
 PETER KURAN, 173 Farley Avenue, Fanwood, N.J. 07023
 THOMAS W. LEU, 6653 No. Oketo, Chicago, Illinois 60631.....K9EFU
 MARK LEWIS, 224 Honiton Street, Downsview 475, Ontario
 BILL LIPIS, Box 325, El Cajon, California 92022
 DAVID J. LONG, 66 Beattie Avenue, Lockport, N.Y. 14094.....KCV4672
 RODERICK LUOMA, 15437 Asbury Park, Detroit, Michigan 48227
 ROBERT MALLORY, 9159 E. Gorman Road, Blissfield, Michigan 49228.....K8WXW
 TOM MANN, 7704 49th Avenue, Kenosha, Wisconsin 53140
 AMBROSE MAXIM, 23 Lambert St., Winthrop, Maine 04364
 FRED MCCORMACK, Des Lacs, No. Dakota 58733
 ROBERT MCCOY, 142 McReynolds St., Dayton, Ohio 45403
 BILL MENKE, 923 E. State, Ithaca, N.Y. 14850.....K2SUC
 FRANK MERRILL, JR., 10673 Saline-Milan Road, Milan, Michigan 48160
 BRUCE METZNER, 733 Huron Hill, Madison, Wisconsin 53711
 BILL MIGLEY, 210 So. Maple St., Lancaster, Ohio 43130
 RANDALL J. MILLER, 4017 So. Hodges St., Lake Charles, Louisiana 70601
 RANDY MILTIER, 882 Pine Avenue, San Jose, California 95125
 JAMES E. MITCHELL, 2007 Washington Ave., Fredericksburg, Virginia 22401
 GIL W. MORGAN, 13271 Lucille St., Garden Grove, California 92641
 KENNETH L. MOSES, Box 248, Newton, N.C. 28658
 LANCE C. MULLER, 8895 Halsted Street, San Diego, California 92123
 FREDERIC J. NORDQUIST, 302 Sandra Lane, North Syracuse, N.Y. 13212
 MICHAEL B. NORTHAM, Box 1122, Lake Grove, Oregon 97034
 GARY A. OLSON, 1203 Kenton Road, Deerfield, Illinois 60015
 JOHN OPYD, 956 W. 119th Street, Chicago, Illinois 60643
 JOHN PARILO, 400 So. Market St., Girard, Ohio 44420
 EDWARD V. PELISSIER, Route #3, Box 415, Hermiston, Oregon 97838
 ALBERT J. PHILLIPS, 1260 Orange Avenue, Union, N.J. 07083
 JAMES N. PIZZI, 3817 Angeles Road, Santa Maria, California 93454
 WAYNE V. PLUNKETT, 124 John St., Weston 492, Ontario
 C. DAVE POMEROY, 3516 Lansdowne Drive, Apt. B, Lexington, KY 40503
 E. M. PORTER, Bowling Green, MissouriW/LFE
 KEITH POWERS, 3434 No. Ripon Place, Milwaukee, Wisconsin 53222
 GERALD PULICE, 143 Gibson Avenue, Staten Island, N.Y. 10308
 JOHN N. RAMSEY, 22 Waterside Lane, West Hartford, Conn. 06107
 WILLIAM R. RATLIFF, JR., North Third Street, New Freedom, Penna. 17349.....WA3B1B
 J. JOEL ROSENBERG, 47 Pannahill Road, Downsview 475, Ontario
 JOHN ROUSE, Box 205, Wallingford, Conn. 06492
 PAUL RUGINIS, R.R. #1, Box 121, Ashland, Penna. 17921
 DON RULAND, 3219 Burnside Drive, San Antonio, Texas 78209
 ABDUL REHMAN, %RAJASTHAN INDUSTRIES, Industrial Estate Falna, Rajasthan, India
 STANLEY SAVAGE, 101 No. Ladera Vista Drive, Fullerton, California 92631
 HAL SCHROCK, R.R. #1, Paxton, Illinois 60957.....W9QWM
 ROBERT SEYBOLD, Bennett Road, R.D. #2, Dunkirk, N.Y. 14028
 DAVID SHAPIRO, 1812A Hillsdale Road, Lynchburg, Virginia 24501
 DENNIS SMITH, 321 Santa Barbara St., Santa Barbara, California 93101
 GEORGE W. SPACHMAN, 1649 W. Greenleaf, Chicago, Illinois 60626
 RICHARD D. STEIN, 456 Barrymore Place, North Brunswick, N.J. 08902
 JAMES G. STODDART, 8143 Linden Ave., Munster, Indiana 46321
 DAVID SWANSON, Box 131, Romulus, N.Y. 14541
 SHELDON J. SWARTZ, Box 45, Sharon, Mass. 02067
 RINALDO SWAYNE, 9500 Baird Avenue, Los Angeles, California 90002
 W. E. TABB, JR., 2142 Miami Road, Euclid (Cleveland), Ohio 44117
 J. P. TAYLOR, 3222A No. Julia, Milwaukee, Wisconsin 53212.....(MARS NAVY N0VWH; K9 ZYS).
 KIPP G. TAYLOR, 23 Waterside Lane, West Hartford, Conn. 06107
 RAY TERLAGA, 20 Fifth Street, Ansonia, Conn. 06401
 RICHARD L. TIDBERG, Box 119A, Rt. #2, Winnebago, Illinois 61088.....WA9UDQ
 PAUL D. TRASKA, 64 Weaver Avenue, Buffalo, N.Y. 14206
 BOB T. TUCKER, 14100 Waterrock Avenue, La Mirada, California 90638.....K6U7B

VHF RADIO column

FERDINAND S. DOMBROWSKI
1311 W. MADISON ST., APT. 11
MILWAUKEE, WIS. 53204

WE RAN OUT OF SPACE LAST MONTH OR WOULD HAVE HAD A LONGER COLUMN. SO WE NOW CONTINUE.

ROGER BUNNEY REPORTS THAT HE IS USING A NEW PAGING STATION RECEIVER. HE MADE A CONVERTER WITH AN OUTPUT OF 5MHZ TO FEED INTO HIS COMMUNICATIONS RECEIVER, TUNED OF COURSE TO 5 MHZ. THIS WILL WORK WITH ANY SW RECEIVER OF COURSE, BUT THE RESULTS WILL BE LESS THAN SATISFACTORY WITH AN INEXPENSIVE RCVR LIKE MOST OF US HAVE.

THE ALLIED A-2586 PORTABLE RCVR MENTIONED LAST MONTH SELLS FOR \$15-18 CURRENTLY AND IS A GOOD DEAL FOR OUR AMERICAN DXERS WHO WISH TO TRY THEIR HAND AT DXING THE 27-50 MHZ BAND. I FOUND SELECTIVITY BETTER THAN ON MY ALLIED A-2589 WHICH COSTS \$60 OR 80! ALLIED IS PRONE TO PRICE-CUTTING AT TIMES, DURING THEIR SALES, SO WATCH WHAT YOU PAY.

I DIDN'T HAVE ROOM LAST MONTH FOR BILL HEUSMANN'S LENGTHY REPORT SO HERE GOES. BILL USES A REGENCY MR33 MONITOR WITH DIPOLE ROUGHLY CUT TO THE MIDDLE OF THE BAND. HIGHLIGHTS OF HIS OCTOBER DX ARE: MUF UP TO 42.1 MHZ AND POSSIBLY HIGHER WITH SPANISH-SPEAKING POLICE KILLING THE LOCAL DES MOINES AREA POLICE, ALL THIS ON OCTOBER 2ND. OCT. 5TH WAS A PRETTY GOOD DAY WITH WILKES-BARRE KGC397 (LISTED AS MOUNTAIN TOP, PA ON OUR MAY VUD LIST); BILL NOTES THE ID SOUNDED LIKE HOOKSBURY OR BROOKSBURY FOR QUITE AWHILE UNTIL HE FINALLY DECIPHERED IT AS WILKES-BARRE. (I KNOW AT LEAST 2 OTHER PEOPLE WHO THOUGHT IT WAS HOOKSBURY SO YOU'RE NOT ALONE, BILL.) ALSO ON THE 5TH HE GOT CONCORD, NH ON A, SCRANTON ON B, AND NEW YORK CITY ON D.

ON OCT. 6, BILL HAD AN MUF UP TO 37.1 MHZ WITH SPANISH POLICE, AND A RADIO HAVANA HARMONIC ON 30.3 MHZ WITH IS AND ANTHEM. ON THE 11TH HE HAD ORLANDO AND TENTATIVE MIAMI ON D. ON THE 15TH HE HAD NEW WEAK STATION ON B, HONOLULU. ON THE 17TH, ORLANDO, MIAMI AND HONOLULU, AND SOME UNIDED CW; 10 METERS WIDE OPEN TO CALIFORNIA. ON THE 18TH BILL NOTED FRENCH ON 31.9 AND 33.7 MHZ, AND ORLANDO. ON THE 19TH, SPANISH 2-WAY STNS WERE HEARD AS HIGH AS 40.7 MHZ, AND HONOLULU WAS IN AGAIN.

KEY:

A=35.22 MHz.

B 35.58MHz.

C=43.22 MHz.

D=43.58 MHz.

I HAVE OMITTED MENTION OF SAN JAUN, PUERTO RICO WHICH IS SO COMMON HERE IN THE MIDWEST THAT ITS HARDLY WORTH MENTIONING. ITS IN VIRTUALLY EVERY DAY, OFTEN WHEN NOTHING ELSE IS HEARD AT ALL. THIS IS THE SAME SITUATION IN DES MOINES, CHICAGO-STEGER, MILW.

BILL WONDERS IS ORLANDO MIGHT BE F2 RATHER THAN Es. JUDGING FROM Es CX THIS WINTER (NIL) I'D SAY ITS F2. ORLANDO WAS HEARD IN MILW OFTEN DURING THE SUMMER ON Es BUT I HAVE YET TO HEAR IT THIS WINTER WHEN SKIP IS IN, E OR F2. I HAD ONE Es OPENING WHICH BROUGHT IN NORFOLK AND PITTSBURGH, BUT NOT MUCH ELSE. BILL NOTES THE PRESENCE OF FRENCH AUDIO INDICATES EUROPE IS IN, BUT I DISAGREE. FRANCE ISN'T THE ONLY COUNTRY WHERE THE LANGUAGE IS SPOKEN. ROGER BUNNEY AND I NOTED LAST WINTER THAT WE HEARD FRENCH ON THE SAME FREQUENCIES AND HIS WAS CERTAINLY NOT FROM FRANCE. FRENCH CANADA, SOME WEST INDIES ISLANDS, AND NUMEROUS OTHER FRECH COLONIES AND EX-COLONIES AROUND THE WORLD ARE POSSIBILITIES. ROGER BELIEVED HIS DX TO BE FROM AFRICA, AND OURS MAY BE THE WEST INDIES OR AFRICA, OR EVEN CANADA ALTHO THATS RATHER SHORT FOR F2 SKIP.

THOSE OF YOU DXING THE PAGING STATIONS HAVE NO DOUBT NOTICED GREAT DISCREPANCIES FROM THE LIST WE PUBLISHED IN 2 VUDS EARLIER THIS YEAR. YOU HAVE ALSO HAD PROBLEMS ID-ING SOME STATIONS WHICH ARE LESS THAN CLEAR IN THEIR AUDIBILITY. I STARTED SOME TIME AGO, FOR MY OWN LOG, TO TRY TO ALLEVIATE THE SITUATION IN 2 WAYS: I MADE UP NEW STATION LISTS ARRANGED BY FREQUENCY AND BY THE NUMBERS IN THE STATIONS' CALLS. THE CALL LETTERS CAN BE EASILY MISUNDERSTOOD, BUT THE NUMBERS ARE NOT. THE PURPOSE OF ARRANGING BY FREQUENCY IS QUITE OBVIOUS.

ANOTHER METHOD I USE TO HELP ID IS TO WRITE OUT VERBATIM THE STATION IDs, WHICH CAN BE QUITE MISLEADING IF YOU STICK STRICTLY TO THE FCC'S PUBLISHED LIST OF LICENSEES. SINCE MANY STATIONS ARE HEARD MOSTLY WHEN THEY HAVE NO MESSAGES AND THEREFORE ID TO THAT EFFECT, AND SINCE THE LICENSEE CITY IS OFTEN A SMALL SUBURB OF THE LARGE CITY NEAR IT, I ALSO LOOKED UP ALL THESE SMALL TOWNS--AND COULDN'T FIND SOME OF THEM. THE MAY VUD LIST HAD NO MENTION OF PITTSBURGH, BUT I HAVE HEARD PITTSBURGH ON 2 FREQUENCIES. BILL FOUND OUT THAT MOUNTAIN TOP IDs AS WILKES-B., AND WE HAVE HEARD TABLE ROCK ID AS BOISE, HATO REY AS SAN JUAN, PEMBROKE AS CONCORD, WEST SPRINGFIELD AS "THE AIRPHONE COMPANY". I WUD APPRECIATE KNOWING WHERE THE FOLLOWING ARE, PLEASE: MURRAY LAKE AND PT. LOMA, CALIF.; NISKAYUNA, NY; TANNERY KNOB, TENN.; COONS PEAK, UTAH. NISKAYUNA IS THE ONLY ONE WITH A ZIP CODE AND THAT INDICATES IT IS NEAR SCHENECTADY, BUT THE OTHERS I CAN'T FIND ANYWHERE.

EUROPEAN DX

ROGER BUNNEY
TRELAWNE, CUPERNHAM LANE
ROMSEY, HANTS, SO5 8JH, ENGLAND

THE SUNSPOT COUNT FOR OCTOBER:
LOW 38 HIGH 142 AVERAGE 89.9

THE 23RD THRU 28TH WERE ALL OVER 120.

PREDICTIONS FOR THE COMING MONTHS ARE FOR CONTINUALLY DECREASING COUNTS, BUT THIS IS NATURAL SINCE THE PEAK IS PAST.

THE PERIOD UNDER REVIEW THIS MONTH, MID-OCTOBER TO MID-NOVEMBER, HAS PRODUCED VARIED CONDITIONS IN THE UK. SPORADIC E HAS BEEN FOR ALL PRACTICAL PURPOSES NIL. THERE HAVE BEEN THE ODD SHORT-DURATION E-TYPE SIGNALS UP TO 1 MINUTE TO SPAIN, AND ON 8 NOV AT 0745 A LONG-DURATION SIGNAL FROM SUSPECTED USSR 01. THE MAIN RECEPTION OF THE PAST FEW WEEKS, THAT LATTER PART OF OCTOBER, WAS TROPS. A SERIES OF HI PRESSURE AREAS EXISTED FOR MANY DAYS, BRINGING FOG--VERY THICK AT TIMES. DESPITE THE HI PRESS

URE, TROPS DIDN'T OPEN INTO ANY FANTASTIC OPENINGS. WHAT DID OCCUR WAS DUCTING, MAINLY LOCALIZED FROM DIFFERENT AREAS. BOTH MYSELF AND CHARLEY RAFAREL LOGGED RIGI, SWITZERLAND ON E6 ON 28 OCT AT 0730 GMT. THE SIGNAL WAS WEAK AND VERY SLOW FADING, BUT IS ONLY 30KW, IN CENTRAL SWITZERLAND, ON LAKE LUCERNE. A DIFFICULT PATH FOLLOWS THE ALPS & A LONG PATH OVER NE FRANCE. THE ONLY OTHER STATION SEEN AT THE TIME WAS A WEST GERMAN ON E9 IN AN OTHERWISE COMPLETELY DEAD BAND 3 (USA HI VHF BAND). THE PREVIOUS EVENING HAD OPENED TO BRING GOOD SIGNALS FROM WEST GERMANY ON E8, E9, AND E10. TWO METER REPORTS OF AMATEUR ACTIVITY ALSO NOTED THE SAME SELECTIVE DUCTING EFFECTS. ANOTHER TV 'FIRST' OCCURRED ON 19 OCT WHEN DXER D. WALLER IN COMSETT, COUNTY DURHAM LOGGED POLISH R3 FROM BELIEVED KOSZALIN ON THE BALTIC CARRYING TEST CARD, ID CAPTION, AND PROGRAMMING UNTIL HIS LOCAL STATION CAME ON THE AIR AND OBLITERATED POLAND AT 0820 GMT. THE DX HAD STARTED AT 0635, AND THE DISTANCE WAS ABOUT 770 MILES. OVER THIS PERIOD, UHF WAS GOOD FOR MANY DAYS FOR THOSE LIVING IN FAVOURABLE LOCATIONS.

METEOR SHOWER RECEPTION GAVE SEVERAL GOOD SPELLS OF BURSTS FROM TAURIDS. THE MAIN RECEPTION OF NOTE OVER HERE DURING THE MONTH WAS F2 TOWARD THE END OF OCTOBER, HOWEVER.

PAGING ACTIVITY WAS FIRST NOTED ON 19 OCT AT 1555 WITH HOUSTON KK1445, ORLANDO KIY508, SCRANTON KGC400, ALLENTOWN KGC266, AND A SPANISH PAGER ON 35.22 MHZ AT 1645-50. (FERDIE'S NOTE: THIS IS SAN JUAN, PUERTO RICO). 24-25 OCTOBER BROUGHT CONTINUED ACTIVITY WITH HIWAY PATROL TYPE DX UP TO 37 MHZ ON THE LATTER DAY. ON THE 26TH, THE MUF REACHED 40 MHZ INTO THE IRON CURTAIN, AND A NEW PAGER IN OKLAHOMA CITY WAS LOGGED (KKM 248) AS CCI WITH HOUSTON KK1445. ON THE 30-31ST, PAGERS WERE ALSO IN.

ON 4 NOV., THE FOLLOWING WERE HEARD ON THE 2 LOWEST CHANNELS: KIY508, KGC223, KGC397, KCC482, KGC266, KGC400. F2 CONDITIONS SINCE THEN HAVE DECLINED SOMEWHAT.

ON OCTOBER 26-30TH, CONSIDERABLE QRM WAS EXPERIENCED ON TV WITH PAGERS BREAKING THRU THE IF TO CAUSE TV QRM; (THE IF OF BRITISH TV RECEIVERS IS 34.65V AND 38.15AUDIO.)

ON NOV. 1, BBC-1 COMMENCES COLOUR ON 625 LINES-UHF, TOGETHER WITH ITV COLOUR. THIS MEANS THAT IN THE MAIN CENTRES OF POPULATION, THERE WILL BE 3 SEPARATE COLOUR PROGRAMS ON UHF. BY 15 NOV., HALF THE UK POPULATION WILL BE SERVED FROM CRYSTAL PALACE (LONDON), SUTTON COALFIELD, EMLEY MOOR AND WINTER HILL TRANSMITTERS IN COLOUR. THE EMLEY MOOR MAST IS TEMPORARY SINCE THE ORIGINAL COLLAPSED IN MARCH; A NEW TALL CONCRETE MAST IS UNDER CONSTRUCTION BUT WON'T BE READY UNTIL 1970/.

TEST CARD F HAS BEEN RADIATED ON BAND 1 BBC-1, 405 LINE XTRS, SO THIS IS THE CARD LIKELY TO BE SEEN BY WORLDWIDE DXERS WHO MAY SEE CRYSTAL PALACE VIA F2. SKIP THIS WINTER, CHANNEL B1 WITH VIDEO AT 45.0 MHZ, AUDIO 41.5 MHZ.

FOR THOSE WHO HAVE MONITORED THE ORTF (FRENCH) SOUND AT 41.25 MHZ, DURING TEST TRANSMISSIONS THE SOUND IS FROM THE "FRANCE INTER" RADIO PROGRAMME. THIS CAN ALSO BE HEARD ON LONGWAVE AT 164 KHZ. USUALLY ALL STATIONS ARE ON BY MID-MORNING BUT THERE SEEMS TO BE NO ESTABLISHED TIME FOR TESTS TO BEGIN AROUND FRANCE.

THERE HAVE BEEN WIDESPREAD REPORTS OF THE 300KW ICELANDIC STATION ON E4 THIS PAST SEASON VIA ES. TEST CARD HAS BEEN RECEIVED UP TO 1900 GMT WITH ELECTRONIC T/C. ICELANDIC TV ORIGINATES 36% OF ITS OWN PROGRAMS, THE REMAINDER COMING FROM UK, USA, FRANCE AND SCANDINAVIA. ALL FOREIGN FILMS ARE SHOWN WITH ICELANDIC SUBTITLES OR REDUBBED. ADVERTISEMENTS ARE SHOWN ONLY IN TWO SEPARATE SPOTS EACH EVENING, NOT DURING PROGRAMS. THE ANNOUNCING STAFF CONSISTS OF 3 WOMEN, ONE OF WHOM IS ON DUTY EACH EVENING AND ANNOUNCES ALL PROGRAMS WHILE SHE IS ON DUTY. DXERS TRY FOR CHANNELS E3, E4.

ANARC=ASSN of No. AMER. R. CLUBS

ANARC ABBREVIATION LIST -- HAS JUST BEEN PUBLISHED! THIS LIST IS A 38 PAGE COMPILATION OF ABBREVIATIONS USED IN ALL FORMS OF THE DXING HOBBY. WE BELIEVE YOU WILL FIND IT THE MOST COMPLETE ABBREVIATION LIST AVAILABLE ANYWHERE. THE LIST WAS COMPILED BY GERRY DEXTER AND PUBLISHED FOR ANARC BY ASWLC (AMERICAN SWL CLUB). PROCEEDS FROM THE SALE OF THE LIST WILL GO TOWARD FINANCING THE OPERATION OF THE ASSN OF NORTH AMERICAN RADIO CLUBS, WHICH OUR CLUB BELONGS TO AND SUPPORTS. THE LIST WILL BE SENT TO YOU BY FIRST CLASS MAIL WHICH WILL SAVE UP TO 3 WEEKS DELIVERY TIME, (MORE DURING XMAS RUSH):

SEND YOUR REMITTANCE TO:

ANARC LIST
AMERICAN SWL CLUB
16182 BALLAD LANE
HUNTINGTON BEACH,
CALIFORNIA 92647

PRICE OF THE LIST: USA AND CANADA \$1.25
EUROPE AND So. AMER. \$1.70
CARIBBEAN, CENTRAL AM. 1.50
ASIA, AFRICA, \$1.90
USSR, PACIFIC \$1.90

NOTE: OUTSIDE USA AND CANADA, ALL RATES ARE AIR.

WE HOPE MANY OF OUR MEMBERS WILL PURCHASE--
AND USE--THE ANARC ABBREVIATION LIST. I'M SURE YOU'LL FIND IT HANDY.

(THE PRECEDING WAS QUOTED ALMOST VERBATIM FROM THE ANARC NEWSLETTER, WRITTEN BY THE EXECUTIVE SECRETARY GRAY SCRIMGEOUR. IN ADDITION, GERRY DEXTER IN THE FORWARD TO THE LIST ADDED THAT CERTAIN INDIVIDUALS WERE CALLED UPON TO ADD THEIR SPECIAL ABBREVIATIONS IN THEIR FIELDS:

LEROY WAITE, NNRC AMATEUR EDITOR DEL HIRST, NASWA LOGGINGS EDITOR
CHARLES MCCORMICK JR., NNRC UTILITIES F. S. DOMBROWSKI, WTFDA PRESIDENT
GLENN HAUSER, HOST OF RADIO NEDERLAND'S NORTH AMERICAN DX PROGRAM, (ETC. ETC.)

IN ANSWER TO A REQUEST FROM ONE OF THE ANARC REPRESENTATIVES, GRAY SCRIMGEOUR SUGGESTED THE DUTIES OF AN ANARC REPRESENTATIVE:

1. HE SHOULD MAKE SURE HIS CLUB KNOWS WHAT ANARC IS AND DOES. THERE ARE STILL LOTS OF CLUBS THAT DO NOT REGULARLY CARRY ANARC REPORTS IN THEIR BULLETINS.
2. HE SHOULD KEEP HIS CLUB'S GOVERNMENT UP-TO-DATE ON ANARC DEVELOPMENTS, ESPECIALLY THOSE INVOLVING OR POSSIBLY HELPING HIS OWN CLUB.
3. HE SHOULD BE ACTIVE IN AN ANARC PROJECT IF AT ALL POSSIBLE. OTHERWISE WHERE WILL ANARC FIND INFORMED AND WILLING WORKERS? THESE JOBS MAY NOT BE TOO INVOLVED BUT THEY CAN'T ALL BE LEFT TO THE EXECUTIVE-SECRETARY AND A FEW OTHER VOLUNTEERS OR THEY WON'T GET DONE AT ALL. HELP ANARC CAN USE RIGHT AWAY ARE: (1) HELP ON THE QSL COMMITTEE; (2) HELP TO SEND LETTERS FOR THE DX CENSUS TO A NUMBER OF CONTACTS FOR NON-CLUB DXERS (SOMEONE WHO CAN TYPE AND WRITE LETTERS NEATLY); (3) HELP WITH COMPUTER CARD PUNCHING FOR THE CENSUS; (4) A MIMEOGRAPH PUBLISHER FOR THE ANARC NEWSLETTER, OTHER THAN THE CURRENT CLUB PUBLISHERS WHO ARE ALREADY TOO BUSY.

THIS COLUMN FOR WTFDA IS BEING TYPED BY FERDINAND S. DOMBROWSKI FROM THE ANARC NEWSLETTER, BUT THE FOLLOWING COMMENTS ARE MY OWN. THE PREVIOUS COMMENTS ABOUT A REPRESENTATIVE'S DUTIES CAME AT AN OPPORTUNE TIME BECAUSE IN 1970 WTFDA WILL REACH THE COVETTED POSITION OF BEING ENTITLED TO TWO ANARC REPRESENTATIVES. THE STATEMENT THAT MANY CLUBS DO NOT HAVE A REGULAR ANARC COLUMN IS QUITE TRUE, AND WTFDA IS GUILTY. WE USE TO HAVE A COLUMN WRITTEN BY YOURS TRULY OR OUR ANARC REP, AMBROSE MAXIM. (I WAS DESIGNATED AS AN ADVISOR TO ANARC AND THEREFORE I HAVE BEEN RECEIVING THE ANARC NEWSLETTER FOR ABOUT 18 MONTHS). I DON'T THINK IT IS TOO EARLY THAT WE ASK FOR VOLUNTEERS FOR ANARC REPRESENTATIVE WHO CAN FULFILL THE PREVIOUSLY STATED DUTIES AS FAR AS POSSIBLE TO WHAT THE ANARC EXEC HAS DESIGNATED. IT ISN'T NEARLY AS INVOLVED AS SOME OF OUR CLUB EDITORS ARE INVOLVED, AND IT HAS THE ADDED SIGNIFICANCE OF BEING IMPORTANT THROUGHOUT NORTH AMERICA FOR THE BENEFIT OF ALL MEMBER CLUBS. I AM NOT SUGGESTING THAT ONE OF OUR CURRENT EDITORS SHOULD TAKE ON THE JOB BECAUSE THEY ARE ALREADY OVERBURDENED. BUT IF YOU ARE INTERESTED, WRITE HQ. THERE IS NO TIME LIMIT SINCE THIS IS A LONG RANGE APPEAL FOR THE DAY WHEN WE ARE ENTITLED TO OUR SECOND ANARC REPRESENTATIVE.

FOR 1970, TWO BIG ANARC PROJECTS//PROBLEMS WILL ARISE: ELECTION OF A NEW EXECUTIVE SECRETARY, AND SELECTION OF A CONVENTION SITE--HOPEFULLY IN CONJUNCTION WITH AN ALREADY EXISTING CONVENTION FOR ONE OF THE CLUBS. SO PLEASE THINK ABOUT THESE.

ANARC NEWS

TYPED BY
FERDINAND S. DOMBROWSKI

DX MUSEUM PROJECT: A SLOWLY DEVELOPING PROJECT HAS BEEN THE ANARC DX ARCHIVES PROJECT, WITH GERRY DEXTER QUIETLY WORKING AWAY THE PAST 6 MONTHS. IT IS HOPED TO HAVE SOME ORGANIZED MUSEUM SHELTER AND DISPLAY A LARGE ARCHIVES OF QSLs AND OTHER DX SOUVENIRS. SEVERAL PLACES HAVE BEEN CONTACTED ABOUT THIS. THE SEARCH FOR A SUITABLE PLACE IS CONTINUING, BUT ANOTHER AVENUE OF DISPLAY OF QSLs HAS TURNED UP. GERRY SENT THIS TO HQ:

"THE SMITHSONIAN INSTITUTION IN WASHINGTON, D.C. HAS EXPRESSED A DESIRE TO HAVE ABOUT 100 QSLs FOR A DISPLAY. THESE WOULD REPRESENT A CROSS-SECTION OF BCB, TV AND SW STATIONS, WITH PRESUMABLY FM, UTILITY, ETC INCLUDED AS WELL. THE SMITHSONIAN WOULD ALSO PREFER SOME REPRESENTATION OF QSLs FROM THE 1920s AND 1930s. DXERS WHO MAY HAVE SUCH QSLs AND WOULD BE INTERESTED IN CONTRIBUTING THEM TO THE SMITHSONIAN, ARE ASKED TO SEND A LIST OF THEIR QSLs FITTING THOS DESCRIPTION TO: GERRY DEXTER, ANARC DX MUSEUM COMMITTEE, RTE. 1, MAPLE ROAD, LAKE GENEVA, WISCONSIN 53147. DO NOT SEND THE QSLs BUT ONLY A LIST OF THEM. IF ENOUGH INTEREST IS SHOWN IN THE PROJECT, YOU WILL BE CONTACTED ABOUT THE PROCEDURE FOR SENDING THEM TO THE SMITHSONIAN."

IF IT COMES TO FRUITION, THIS WOULD BE THE SORT OF ADVERTISING WE ARE LOOKING FOR, TO INTEREST NON-DXERS IN THE HOBBY OF RADIO LISTENNING AND TO EXPLAIN IT TO THEM. THIS PROJECT WILL NOT CONFLICT WITH OR REPLACE THE ORIGINAL IDEA OF A DX ARCHIVES, BUT COMES AS A BY-PRODUCT OF WORK ON IT. THE SMITHSONIAN IS VISITED DAILY BY THOUSANDS OF PEOPLE SO WE SHOULD ALL TRY TO HELP GAERRY WITH IT. WE NEWER DXERS CAN'T BE OF MUCH DIRECT HELP, BUT I HOPE THAT OLDER DXERS WITH OLDER VERIES CAN BE OF GREAT HELP AND WE HOPE THEY WILL. ANY COMMENTS YOU'D LIKE TO MAKE ON THIS PROJECT WILL BE WELCOMED BY GERRY OR AT ANARC HQ IN TORONTO.

AS YOU MAY HAVE NOTICED, ANARC HAS AN ADVERTISEMENT IN THE LATEST ISSUE OF EI. AS PLANNED SEVERAL MONTHS AGO, WE ARE RUNNING THIS CLASSIFIED AD AS AN EXPERIMENT TO SEE IF THE RESPONSE WARRANTS FURTHER ADVERTISING OF ANARC. IRCA'S PUBLISHER HAS ALREADY WRITTEN ASKING HOW WELL THE AD IS DOING, (20 REPLIES IN THE FIRST 2 WEEKS). I'LL TALLY UP THE RESULTS NEXT ISSUE. EACH REPLY GETS A LIST OF ANARC CLUBS AND DX CENSUS FORM.

ANARC CONVENTION: I'VE BEEN ASKED TWO QUESTIONS ABOUT THE CONVENTION RE COMMENTS I MADE IN THE ANARC NEWSLETTER PREVIOUSLY: 1. WILL I APPOINT SOMEONE TO SEEK OUT A CONVENTION SITE OR GET BIDS FOR A 1970 CONVENTION? 2. WHY DO I FAVOUR HAVING A JOINT CONVENTION WITH A CLUB IN 1970?

FIRST, BRUCE REYNOLDS WORKED HARD LAST YEAR SECURING BIDS FOR OUR CONVENTION BUT THE ONLY SUITABLE BIDS WERE FROM BCBERS. SECOND, AT THE 1969 CONVENTION THERE WERE ONLY TWO SW-ONLY DXERS. THE REST WERE VHF OR BCB: 8 TV-FM DXERS AND 8 BCBERS, (AND THE TV-FM GROUP INCLUDES SEVERAL WHO DO A LOT OF BCB DX). MY FIRST CONCLUSION IS THAT THE MANY SW DXERS AREN'T INTERESTED IN CONVENTIONS--EITHER TO BID OR ATTEND. NOR DO THE FEWER UTILITY AND HAM DXERS. I'M NOT COMPLAINING ABOUT THE LACK OF INTEREST, ONLY SUMMARIZING THE SITUATION. IF I'M WRONG, I'D APPRECIATE HAVING SOME SIGN OF INTEREST FROM THE SW GROUPS FOR THE 1970 CONVENTION BIDS.

ANOTHER POINT IS THAT THE TWO BCB AND ONE TV-FM CLUBS HAVE HAD CONVENTIONS, AND IT WOULD PERHAPS BE OPERATIONALLY EASIER TO HOLD THE ANARC CONVENTION AT THE SAME TIME AND PLACE AS ONE OF THE ESTABLISHED CONVENTIONS, AT LEAST ON A ONE YEAR TRIAL BASIS. IDEALLY, IT MIGHT BE POSSIBLE TO HAVE SEVERAL ANARC DXERS PLAN THE ANARC SECTION OF THE CONVENTION, WITH SOME JOINT PROGRAMS (TOURS, BANQUEST), AND SOME INDIVIDUAL MEETINGS (DX WORKSHOPS OR GET-TOGETHERS FOR EACH SEPARATE TV, HAM, BCB, SW, ETC SECTION.) TO DATE ONLY NRC HAS DECIDED ON ITS 1970 CONVENTION SITE, (N.J.), AND IRCA WILL DECIDE EARLY IN THE COMING YEAR. I'M NOT ASKING FOR VOLUNTEERS TO SEEK BIDS, BUT RATHER I'M ASKING DIRECTLY FOR BIDS, TO SAVE TIME. PLEASE HELP IF YOU'RE INTERESTED IN HAIVNG AN ANARC CONVENTION IN 1970. THESE THINGS ARE BEST NOT LEFT TO THE LAST MINUTE OR THE CONVENTION HOST DOESN'T HAVE SUFFICIENT TIME TO ORGANIZE AS GOOD AS CONVENTING AS CAN BE ORGANIZED IF HE HAS MORE TIMES. THE SOONER THE BIDS ARE IN, THE SOONER THE SITE CAN BE VOTED UPON, AND THE SOONER THE HOST WILL KNOW FOR SURE THAT HE MAY GO AHEAD.

WTFDA HQ NOTE: THE ABOVE EXCERPTS WERE REPRINTED FROM THE OCTOBER ANARC NEWSLETTER. ALL COMMENTS UNLESS OTHERWISE NOTED ARE THE STATEMENTS OF ANARC EXECUTIVE GRAY SCRIMGEOUR, ALTHO NOT ALWAYS VERBATIM. A FEW EMBELLISHMENTS BY WTFDA.

eastern TV DX

Morrie Goldman WA9RAQ
8046 South Euclid Ave.
Chicago, IL 60617

January Deadline: 12-12

DECEMBER 1969

For all television reporters east of the Mississippi.

If you happened to have been on board Apollo 12, November may have been a good DX month for you, but down here on terra firma it was no go. Tho all reports from November are not yet in, it's clear that the winter doldrums are upon us again!

Looking ahead to hopefully better things this month, the big Geminids meteor shower will run from December 10-14, probably peaking on the 12th with a peak hourly rate exceeding 60 bursts. December 22 should also not be overlooked as the Ursids shower brings us an expected 13 bursts per hour. January 1-4 schedules the return of Quadrantids and a peak hourly rate bettering 35.

Many of this month's reports still contain details of the fantastic "trops-week-end" of October and make very interesting reading.

.....
William J. Draeb, Ellis Street, RR #2, Kewaunee, WI 54216 (CST)

11-6: Tr 0525 WCPO-9 Cincinnati, OH
WBNS-10 Columbus, OH
WHAS-11 Louisville, KY
1610 WANE-15 Ft. Wayne, IN
WPTA-21 " "
WKJG-33 " "
WLFI-18 Lafayette, IN
WLXT-60 Aurora, IL
WKTR-16 Kettering, OH
1617 WXIX-19 Newport, KY
1710 WLKY-32 Louisville, KY
WEBC-49 Muncie, IN
1815 WKYT-27 Lexington, KY

11-7: Tr 0600 WLFI-18 Lafayette, IN
1845 WKTR-16 Kettering, OH
WTIU-30 Bloomington, IN
WCAE-50 St. John, IN
WKBD-50 Detroit, MI
2350 WAND-17 Decatur, IL
WEEQ-35 La Salle, IL
11-9: Tr 0800 WLFI-18 Lafayette, IN
0805 WKEF-22 Dayton, OH
0810 WEHT-25 Henderson, KY
1640 WANE-15 Ft. Wayne, IN
1705 WUSI-16 Olney, IL
WKTR-16 Kettering, OH

Equip: Zenith 21", pair of Finco chs 2-6 yagis stacked @40', pair of Finco 7-13 yagis with Blonder Tongue AB-3 amplifier @ 90' and JFD 12 bow tie array at 90'. BTU-2S conv.

Roger H. Brown, 624 Evergreen Avenue, East Lansing, MI 48823 (EST)

10-9 to 10-26, very little of anything.
10-21: MS AM caught a few bursts, but am having rcvr problems.
10-26: Tr 0730-1100 U's w/in 220 miles.
1100 WJMN-3 Escanaba, MI (NEW)
2330 WSWO-26 Springfield, OH (NEW)
+ Clev., Akron, Erie, Yngstn.
10-31: Tr 0850 W79AE Detroit, MI (NEW)
Seperate from WTVS. Call sign and bar pat. Perfect.

10-31: Tr 0900 W83AB Detroit (NEW) bar pat
1100 WCIU-26 Chicago, IL (NEW)
WXXW-20 " " "
WFLD-32 " " "
11-6: Tr 2130 WLXT-60 Aurora, IL (NEW)
+ WCIU-26, WXXW-20, WTV-18, WSJV-28, WNDU-16, WSBT-22, CCI on ch 50 from tent.
WCAE-50.

I agree that trops have nearly made up for the loss of Es this summer. Nearly, that is. Not quite! Am looking forward to lots of Es next year. Only five months from now! Also... many thanks to Bob Cooper for the great article on MS. All I need is a better antenna, rcvr and more tower! Now... if I can only keep the ice off my dish. (Enjoyed meeting you over Thanksgiving holiday, Rog. MG)

Gary A. Olson, 5901 West Brown Deer Road, Brown Deer, WI 53223 (CDT) (BARRINGTON)

9-7: Tr 2200 WKJG-33 Ft. Wayne, IN
WLFI-18 Lafayette, IN
+ others in 250 mile range.
2230 WVUT-22 Vincennes, IN (NEW)
WUSI-16 Olney, IL

9-10: Tr 2130 WTVT-36 Milwaukee, WI (LOG)
(NEW) Finally, after 6 years of trying to log this one in Barrington. They were always off when I was in Barrington.

Rob Seybold, Bennett Road, Dunkirk NY

(EDT)

9-22: Tr 1900 WXTV-41 Patterson, NJ (new) 10-4: tr all WATR-20 Waterbury
 WATR-20 Waterburg, CN (new) day WCNY-24 Syracuse, NY
 to WHNB-30 New Britain, CN (350) WLBC-49 Muncie, IN
 WQEX-16 Pittsburgh, PA + all Detroit, Scranton,
 2400 WPFH-53 " " Ft Wayne & S. Bend U's
 WCNY-24 Syracuse, NY VHF tropo to 400 miles.
 WCDC-19 Adams, MA 10-5: Tr most WXEX-8 Peterburg, VA (NEW)
 WVNY-22 Burlington, VT of WITN-7 Washington, NC
 WEDW-49 Bridgeport, CN (NEW) day WCHS-8 Charleston, WV
 WVTA-41 Windsor, VT (NEW) WTTG-5 Washington, DC
 WSBA-43 York, PA (NEW) WITI-6 Milwaukee, WI
 WLVT-39 Allentown, PA (NEW) WHTN-13, WLWI-13, WCPO-9,
 WKPC-15 Louisville, KY WGN-9, WKRC-12 + other V's.
 WKPI-22 Pikesville, KY WTVO-17 Rockford, IL
 WKNX-25 Saganaw, MI WJYY-14 Jacksonville, IL
 WBGU-70 Bowling Green, OH WICD-15 Danville, IL
 + all Binghamton, Detroit, WFLD-32 Chicago, IL
 Elmira, Scranton & Toledo Us. WCIU-26 " "
 10-1: Tr all WMUB-14 Oxford, OH (NEW) WICS-20 Springfield, IL
 day WCAE-50 St. John, IN (NEW) WMBD-31, WIRL-19, WEEK-25,
 WUSU-34 Columbus, OH WLEX-18, WLFI-18, WLKY-32,
 WSWO-26 Springfield, OH WLBC-49, WATR-20, WVNY-22,
 WLKY-32 Louisville, KY WWUP-22 Springfield (NEW)
 WKSO-29 Somerset WEDH-24 Hartford, CN (NEW)
 WKPI-22 Pikeville WHNB-30 New Britain
 WKMR-38 Moorehead (perfect) WNYC-31 NYC (NEW)
 WKLE-46 Lexington " WRLP-32 Greenville, MA (NEW)
 WKON-52 Owenton, KY " WSBE-36 Providence, RI (NEW)
 WBGU-70 Bowling Green, OH WSBK-38 Boston, MA (NEW)
 WIMA-35 Lima, OH WLVT-39 Allentown, PA
 WTAP-15 Parkersburg WHYN-40 Springfield, MA (NEW)
 WLEX-18 Lexington, KY WXTV-41 Patterson, NJ
 WKYT-27 " " WVTA-41 Windsor, VT
 WCET-48 Cincinnati, OH WNJU-47 Newark, NJ
 WXIX-19 Newport, KY WKBS-48 Philadelphia, PA (NEW)
 WLBC-49 Muncie, IN WEDW-49 Bridgeport
 WJYY-14 Jacksonville, IL WEKW-52 Keene, NH (NEW)
 WICD-15 Danville, IL WEDN-53 Norwich, CN (NEW)
 W72AN Gary, IN WKBG-56 Cambridge, MA (NEW)
 W79AE & W83AB transl. WTVS WCTB-71 Bridgeport, CN (NEW)
 WVNY-22 Burlington, VT + all Detroit, Scranton,
 WCDC-19 Adams, MA Toledo, Binghamton, Ft Wayne,
 WUHY-35 Phil. PA (NEW) S. Bend, Elmira, etc. exclt!
 WEDW-49 Bridgeport (NEW) 10-6: Tr 0700 WEDW-49 Bridgeport
 WNJU-47 Newark (NEW) to WHNB-30 New Britain
 0900 WATR-20 Waterbury
 WVNY-22 Burlington VT
 +all Binghamton, Scranton,
 Wilkes Baine, Detroit, Toledo
 WBGU-70 Bowling Green, OH
 10-10: Tr 0600 WBOC-16 Salisbury (NEW)
 to WTPA-27 Harrisburg, PA (NEW)
 0900 WWBT-12 Richmond, VA (NEW)
 WITN-7 Washington, NC (NEW)
 10-12: Tr 0500 WCHS-8, WHTN-13, WGN-9, WJAN-
 to 1000 17, WPTA-21, WSBT-22.
 10-19: Tr AM WANE-15, WKJG-33, WCBS-2 (MS)
 WSBT-22, WJAN-17, WDAU-22
 10-21: Tr 0730 WHP-21 (NEW), WHDH-5 (NEW).

Frank Wheeler, 6589 Wattsburg Road, Erie, PA 16509 (EST)

10-1: Tr 2032 WXON-62 Detroit, MI (NEW) 10-6: Tr 1130 WNHC-8 New Haven, CN (NEW)
 2258 WDAU-22 Scranton, PA (NEW) (223) (369)
 2208 WNEP-16 " " " " 1530 WPSX-3 Clarion, PA (180)
10-4: Tr 2353 WANE-15 Ft. Wayne, IN (261) 10-5: Tr 1415 WPTZ-5 Plattsburg, NY (419)
 2335 WKJG-33 " " " " 10-8: Tr 0602 WTVN-6 Columbus, OH (223)
 2358 WCIU-26 Chicago, IL (NEW) (405) 0655 WBNS-10 " " "
10-6: Tr 1100 WHEN-5 Syracuse, NY (214) 10-31: Tr 0755 WANE-15 Ft. Wayne, IN
 What almost proved as a bust, 1969 didn't turn out too badly. I increased my log to
 225 with 6 new stations in October and my UHF log to 32. Biggest surprises were WCIU
 -26 Chicago and WNHC-8 New Haven, CN. Equip: Zenith 23", Winegard CL4X & 4 bay UHF.

Roger Gravelle, 35 Aldborough Avenue, St. Thomas, ON (EDT)

10-4: Tr 0730 WHIZ-18 Zanesville, OH 10-5: Tr 0900 WJYJ-14 Jacksonville, IL (640)
 "???? WPNB-7 Traverse City, MI (370) 1055 WCMU-14 Mt. Pleasant, MI (280)
 " WWTW-9 Cadillac, MI (320) 1250 WXIX-19 Lexington, KY (320)
 " WZZM-13 Grand Rapids, MI (270) PM KFIZ-34 Fond Du Lac, WI (390)
 2100 WXXW-20 Chicago, IL (370) eve WDAU-22 Scranton, PA (370)
 2130 WCEE-23 Freeport, IL (570) 2215 WBJA-34 Binghamton, NY (310)
 WCIU-26 Chicago, IL (370) 2300 WINR-40 " " "
 2200 WBRE-28 Wilkes-Barre, PA (379) 2330 WVIA-44 Scranton, PA (370)
 WLKY-32 Louisville, KY (409) WSKG-46 Binghamton, NY (310)
 2315 WFLG-62 Lexington, KY (390) 10-6: Tr 0108 WKYT-27 Lexington, KY (390)
 All stns reported are NEW. "This was the best opening I have seen in years. I had 27
 Lexington like a local at 390 miles." Equip: Delhi 14-83 SFA, Delhi 1032, Wstnghse 23".

Dave Pomeroy, 3516 Lansdowne Dr., Lexington, KY 40503 (EDT)

10-7: Tr 0800 WKPI-22 Pikeville, KY (NEW) 10-7: Tr 0800 WOSU-34 Columbus, OH
 WMOB-14 Oxford, OH

Fred Nordquist, 302 Sandra Lane, N. Syracuse, NY 13212 (EST)

10-1: Tr 2146 UnID-34 South (tent. WBJA) 10-5: Tr 1214 CFTM-10 Montreal, QU (210)
10-4: Tr 0056 WJW-8 Cleveland, OH (300) 1222 CFCF-12 " "
 0032 WKYC-3 " " " 2240 WICU-12 (tent.) Erie, PA
 0051 WIIC-11 Pittsburgh, PA (210) 2300 WJET-24 Erie, PA
 0107 WPIA-11 NYC, NY (210) 2301 WSEE-35 " "
 0110 WABC-7 " " " 10-6: Tr 0038 WTVN-6 Columbus, OH (420)
 Log at 65 for N. Syracuse. From 10-7 to 11-6, no Trops, MS or Es noted. (w/s/off)

Jerry Pulice, 143 Gibson Avenue, Staten Island, NY 10308 (EST)

"Trops died after 10-11, so I have resigned to MS DX. WNEW-5, the last local low band
 station to s/on, in now on by 0640 making my Leonids prospects bleak. The June, 1962
 Radio-Electronics had plans for a single channel booster using 2 6cw4 nuvistors in cas-
 code. I put one together for ch 5 MS, to discover it has very high gain (2 tuned cir-
 cuits), but does not improve the noise figure of the 6HA5 Zenith tuner much. I plan
 to install new coils and use it to clean up ch 3 a bit from overly potent WCB5-2. The
 film is back from the October 4, 5, & 6th trops, and the UnID RETMA-9 was WSTV-9, as
 suspected. WSyr-9 was verified by a relog, and a letter from Fred Nordquist. "WGAM-13,
 Maine verified by QSL card; state #31.

Morrie Goldman Editor

Really no DX seen in November other than KDNL-30 St. Louis at 2345 on 11-9 and 1301
 on the 10th. Excellent signals on both days, tho no other DX was seen. Weaker sig-
 nals from KDNL-30 were also noted, off and on, on 11-11, 11-12 and 11-13, but again
 no other dx was noted. During the Thanksgiving holiday, I had the pleasure of seeing
 WTEAers Gary Olson, Todd Schumann and Bill Heusmann again, and meeting Roger Brown.
 So, the added DX talk helped to make up for the lack of DX!

Reports from Paul Traska and Richard Clark were received after deadline and will appear
 in January's column.

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