> "Please accept this for renewal in the National Radio Club... I allowed my membership to lapse in September and since that time I've sorely missed the excellent information provided by the Club."

(Chris Lobdell, Mass.)

## this time...



MW Signal Paths, Part II: The Basic Seasonal Pattern - G. P. Nelson
The Texas State Network - Paul Hart
Second Half of NRC Abbreviations List - HQ Staff

## welcome!

*Jerome J. Buckler, 29 Parkview Dr., Plains, Pa. 18705
*Phil E. Crocker, 28 Elm Street, Fords, N. J. 08863 (Rejoins)
*Charles J. Howland, 279 Clover Lane \#3, Columbus, Ga. 31903
*Stef Krieger, 1.9 Tabor Pl., Apt. 2, Brookline, Mass. 02146 (Rejoins)
*Chris Lobdell, 149 Walnut St., Reading, Mass. 01867 (Rejoins)
*Arnold F. Retzlaff, 202 Taylor Rd., Elgin, Texas. 78621
Welcome to the NRG, gentlemen, we hope to be seeing your reports often here in DX NEWS. Your New Member Kits should be reaching you within a few weeks. Those new members in the Greater Boston area are invited to join the rest of the Publication Committee for our weekly meeting on Friday evening; visiting DX'ers from out of town are always welcome to stop in and give the crew an assist on publication night.


The B.P.C. still definitely plans to make FET Altazimuth loop kits available at the earliest possible occasion to NRC members. Publication of DX NE WS and production of the new NRC Log have to take priority, however - and this is the reason that we've had to postpone the kits temporarily. Watch DX NEWS for the latest info on loop kits...

NOTES: WRAN-1510, is the next BIG DX-Test for us, this one with member Russ Edmunds acting as host. Telephone calls will be taken, and Russ will give munds acting as host. Telephone calls will be taken, and Russ will Give the number on the air. Ihere will be some underground music, and there may be some Morse Code IDs to help everyone it nighttime 500 watts, both will be using its daytime 10,000 watts and its nighttime 500 watts, both in the East from the French Canadian station, and after 3:00, the West may find this channel ipen and thus the boys out there may have at least a chance at logging this seldom-DXed station. Let's support Russ with a bunch of letters and phone calls! Tune in!

WTXL-1490 will be on with "istening tests" between 1:30 and 4:30, using its daytime 1 kilowttt, and its nighttime 250 watts. They have notified the leading DX clubs about this program, and notified us via Charles Mohr of White P ains, N.Y. They had a similar test on $2 / 23$ which we did not know about in time to notify you. WTKL is different from most local channel stations in that they are 1,000 watts daytime, but directional, and are 250 watts at night, non-directional! Wa don't know what they'il have on the air at this time, so let's tune in and find out. Send your reports to Mr. Smitty M. Kaye, Program Director.

WCPK-1600 will be testing with some masic, some cycle tones, and frequent announcements, including station IDs and reference to the test. CJKN \& WWRL will render him a bit difficult, but we hope most of you' 11 be able to hear this test. Send reports to Mr. Charles F. Payne, Owner/ President, WCPK, 500 East Liberty Street, Chesapeake, Va. 23324. Information received from NNRC's (and NRC's) John Tweedie.

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HEARD SINCE LAST ISSUE
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## A SUGGESTION AND ARGUMENT "FOR"

In a few weeks, we'll once again revert to Daylight lime. Virtually the whole country and Canada go on the "fast-time" and E.S.T. and all standard times become obsolete and cumbersome. This is part cularly true when trying to describe the dates and times of early Monday morming frequency checks which were after midnight EDT but before midnight and thus still Sunday night, on EST. DX NEWS has always remained on EST 12 months a year - but reporting times during the Summer now becones somewhat confusing. What do you say NRC follow the trend of the times we live in, and in Musings, SWITCH TO EDT this time? That would mean that for those in any time zone, DX NEWS times $t$ uld still be the same differential as always, except in the two or three statew where Daylight Time is not observed. Iet's kick it around in Musings between now aind then, but your Editor observed. Iet's kick it around in Musings between now and then, but your Editor
favors using EDT during that time. Another thing using EST does is to heip foul favors using EDT during that time Another thing using EST does is to heip four
up the new $\mathrm{f} / \mathrm{c}$ lists for its author, Joe Fela. Daylight Time is the IN thing, up the new $f / c$ lists for its author, Joe Fela. Daylight Time is the IN thing
met's move with the in crowd and be abreast ? the times we live in - OK? In the meantime, it's EST and let's have those Musings, boys. No mail here $2 / 22$. \#As do DoxD Editor Rust Edmonds e former Editor Rendy kone. So do I; how about if I get us some makeup sheets with "times on this page are EDT" in small type in the corner of the page? IDXD poses a separate problem; how about 24 hour clock GMT?

## MUSINGS of the Members

## Ernest R. Cooper

DAVE WHATMOUGH - 284 Main Street West - Hamilton 12, Ontario
Since lazt report, eight new veries have arrived: v/1- WMEN for RIA Special, CIWO WBMD WSSA KECK for last year's DX Specials. v/q- CBEN CBT (Nf1d. H1 \& Province \#10) \& the N.B. beacon on 530. Total now 1,583/678. 1/30 roucht: LT of new WCKL-550 in Catskill o/WFIL 12:26-1:03 w/ROy Acuff \& Kitty Wells records. $1 / 31$ PM-CBT-540 w/CBEN 7-9pm. WIBS-535 in we 11 until 10:06 s/ of f . WLSV-790 Wellsville u/CHIC © $5: 30$. $2 / 1$ PM- WLIX -540 finally heard until $5: 30 \mathrm{~s} / \mathrm{OER}$. $2 / 7-\mathrm{R} / \mathrm{cs}$ heard per list: WHIS-1440 WPRI-960 \& WBRN-1460. MMM 2/9A wastec moraing until $5 \mathrm{am} \mathrm{s} /$ on of WATR-1320. 2/11-WSPA-950 $\% / \mathrm{WWJ} / \mathrm{WKAR}$ to $12: 15$ s/orf. WIS-560 on later now, s/off @1. CKCN in w/WFIL xfter WIS s/off. 2/14I finally heard $r / c$ of WCCR-1580 for call change, but accurate log impossible thanks to pest WPAC who ETed w/TT instead of mx this time. MM 2/16, only Special ated whi av bur say \& the Dep't. of Communication still sloes their eyes to the fact it day by cay \& the Dep t. of Comin a 50 mile radius of Hamilton. No sign of WMVO-1300,


 too rough to copy, © $3: 30$.

MAFV GARBER - 2539 Kessier Boulevard - Lincoln, Nebraska - 68502
Hi everyone! DX: MM 2/16-WGNE-1480 logged \& reported for $\mathrm{f} / \mathrm{c}$, IDs every minute, 1:30-1:40am; WHBC-1480 DX noted w/ID a 2:08am atter some polka mx, then TM/OC for next 15 minutes w/no IDs. Some QRM from KBOX. CJDV-910 well atop channe1 $\mathrm{w} / \mathrm{c} / \mathrm{w}$ \& hyms 3:05-3:23; WBIR-1240 w/f/c \& nam IDs (phonetic) 3:42 $-3: 48$ tune-out, obviously using daytime power as they really cut through the QRM Beckin up a bit, MM 2/9 sew CFAC-960 finally make it w/c/w AN 2:33-2:52am w/ KOOL/KABI looped. None of the TESTs heard here (i.e. WCSR WCVR WSNO). Whoops, I SOOLKABL forgot ebout koro an anway 1 found XERF-1510 on again \& CHLO dom inating w/rr ennouncing lokw, 2:22-2:43am. W/CHLO looped, I heard one ID from CHUB 3 2: 46 but not enough for a report. CFOR was apparently of so the station u/CH O (when loop was NE) was probably, CKIM. Some veries in: WWSD-TEST KNWC KOOK WDR-1585 St. Pierre-1375 KASL-TEST \& (hush) WHO. Tarawa-844 carrier noted the past coulof of MMs but not enough to report as yet. This bahy gets out: Congrats to Alan Merriman for logeing this one! Good catch! A belated welcome to Carl Dabelstein - let's have a Musing from him! 73. Keep up the fine work, ERC.

DAVID SHAPIRO - 1812 Hillsdale Road - Lynchburg, Virginia - 24501
Veries: KFI-640. This one makes a new statc for me. Two weeks ago I heard a man who was a priconer in Cuba $u$ /Castro wpeak about his experience. He said the major priority of Castro's government is propeganda, \& that explains why you Dxers al, rs are bugred by the Cubans. Speaking about future Convention plans for the NRC, I am witharewing my bid to host one because I am mot in any position at this time to do so. I was sort of confused about it because I didn't thim there was much to hosting one, but I was wrong. Thenk you, Frnie, for making the hostins duties clear to me because I do not want to put myself in feoper: dy with the Cliub. (No such thing, David - We uncerstand - ERC)

JOHN JOHISON - 318 Washington Street - Hoboken, New Jersey - 0,7030
A few more adied to the old 10 g. WEAW- 1330 Evanston, Ill. WEMB1420 Ewin, Tonn. WCVU-1250 Portsmouth, Va. WKOY-1240 Biuefield, W.va., WBOY1400 Claricbur, N. Va. Nice sisnal on 555 a few mights aro. I oelieve it to be the Ificaraguan. Also the usual amount of spits cominh in nightly $18 \mathrm{C} C$. begin to ropmulate your vacftion plans to imclude labor day neekgid's nrc bash.

The past three weeks have been just about a complete loss. I have had an extensive bout w/the flu, throat infections and the like \& have been feeling rotten. Later this week I am taking the family to visit my family in Albuquerque. I hope that will help the cure a little. Doctor has told me to get lots of sleep and rest, so DXing suffers a great deal. I can find no correlation $w / C X$ in Hawaii as reported by Wood $\&$ here. I have been monitoring 1040 remotely every SM during WHO's SP with an excellent loop angle \& only very minor interference from R. Tropical. So far I haven't heard anything from $k H V H$ - not even a nibble! I did get a reasonably good tape of KORL -650 on $12 / 25$, though, so I guess I'm lucky at that. KRLD hax not been off MMs this month as they sald they would, but I am sure the tests have been delayed. I will be in Albuquerque $2 / 23$ so I will probably miss my chance at WIIC. Concerning the changes in sta- tion data on P. 36 of DX NEWS for $1 / 3 / 70$, I visited WBAP/WFAA today (2/16) to in quire. The move is obviously because of the new regional airport - their present quire. The move is obviously because of the new regional airport - their present antenna farm is adjacent to the site. They are moving $3 \frac{2}{2}$ miles NE to a location
near Grapevine reservoir. The 570 XR now uses three towers in a row \& they are $90^{\circ} \mathrm{tall}$ (electrically) which is unusual this 10 w in the band. The present 820 antenna is $180^{\circ}$ tall and is separate. The new patterms on 570 are very similar to those now used, \& a similar three-tower setup will be used. They will have to diplex the center tower with 820 , however, and they will be limited to $500^{\prime} \&$ as a result will have to use top loading. The 50 kw 820 license will stay $U-1$, not U-4, but they expect their radiation efficiency to suffer badiy on both frequencies. The airport is not due for use until late 1972, so at this time we camot know how these changes will affect their hours, etc., but I will stay in touch \& try to let everyone know. If you are fishing for the 570 signal, get it now - it will never be this good agaln atter the change.

AMN EDWARD BRUCE REYNOLDS - Box 2637 - CMR2 - Sheppare AFB, Texas - 76311
I have received my $H Q-160$ \& am DXing w/it now.
It's
in great shape \& works well. I'm in the process of building a 100 p . The worst part of DXing here is the HINL \& TVI. MM 2/9- KOFO-1220 and old friend Bob Davis were o/u XEB during POP around 2am. 2/13-WAPI-1070 good e 7:30sm. 2/14- KPIK$1580 \mathrm{c} / \mathrm{w}$ © 7:21pm \& YSS-655 © 8:28pm. MM 2/16-CFRW-1470 atop @ 12:58am w/NX, KWK-1380 w/R\&R @ 1:05am, WKOG-1560 beautiful signal \& good c/w on ET © 1:11am, HJDK-750 @ 1:30am, CKRM-980 w/KMRZ off @ 1:50am, umn CKX-1150 w/"Mx Till Dawn" e 2am, so apparentiy now AN-7, CKWX-1130 (Province \#6) @ 2:02am, KWSU-1250 (State \#35) s/off 2:14am. WAKR-1590 @ 2:30am, KKHI-1550 s/off-SSB @ 2:59am, KMPC-1560 s/off-SSR @ 3am following gospel mx, KFBK-1530 good @ 3:02am, WNUS-1390 u/KCBC e 3:16am, WIRE c/w through OC (KFLI's, I nelieve) © 3:18. And WGY-810@ $3: 30 \mathrm{w} /$ nice signal. Total logged mow 298. Woc-1420 MM s/off is $1: 25$ am, returns e $5: 55$ am. 73s, and good DXing.

BOB KARCHEVSKI - Box 3151 - Daly City, California - 94015
2/12. H1. I logged WEAS-840* (*-verified) on 2/2 from 5:31am to $5: 49$. on $2 / 5 \mathrm{I}$ logged $\mathrm{KBIF}-900$ Fresno $8: 25-8: 3 \mathrm{zpm} \mathrm{s} / \mathrm{off}$. I logged KTMS-1250* Santa Barbare 8:36-9:01pm. 2/9-I tired for KOF0-1220 TEST. I got some tones $\mathrm{u} /$ CKDA which I logged 2:39-3 10am s/off. By then KOFO was off. I logged XRE-1050 3:13-3:30am. Backing up to CKDA, their s/off announcement says they are 25 kw , not 50 kw . as in $M N \mathrm{Log}$ ) KOMO-1000 running 0 C e $3: 40 \mathrm{am}$. I logged CFRB-1010 Ont. 3:40-4:35am w/KDJW (Texas) testing 3:40-4am. ITand was also testing about that time. 2/12 - I 1ogged KFWB-980 Los Angeles 8:50-9:10pm. T3.
ALAN MERRIMAN - Box 6 - Fairfax, Virginia - 22030
R. Nordsie International is on the air on 1610 k , h:ard quite well hare on 2/17, 1:302am, mostly current rr. Announcements are in EE/GG/Dutch \& poasihiv FF Dominican on 1560 is HIJC, R. Maiba, ex-1550. Station on 1097 2/16 SET Youn gicils on Hasbrouck heicrma clear IDs given by YL heard. 73 s . SET YOUR BICIIS ON HASBROUCK HEICHMS! SEPPEMBER 4-5-6-7? COME ONE, COME ALL!.

 lot some DX. 2/6-WDEE-1500 (ex-WUBK) MICh, L Wr. w/old rr (mosti; Little Rich-2/9-1No, on Specials. KIRL-1460 Mu. logged on El w/old rr mosti, $4: 59 \mathrm{pm}$. ard recrods), 1:23-2:01 tune oit. 2/10-WCOY-1:80 Pa. noted brief1v, 4:59pm. USLs reccived: v/q-CFAC-960 A1ta.; CBU-690 E.C., WJWL-900 De1. TEST, WSBA-910
WRA Pa., CKOY-1310 Ont., WIBA-1310 Wis., WFJR-960 Va. v/i-WDAY-970 N.D. GKND-1480 Pa., CKOY-13 TENT, CKAC-730 oue., (in FF in reply to report in that language). v/f-CKEY-500 Ont. A11 these verifications except the one from CKEY-590 were for reports sent over the Christmas vacation. The one from CKEY was in response to a

 Sure, we have our problems in cana the best of many aspects of this countr, my knowledge there has never been any ser. State. The majority of people ip Quebec are French-Canadians who naturally want to preserve their own identity, language and culture, somethine they would be unt able to do in an entirely EE-speaking nation like the U.S.A. I wont. say amy thing more on the subject as I don't believe DX NEWS should be a place for political controversy but I wanted to set the record straight. The DX-rest from CFr Frobisher sure looks interesting but unfortunately $I$ don't think I'll be able to get home that weekend. I hope a lot of you manage to get this rare one.

RICTIARD T. EDDIE - 152 West Rose - St. Louis, Missouri - 63119
Hi gang: I hope DX has been great Not much DX since last Masing but here is what I've heard: Fri. 2/13- WMOB-L 40 Ala. on w/ET tunein 1:53 am to 2:15tuneout - second try for a verie. KREX-1100 Col. w/first test program 50\%.w. dev non-directional, 50 kw . directional critical hours, 10 kw . nights - leard w/50kw. ND and barely w/50kw. D. Three towers are used with 50 kw ., major lobes $N \& S$. They expect to be on 1100 in two or three weeks. Thurs. 2/12-CKRM-980 Sask. 2:45am. KXEN-1010 ET 1:40-1:45 end of 50kw. test. Unn KPMC-1560 Cal. noted 1:50am. MM 2/10-KIRL-1460 Mo. ET/mx tunein 1:10 to 2:15. 2:15-2:28, TP, 2:28-3:10 mx except 2:15-2:28. Tues. 2/3- KXEN-1010 test 10kw. 1:16-1:18, 50kw 1:19-1:50. WM 2/2- Unn KFBK KGBS KNX ell noted. Fri. 1/30-WIL-1430 off for ET (1:05) M 1/26-KAWL-1370 Neb. TEST herrd 1:03-1:35 tuneout. E 1.0 , Veries in from WIXT-1260-TEST, WDM-960 WIS 1020 WPD. 600 V .1 , WBAA-920-DX KAWI-1370-TEST a11 v/1. v/q- WDIM-960 WVAB-15501020 WPD - 600 v. 1 , WBA-920-DX KAWL-1370-TEST all v/1. v/q- WDIM-950 WVAB-1550-
Go mich for DX \& veries. Totals now are $783 / 378$, no change in states, $42 /$ 39, provinces $5 / 5$ \& councries $13 / 8$. Don't forget to try for KREX-1100. They' want reports. I must be near 30 so good DX to all \& 73 s .
bILL ALISAUSKaS Jr. - 7 Avenue R - Haledon, New Jersey $=07508$
Howdy: Time for another entry from this spot. Loggings now up to 990; only ten more. First a question. About a week ego while listening to WHI, they ran one of those emer eney broadcast system alerts where ther cut the ztation $€ 8: 30 a m$ \& when they went off, a Mutual station was there. Followine the Mutual ID, on came 'Now, more music and-...-" on came WHN w/TT again. Only thint I can figure is WIYC in Williamsport Pa. which gets into Milford very vell SSS. Onl* other ones woild be one in Everett Pa. \& one in Ky. Judging by the hour, I'd say WLyc. Any help? To DX: 2/4-I finally IDed the other 1110-er es WBZY © Ópm, then $2 / 10$, WREO-970 © $5: 57 \mathrm{pm}$ right through local WJRZ (ten miles) fiso WFER-1500 was on past lipm for rlood alert, anrone else here 'em? In Pa. á'S \& acied tince newies: WBZY-1140 5:09-m, no WRVA, WIVK-8;0 6:10, local-1ike, \&

 Eastern $\because / n o$ cettlement near. I now work for Union Screw Machine in Totowa Boro. Das 引̇む \&iits, drci \& siebzir.

DPADLIEE POR MEIINS IN BROOKLITM IS EVERY MONDAY. LET'S HEAR FROM MORE OF YOI:

The TEXAS STATE NETWORK is claimed to be the largest regional radio news network in the United States. The news originates in the studios of KFJZ and KWXI-FM in Fort Worth, Texas. Their musical call sign is very distinctive and can be a useful recognition feature when DX'ing for these stations. Below is a complete list of the stations broadcasting T-S-N News as of February 14, 1970. First news of the day is at 0700, the last T-S-N News is terminated at 0000.

| 560 KLVI | 1280 | KWHI | 1440 | KETX |
| :---: | :---: | :---: | :---: | :---: |
| 600 KERB | 1280 | KLUE | 1450 | KBEN |
| 690 KPET | 1280 | KVWG | 1450 | KMHT |
| 730 KKDA | 1290 | KWGH | 1450 | KNET |
| 800 KDDD | 1320 | KVMC | 1450 | KSNY |
| 860 KFST | 1330 | KSWA | 1460 | KLLL |
| 860 KPAN | 1330 | KINE | 1470 | KWRD |
| 900 KALT | 1330 | KVKM | 1490 | KBST |
| 900 KCLW | 1340 | KWKC | 1490 | KNEL |
| 910 KRRV | 1340 | KTSL | 1490 | KSAM |
| 920 KBZB | 1340 | KAND | 1490 | KVOZ |
| 930 KDET | 1340 | KRBA | 1490 | KZZN |
| 960 KIMP | 1360 | KACT | 1490 | KPLT |
| 970 KBSN | 1370 | KOKE | 1490 | KDOK |
| 1010 KDJW | 1380 | KBWD | 1510 | KCIX |
| 1050 KLEN | 1400 | KRUN | 1510 | KMOO |
| 1070 KOPY | 1400 | KGVL | 1510 | KSTV |
| 1130 KBGH | 1400 | KEBE | 1530 | KGTN |
| 1140 KORC | 1400 | KIUN | 1530 | KNBO |
| 1150 WTAW | 1400 | KVOP | 1550 | KCOM |
| 1150 KBER | 1400 | KDWT | 1550 | KWBC |
| 1230 KDLK | 1400 | KTFS | 1560 | KHBR |
| 1230 KEEE | 1400 | KVOU | 1570 | KTER |
| 1230 KGRO | 1410 | KBUD | 1580 | KBGO |
| 1230 KSST | 1410 | KBAN | 1590 | KGAS |
| 1240 KBEL (Okla.) | 1410 | KXIT | 1590 | KERC |
| 1240 KXOX | 1420 | KFYN | 1590 | KBUS |
| 1250 KIKZ | 1420 | KGNB | 1600 | KBBB |
| 1260 KWFR | 1430 | KSTB | 1600 | KYAL |
| 1260 KTUE | 1440 | HEYS |  |  |
| 1270 KFJZ (see note) | 1440 | KDNT |  |  |

Note: KFJZ uses only part of the T-S-N musical signature and identifies as 'KFJZ News".

## IN VERIE SIGNER LIST

A - Announcer
ACE - Asst. Chief Engineer
ACCE - Acting Chief Engineer
AE - Assistant Enganeer
AM - Assistant Manager
AR - Audience Relations
CA - Chief Announcer
CA - Chief Announcer
CE - Chief Engineer
CM - Commercial Manager
CM - Commercial
CoC - Co-owner
COp - Chief Operator
D - Director
DJ - Disc Jockey
DoE - Director of Engineering DPR - Dir. Public Relations
E - Engineer
EiC - Engineer in Charge
EiC - Engineer in Charge
ESu - Engineering Supervisor
ESu - Engineering Supervisor
G - Gerente (Spanish for Manager)
GM - General Manager
ID - Information Department
L - Licensee
M - Manager
MD - Managing Director
MusD - Music Director
NxD - News Director
NE - Night Engineer

O - Owner
Op - Operator
p - President
PD - Program Director
PDe - Program Department
PM - Program Manager
PR - Public Relations
PrM - Production Manager
Prom - Promotion Manager
RE - Radio Engineer
RM - Radio Manager
RT - Radio Technician
S - Secretary
S/ - Fecretary to
SM - Station Manager
Su - Supervisor
StA - Staff Announcer
StE - Studio Engineer
StfE - Staff Engineer
StS - Studio Superintendent
TD - Technical Director
TM - Traffic Manager
Trf - Traffic
TS - Technical Supervisor
VP - Vice President
VPE - Vice President Engineering
XE - Transmitter Engineer

## ABC - American Broadcasting

Company -- or Australian Broadcasting Commission
BBC - British Broadcasting
Corporation
CBC - Canadian Broadcasting
Corporation
CJKT - Central Peoples Beg. Station (Red China)
DDR - Deutsche Demokratisher Rundfunk (East Germany)
NHK - Nippon Hoso Kyokai (Japanese $\mathrm{Bcg} \mathrm{Co}$. )
AFRTS - Armed Forces Radio \& Television Service
ORTF - Office of Radiodiffusion Television Francaise
RAI - Radio Televizione Italiano
RNE - Radio Nacional de Espana
WIBS - Windward Island Broadcasting Service
TWR - Transworld Radio
MORE GENERAL ABBREVIATIONS
Abb-Abbreviation
TVI - Television Interference
// - Parallel Transmitter
E2O - Predicted fade-out or fadein time, by computer
Orygun - Oregon
GCP - Great Circle Path

TALT - Transatlantic Listening Test
CX - Reception conditions
MF - Mechanical Filter
SLC - Simultaneous Listening Contest
IS - Interval Signal
DF - Direction Finding SEA - Southeast Asia CP - Construction Permit SAH - Sub Audible Heterodyne

Broadcasting Corp.
CARACOL - Cadena Radial Colombiana
RCN - Radio Cadena Nacional Mexico or Colombia)
VOA - Voice of America
TODELAR - Circuito TODELAR
de Radio (Colombia)
AFN - Armed Forces Network
L.V. - La Voz de
R. - Radio

RPM - Radio Programmas de Mexico
JBC - Jamaica Broadcasting Corp.
SRS - Stichting Radio Omroep Suriname

FDXC - Friendly DX Contest
FET - Field Effect Transistor
$A_{f r}$ - Fredericksburg Geomagnetic Index
MwA - Midwinter Anomaly
B.P.C. -

Boston Publishing Committee

## Medium-Wave Signal Paths, Part II:

## THE BASIC SEASONAL PATTERN By Gordon Nelson

During the past six years the author has systematically monitored the Transatlantic medium-wave channels using sophisticated special equipment and techniques ${ }^{1-4}$ in an attempt to determine the factors which control unusual long distance MW reception. In this article we shall examine a number of the more prominent patterns in MW TA reception and discuss the physical processes responsible; moreover we shall also introduce a significant ionospheric phenomenon not previously implicated in MW DX - the Midwinter Anomaly.

Certain patterns in TA reception are obvious to the most casual observer and have long been recognized by MW DX'ers. Signals from Transatlantic MW stations are much weaker in the summer than during the winter months so much so, in fact, that many DX'ers stop listening during the midsummer period. During the winter there is considerable variation in TA signal quality from night to night, particularly from stations located fairly deep into Europe. This daily variation in TA signal quality is conspicuously nonrandom, however as regular monitoring of the band for a period of several weeks will show. Instead of being randomly scattered throughout the winter, nights of either very good or very poor reception tend to "bunch" together into "runs" lasting a number of days. Runs of good reception are often separated by runs of poor conditions (or vice versa, depending upon how one wishes to look at it); this naturally means that there is a significantly greater chance of one good night following another than if the distribution were truly random. Both of these patterns - the long term seasonal variation and the short term variability - are largely the result of absorption processes in the ionosphere. Before we can discuss the Midwinter Anomaly it will be necessary to describe these "normal" types of MW absorption in greater detail.

## THE BASTC SEASONAL PATTERN

There is a marked degradation of Transatlantic MW signal levels during the summer months which is a consequence of the seasonal variation in the - length of the sunlit portion of the day in higher latitudes. But this is not the only reason why few TA's seem to be audible during the summer period - there is also a purely illusory effect involved and it is important to bear it in mind when discussing seasonal patterns. The problem comes about because the majority of African and European stations go off the air around local midnight and sign back on after 5 or 6 hours. Dawn comes at such an early hour during the summer in high latitudes that many of the commoner TA stations have not yet signed back on before sunrise hits in that part of the world. As a result there is so much daylight along the signal path by sign on time that the station is inaudible in North America. For example, Cairo's winter sign on time of 2300 EST (which in midwinter is a good 45 minutes before dawn) would be more than an hour after local sunrise there during midsummer. Therefore there a are quite a number of $T A$ stations not heard during the summer months simply because of unfavorable scheduling; many more TA's would be audible yeararound if it weren't for this type of schedule problem. Most of the all-night TA broadcasters are audible here throughout the summer although with reduced signal strengths for the reason to be discussed next. Consult references

The second factor contributing to the scarcity of summertime TA receptions is a real ionospheric effect and haspothing to do with the scheduling of the station's operating hours. This is a true ionospheric absorption effect and it brings us to the topic of solar radiation, ionization, and medium wave signal absorption. When the direct rays of the sun fall on the "gases in the upper regions of the atmosphere, the energetic ultraviolet and X-ray components remove electrons from the gas molecules, producing a mixture of free electrons and positively-charged gas molecules. A gas like this is said to beionized. The more intense the sunlight the greater the number of electrons that are stripped away; likewise the longer the direct rays of the sun illuminate the gas the greater the fraction of ionized molecules becomes. The free electrons and positively charged gas molecules are moving at high speeds and it is perfectly possible for a free electron to collide with a positive gas molecule and become captured, thus producing a neutral gas molecule once again. This process of free electrons becoming reattached is called recombination and it is the main way in which ionization gradually disappears.


Sunlight causes electrons to be stripped from gas molecules and these free electrons absorb MW.


At night the free electrons recombine with the gas and the amount of MW signal absorption falls off rapidly.

When the ionosphere is in daylight both ionization and recombination are taking place simultaneously; because electrons are removed at a much greater rate in the daytime than they can recombine, however, the number of free electrons in the ionosphere quickly rises to a very high value after sunrise. Come sunset, however, and there is no longer any sunlight 'o remove new electrons; in the absence of any new ionization, recombination takes over and the number of free electrons begins to fall off rapidly. As long as this part of the ionosphere remains in darkness the number of free electrons will continue to drop until essentially all of the electrons have been recombined.

It is the presence of these free electrons in the lower regions of the ionosphere (absue, say, 20 miles) that is of concern to the MW DX'er for they produce a very strong absorption of MW signals. When a MW signal passes through an ionized gas of this sort the energy of the radio wave is converted into heat in the ionosphere; the greater the number of electrons free in the gas
the more efficiently the signal is absorbed. In the middle of the day, when the concentration of free electrons is at its highest value of the day, MW signal absorption in the lower ionosphere is so great that little if any of the skywave signal gets through. As a result MW propagation during the midday hours is almost entirely by means of the groundwave; there is no long distance skywave "skip" signal to speak of under normal conditions. (On some days during midwinter in temperate latitudes the electron concentration may be low enough during midday to permit some skywave signal to get through; this is the origin of the rare long distance daytime MW reception noted during sorne winters - stations in the 1500 mile range are sometimes reported.)

This daylight-induced absorption naturally reaches its peak around noon in any particular location when the sun is at its highest position in the sky and the number of free electrons is at its highest value. By the same token the total absorption at a particular time of day depends upon the seasonal position of the sun in the sky: it is highest in the middle of summer and lowest in midwinter. The equations describing the production of this daylight absorption are well defined and it is possible to calculate in advance the amount of ionization absorption produced under any particular set of conditions. ${ }^{7}$ These equations relating the position of the sun in the sky (and sunspot number) to the amount of resulting MW absorption on a particular frequency form the basis of our "E20" computer calculation of dawn-induced fade out times for various MW stations. 4


The skywave signal is absorbed in the lower part of the ionosphere in the middle of the day by the free electrons there.


At night the absorbing layer dies away through recombination and skywaves reflected from the $F$ layer become audible at great distances from the station.

As the sun drops in the sky and sunset approaches, the rate of recombination begins to become significant and the electron concentation and resulting absorption begins to drop. Around the time of sunset (note that the time of sunrise or sunset at a point say 50 miles above the surface of the Earth is different than on the ground below; hence the terms ionospheric sunrise and ionospheric sunset the amount of absorption falls off quite rapidly - hence the rapid transition from daytime to nightime reception conditions. How long after sunset until all of the absorption vanishes through recombination? This naturally depends upon how many electrons were set free during the day the higher the level of absorption during the day the longer it will take for recombination to eliminate the absorption during the evening hours.

During the winter month the amount of absorption produced during the daylight hours is relatively small as we have seen. With a low electron concentration to begin, recombination will reduce the absorption to a very small value by midevening. For our purposes it can be considered that essentially all of the daylight-induced absorption will have disappeared through recombination before midnight during winter months. This is because of the initial low value and the early sunset hour during this season. Thus TA signals are essentially free of left-over daytime absorption during the winter months and signal strengths can be very high.

During the summer months just the reverse is true, The many long hours of daylight and the high position of the sun in the sky results in a very high concentration of free electrons during the day; the amount of MW signal absorption is therefore extremely high during the nummer months. (Long distance midday skip of the sort mentioned earlier is never experienced in the summer months because of the high electron concentrations then.) When the short summer night does finally begin there are a great many free electrons which must recombine before the absorption drops to a low value - and there is not enough time during the short summer evening for all of the electrons to recombine. Thus there is a significant residual daytime absorption remaining during the evening hours in the summer and this noticeably weakens the signals from TA stations consistently. (We are only concerned with the residual ionization remaining during the earlier evening hours during midsummer; while the absorption may reach rather low levels just before local dawn - thus permitting Deep South Americans to be heard for example - the TA DX'er is restricted to the evening hours because of the early time of sunrise at the transmitter end of the signal path.)

This then is the fundamental bamis for the general seasonal pattern in TA MW aignal strengths - residual daytime absorption. Probably the most important thing about this type of solar-induced absorption is its complete predictability. Given the composition and distribution of the gases of the upper atmosphere (known through rocket and balloon studies) and the kind and amount of radiation in solar illumination (which varies in a known way with sunspot number and season), it is possible to compute the amount of MW absorption produced during the day and to predict when it will have fallen to a particular value as the result of recombination. This type of absorption is well understood in terms of statistical and quantum mechanics and the predicted values agree very well with measured values. 8 On the basis of this effect we would then expect this type of absorption to be strongest at midsummer, become progressively less important during the fall, and reach a minimum value on the shortest day of the year (December 2lst - the winter solstice); residual absorption should then begin to rise again until it reaches its maximum again the next midsummer. Much scientific data has been accumulated by means of a nymber of independent techniques (both direct and indirect) to conclusively show that this baicic seasonal pattern in residual absorption does in fact exist although, a! we shall see, a number of other kinds of absorption may also be present at the same time.

In Part III next week we will discueb the influence of auroral disturbances on TA signal patterns and explain the Midwinter Anomaly in as much detail as is now known...

IMTERNATIONAL DX Digest

INTERNATIONAL WATERS (HOLLAND). Radio Nordsee International first tested on January 24th; planned schedule is German 0000-0400, Various languages 0400-1100, English and German 1100-1900. Announced frequency of 1605 and requested reports to Radio Nordsee International, P. O. Box 113, 8047, Zurich, Switzerland. (Ken Brownless, England) This one is now operating from a location very near to that of Radio Veronica. (SCDX) The actual frequency is 1610 kHz , of course; heard on this channel MM $2 / 23$ by Stan Morss in Massachusetts testing with no announcements whatsoever. (Ed)

ENGLAND. Per questions raised last week in DX News regarding the location of Stagshaw BBC on 1151, the transmitter is located at $2^{\circ} 1^{\prime} \mathrm{W}, 55^{\circ} 2^{\prime} \mathrm{N}$. This is 10 miles due West of Newcastle-Upon-Tyne and is well within England; the Scottish border (boundary?) is about 27 miles as the English Sparrow flies... This is one of those places that isn't shown on any map or in any Atlas that I've ever been able to locate. (Editor)

CANARY ISLANDS. The following information on the present MW ituation in the Canaries comes from one of the editors of Arctic who's just returned from. a vacation there:

620 RNE, Santa Cruz de Tenerife, 0245-1700; towery situated at Los Campitos, $2200^{\prime}$ high. Horizon blocked to the West.
894 Radio Juventud de Canarias, 0310-2000, towers at Taco, elevation 1900'. Horizon blocked to the West.
1133 Radio Popular de Tenerife is a new 20 kw station using very modern equipment; towers located at La Laguna, elevation 2500'. Horizon is free in all directions.
1385 La Voz de la Isla de La Palma, Santa Cruz de La Palma, La Palma Island; heard with very weak signals and totally knocked off the channel by Radio Centro, Madrid, in the evenings. This station must be very low powered or using very poor equipment.
1412 Radio Club Tenerife, Santa Cruz, 0300-2000, has towers about 2000' above sea level but horizon is blocked to the West.
1502 Radio Popular de Guimar, Guimar, is on the southeast coast of Tenerife; very weak and suffered QRM from European stations. Only the first two of these stations have ever been heard in North America; I suspect that is due in large part to the blocked horizons there. (Editor)

CEYLON. The Celon Broadcasting Corporation is testing on 640 from Maho; any chance for this one Glenn? (ARC)

TURKEY. There is a new atation operating on 1500 with the slogan Egitim Radyoso Zenguldak according to a correspondent in that country; no further information available. (ARC)

SHARJA (TRUCIAL AMIRATE). The current schedule as announced by 'The Voice of the Coast from the Trucial Amirates" is 2200-0000 and 0700-1200 on 737. (Editor)

MEDIUM WAVESTATIONS
IN PORT-AU-PRINCE, HAITI

## 申César Objío

In a trip to this capital during the end of January, the following stations were heard operating in this city:

660 R. Lumiere, 4VUE, "Reseau Culturel Haitien", Boite Postal 1051.
860 R. Progres, 4VDS, (MOVE FROM 1210), Boulevard Jean Jacques Dessalines 785.
990 R. Cacique, 4VCPS, "La Reine des Stations", Rue Traversiere 3.
1080 La Voix de la Revolution Duvalieriste, 4VB, Boite Postal 1143.
1150 R. Caraibes, 4VAB, 23 Ruelle Chavannes.
1250 R. Diffusion Haitienne, 4VYM, Ruelle Jeanty, Bois-Verna.
1320 R. Haiti, 4VW, "La Vedette des Stations, la Station des Vedettes", B. P. 737.

1380 R. Port-au-Prince, 4VS, Stade Sylvio Cator.
1430 Magloire Broadcasting Circuit, 4VGM, Rue Americaine.
1500 R. Selecte, 4VOC, Boulevard Jean Jacques Dessalines, Rue SaintHonore 538.

As can be seen, some stations use slogans after the names - call letters are not always mentioned. These loggings were made with a transistor radio and the frequencies are not exact; the values from WRTVH have been used. At 1400 EST most stations relay a government program originating on 1080. 4VE on 830 could not be heard in Port-au-Prince but was heard weakly about 10 miles west of the city. The following stations are listed in WRTVH but were not heard:

880 R. Nationale, 4V2A
960 R. Carillon, 4VCD
1120 R. Union, 4VF
1170 R. Tropiques, 4VRD
(In past seasons some of these stations have consistently operated on split frequencies and although the exact present channels are not known, it may pay to watch on the following channels: 995 V for $4 \mathrm{VCPS}, 1146$ for 4 VAB , 1325 for 4 VW , and 1385 for 4VS. Editor)

UKRAINE. Uzgorod, nominally on 890, is actually now being heard on 893; since this is located very far to the West, almost to the Polish border, it's definitely worth watching for on a good TA night. (Editor)

QATAR. Present schedule for Radio Doha on 674 is $2200-0100$ (Fridays until 0245) and 0800-1400. (SCDX)

PHILIPPINES. According to a recent QSL, Radio Veritas on 860 is now operating with 100 kw . (ARC)

SAO TOME. Emissora Nacional has recently begun operation of a new 1 kw relay on MW; soon to be boosted to 10 kw . Freq unknown. (ARC)

ROUMANIA. Radio Bucharest has changed its Foreign Service MW channel from 755 to 629. (ARC) This means you can run across just about any European language on 629 so watch it... (Editor)

## PROJECTED OPERATIONS

ZAMBIA. Radio Lusaka on 818 is presently operating with only 2 kw but wil be using one of thennew Red Chinese 240 kw transmitters on this channel later in the year. (Editor)

SUDAN. Radio Omdurman is planning to operate on 1295 with 100 kw later in the year. (Editor)

GREECE. The VOA's new 500 kw MW relay station is supposed to begin operations on March 1 st from near Thessaloniki; frequency unknown but may use the current channel of 791. (SCDX)

BONAIRE. PJB Lovers, take heart The present 500 kw installation is to be boosted to a full $2,000 \mathrm{kw}$ (That's two million watts...) and 4 additional antennas are to be erected. This will be the most powerful MW station in the free world. (ARC)

HAITI. A new commercial station is to begin operation in the near future in Port-au-Prince; will operate on MW in French, Creole, Spanish, German, and English. This station will be financed locally. (César Objío)

MONACO. Within 2 months Radio Monte Carlo will begin an additional commercial program on 1466 from 1800-2100. This program will be in Englsih and will feature progressive rock and classical music; it will be recorded in London under the name "Geronimo" and sent to Monte Carlo for airing. More details in a future issue. (Ian Anderson, London) of Jerime TuLf!!


DX CONDITIONS IN THE DOMINICAN REPUBLIC DURING THE OUTSTANDING TA PERIOD $1 / 25-1 / 28$
*C6sar Objfo
$1 / 25$ Good conditions on the blgher side of the band were noted from Europe. First atrang station heard was Neumunster- 1268 at 0010 with a very good and readable aignal. (It was on this date that I had new tubee put in the RF and rectifier stages of my receiver and I don't know if conditiona seemed better because of this - see Monitor Reporta)

1/26 This evening 1 started from 1600 kHz and worked down; 1 wery easily heard with atrong signals WDR-1586 with IS at 2355 , CKLM-1570, next came Beromunster-1562, Nice-1554, snd finally Warsaw-1502 with the best reception for such a long distance logging - it was as if I were listening to a Venezuelan station. General conditions all around the Caribbean and Central American area were also good but his opening to Europe wal excellent,

1/27 Conditions this evening were good but different, and Rome II could be heard very well on 845, steady and atrong aignal eapecially from 2100 to 2200; around 2130 Cairo on 773 was beard but was rather wesk. But these TA's were only audible in the lower frequencien of the band; wak carriers were noted on other Europe frequancien but no audio. Albania on 1214, Monaco on 1466, and other stations in the high end of the band wers not audible - not even the ones heard the day before. At the name time, and till 2330 U.S, stations were stronger than ever, for instance, WFAA-820 and WRVA -1140 as well as other stations usually not henrd until very late when many L.A.' Aign off; this was a rare logging of WFAA -820 because that channel is usually covered by HiED but here WFAA was dominant. South Ame rican atationa were very weakn Mararaibo-980, Sutatenza-960, Caracas-770, Rumbos-670, Radio Antilles-930 were also umusually weak; usually they are very strong ant even here heard an tranaiator radion but not this time. A curious example was listening to Radio Sants Maria, HIDV -1200 , so strong as a local station bere, a frequency uazally covered by R. Tiempo-1200 in Caracas. This station is north of the Dominican Reppoblic but other atationa from the norit ern part of the Republic were not heard at all, perbapa hecause this antenns is higher in this area as it is located on the top of a mountain in the town of Santo Cerro.

1/28 This evening conditions returned to normal and despite all efforts no long distance reception was heard.

PRESSTIME FLASH...
Our wayward mech nical filter order has finally been located by the Air Freight people and the filte $s$ will be mailed out to those who have ordered them in a couple of days afte we have checked each one to make certain it is operating properly. Your atience is appreciated...

## Hoceptions

35t flyarla. Gran 1 quite etod on $7 / 1$ fron OL20 to MLO. Arabio me played on that mounjed like a beajo, ID and nuwn by a woan in Arabie 0130. Sicral perfactly realaillo, 30 over 509 the entire tine. (Morrinan, Vh.)
536 Irulant. Athloos lomgod vith falr elmale frou $0<25$ to 0235 on $2 / 12$. Playen Eonz pop 确 tho nottly folk bellsas; zach slop Froe 570. Noted
 captionnily gaod this ovenins. Country 55. (Bir Deo Kolley, Hack Bay, Masa)

500 Conary Ininnds. FNE Bents Crun de Denerife. Fird with fantantie signal
 Ts ehannel. ( $\mathrm{K}=11 \mathrm{ng}$, Mase+)
 In 7agirath. (valdron, H.J.)

 for news at 5 before the hour, i.e. at :55, so there was an outside chance it was the Alasian but $I$ suppose it was Hawail. (Dngerfield, Pa.) (Was hat during their rock days? It's a big thing for rock-format stns to go
to news at $: 55$ but more staid stations go to news at :O0. REN?? -Ed.)
Portugal. Iisbon I in very well 2250 2/10 and again 2312 2/12 with a variety of mix and talk with male and female anncrs; signals up to s-9 at itmes. Host regularly heard TA here. (Garber, Neb.)
675 France. Marseille hro, altho not too well, on $2 / 1$ and 2/11 between 1730 and 1800 , mixed with an unIJ. (Dangerfield, Penna. nr Phila.)
683 Spain. Int Sevilla lrd from 2200-2230 and 2300-2315 2/12 with Spanish mx and talk plus several KND IDs; signal very strong and nearly the strength o of 630 at times. then this stn is in well, I try for a signal on 737 ,
 Yenezuela. YVNC Radio Maracaibo on late on $2 / 11$ and brd ta $0148 \mathrm{~s} / 0 \mathrm{fe}$. Thay were su lat for eoos kind of fleeta, ppo was aponsored by Cocen-Coln. (Verriann, Falurax, Va.)

$\rightarrow$ Bht St. Lacit. Gantries bolieved to be the ane in etrong Fagilen with Curthbome nows at 2000 oftur pon of It ght ma which had thene of "tove is Huo" and TOo in iET. Mast be up 4 kTis from B40. (Oeternan, FII) (dater)
8at G11bort and milioe Inlanda. Tarswa andoubtedly the one frou 0235 to 0950

 noted aiter 0330 with rock Signal strong et Imes but audio weak and haru to understand. No ID but don't see how it could be anything else (Garber, Nebraska)
QTerama continues to be heard almost every morning I look for them. Mostly just a weak carrier but did et some audio on $2 / 12$ and $2 / 13$ around 0400 . (Merriman, Va.)
©rarava rias logged here on we. 2/4 at various time between 0234 and 0332 The simnal iaded in about ev ry 5 minutes and each time was clearly read sble for ebout 1 nltate. I picked up talking, jotehes of masie vith and vitbout vousls, goteb, sisd a nestion of Tarnin just after the gonge. I taqve has sijnals on othar norulnes, lut the $2 / 4$ nepegtion is the only one worth Feporting po Par. I woula $11 \mathrm{k}=$ to get more datall. (Dangarfiela, Pa.) hmonian sak. Radio Terevan stimil here on $2 / 3$ nt 2220 , on a good Enet

 950 vetti. (Uood, Inwall) (3tcherd, ndet Bent nant)
tontnerrst. To sat the recors etrasght, I thinir it ebould be notod that fadic Hontserrat is 11esal In tha men fitivi sa $\frac{1}{4}$ ite and not the E50 watte that has boen roportud. (Dangerifield, Ph.)

Colonbla. Blas aver all zle $0216-0231$ 2/15 ovar all else. (Edminds, H.J.
 BSB at otox, thon s/on aset in 38 , then smo in 3 , ITmally a good-ax pog. Itrd 2/9. (inlarom, near, but not IV, joxt Homnoath, N.J.) hi hi
 e-E. notad oli30 $2 / 14$ tha Vory gocd vith Kexican ivx. (Jood, Kallaa, liawait)
 in catilng the stasion on the airy in hou axpactad "within a Pen vecks*.



 lue lut by V.. (Karivin, in.) Csachonlovikin have boen legroviag lataly. (Dangerfi=14, Pa.)


 s/aila LInten In dervic. (Duntorifeld, Par) Dolonhts, BIOT in ve-11, na Hish slde, o0r0 2/16. (1dmands, N.J.) i. Gmavay. Voi Hanich noted, yoll in Eng 0139 2/9. (Cetertan, Ni, Y.) Slerre Loons. Fruetovin in Palr over Borlesix for e fou ainutes 0144 0147 WN $2 / 9$ uith a BBC oomentary about anallpax and vaccinations in jest Arrica. Wha hrd listox, In sone native tongue a301 zo Q:OOT with rade-
 eirvotovn logred wall o/a Borlasux st 0155 on $2 / 9 \operatorname{In}$ Mricsin Ainlect, at 0200 tine pips nod into newa. (x.11ey, Kass.)
 after Nouninster had been on top sost of the evening. (Dengorrie10, Pa.) unID PA. End at $17^{1 / 5}$ on $2 / 11$ and nost 11 vely Lelpzle. Siganl disappeared sioprthy therentter. (Dangertlu1/ , Fa.) colonhlas kailo keloj, Oxrtagean. $2 / 120330$
Dutnes Caracol en Cartagona . (wood, haval
 i. Demary. Sentrilickan very pood on $2 / 1,0150$ to 0205 end paokieg at s-8 and essily saparated froe 1420 . quiet Inetranental ax to 0200 and neve ty a man efter that. (Nerrisun, Va.) neve hy it man efter that. (Werrizan, Va.)
Folant. Jarssy excollant at eltz on 2/ll. (Dangerifeld, Ra.)
1546 Halts. BBC Delimara Point best ever heardi on $2 / 15-2 / 16$ vith man in fasbly st 2313 , musie actar 2335, Vtnaltea on st 2330 and overed Malts, both audible latar wround oo30 rading in und out of each otber. Derimite trable Language. Reportad by Fape. (Marrinan, Va.)

RLnalsas ? Sif ons baty out up wy atatic on this date. Very good on $2 / 18$ st 2330 sud intil 0030; gpt is good is at 0000 follonod by a man in Fussian. Was mixed uith Malta later. fa tryines a teped report to Hoacos as had no reply te report sent to

1550 Colocbin. MTAX La Foa Portiena une on AN $2 / 11$ for a Piapta pgr, spopporad by Cocos-Cols snd wond F If thls wes the aane Plesta that yVIC was on fort Euitsuriasa. Beronthatar vas powerful nt s/on on $2 / 1$ int 0100. Clesc ID
 (Merrluas, Va-)
(nome)

1594 Portucal. CSD! Lisboa apparantly s/on now at 0000 and hrd with excellent síhals many sorminss. Wostli." talk by a man and woman and occasional wasic. (vierrimar, Va.)

## - Kalio Nordsee Intermational --

* 1.510 International täuers. i. Mordses International logized and taped here Yron 12-0 to 1310 on $\bar{Z} / 11$. (Yours is earliest-dated reception, so farEd., Dafinit: IJ on tape, aloñ with annct of frey as 1610 kc , and not the 160 reported in $1 / 3$ DX ivews. Lang sounded like German but could essily be Dutch as iraicawa in DX News. (They sound very similar-Ed.) hey hav: ar IS of $\because$ notes, repeatsd 3 times, sounding similar to the the hav: ari is of notes, repeated thor the last note is not long enus


@utinitely a stn here, Frea s emad nearer l.503 kc, playing pop mx and hro on $/ 12$ at 1559 , unreadablo anct 1400 and back to mx 1401: Georgy airl, etc., nostly serues. Taped a couple of times but no definite lang ancte, si nel comparable to B.R.-160? at times but noise level bothered. Likely F. Jorosec Irj, fill be lookins for cin by others. (Hauser, in Korat Thailand.) (Cood Juess, hi. Incidentelly, will run ur rpt next week) (2a.N. Int. hre for first time on $2 / 170131$ to $0215 \mathrm{f} / \mathrm{out}^{2}$. Current rock max, ancts avr: 15 minutes or so, in scveral langs incl. Eng., German and Dutuch. Jsin,: closen, Voice of Europe and asking for reports to Box 113 , 8047 Zurich, Switzarlanc. Announced as Test transmissions. Has not been hrd in the avenin: so sar, but was good also on $2 / 18$ around 0100 . This should be widely hrd on this clear channel. (Merriman, Va.)
@Radio Oordset International now on the air with tests. Hrd for the first time $3 / 12$ at 1516 s/on after a TM. Their $S N$ xmtr went off when BCB tx carne on. Power isn't enough, apparently, to run both xmtrs at same time. I would guess at least 50 kw on MH . Strong and clear, ID very often and continuous : $2 \%$. Noted strons on SN. Sreq 6210 all day and night but of ten breaks. Incioentally Paul Kilroy's unid on 1562 2/7 is definitely Radio Veronice, they are usin; "international" very often in their pgeg to Veronica, they are ubin, $\quad$ international very of ten in their pgge to
Datch citizens in other countries. (Sorry, out ois sequence-Ed.) (Bengt Ditch citizens in other
Bricson, Vtx.jy, Sweden)
eNoted K. IJ. Int. on c.pprox 1610 with uninterrupted mx, a good signel on a fair to sood TA mornine, eround 0100 to 0300 fade and played many old standards. Faded along i.ith the other TA's. (Stan Morss, Moto-Ski, Mass) EARC rptr $3 . \%$. noted them 2/9 at approx 1530 on Sw freq anneg imminent activation on $M N$ freq, gave as " 1605 " kc . (mv-Eko 2/15/70)
-- Verification section --
755 Portugal. Standard $v / y$ for taped report in 1 month-mint stamps. (Osterman, N.Y.) (you sent them the stamps, I take it -Ed.)
1050 Mexico. XED, La Voz de Baja CPa., Mexicali, B.C. V/1 and postcards from Armando Afuirre L., Gerente General. First report from Hawail but has had some from fustralia.
1203 Costa Rica. TIQ sent card and pennant, unreadable v/s. (Osterman, NY)
1268 \%. Germany. Black card with map of $W$. Germany just in verifying reception of Neumunster 10/22/69. V/s unreadable, seems a little iike "Hinds" and is European \#97 here. (Hilding Gustafson, Rockford, Ill.) (Welcome to IDXD, हood to hear from you -Ed.)
1360 Ryuky Is. KSBU, Okinava Far East B/C Co. verie folder, all details. Xmtr is located in Northern Okinawa, about 65 miles north of Naha. Antenna is a 4 -tower vertical array beamed to Shanghai. Is interested in reports. V/s Warren L. Beals, CE. (Wood, Hawai1) (Mr. Beals gave your Ed. a most complete tour of DZAS and SN xmtrs in Manila in Dec. 1964; he was very $D X$-conscious, good to know he's still polishing tubes -Ed.)


## more verifications ..

1375 St. Pierre et Miquelon. Sent v/f in French for tentative reception of 11/19/69. I had received a letter from G. Daclos, Chief de $1^{\prime}$ ORIF but it was rather vague and he requested "anymore available information" so I sent a letter giving every detail of the reception $I$ could, which netted me the reply. Signer is not readable, but was someone other than M. Duclos. Ny best from No Amer and Ctry \#l7. (Gerber, Nebr.) Mexico. XECO-1380 sent same $v / 4$ as Cliff Reno got from XEOY. Answered my report from May 1969, specifically verified date, time, freq, calls and portable xmtr site. (Waldron, N.J.) (Fortable what?? -Ed.)
1394 Albania. Registered letter from Tirana verifying my reception of Oct. 27,1969 and makes European No. $96 . \mathrm{V} / \mathrm{s}$ unreadable. (Gustafison, I11.) Anguilla. Letter from Roy Dumlop on their DX for NNRC $12 / 22 / 69$, same as everyone else reporting. They state they are a rare station?? I hear them fairly regularly in the early to be exact, hi-Ed.) Anyway, Country No. 91 for me. (Gustafson, Ill.)
Dominican Republic. Nice friendly $v / 1$ in Spanish from Radio Maiba HIJC, signed by Julio Caballero, Director-Proprietor. Was impressed by my tape. Enclosed some used postage stamps from the Dominican Rep., as I had done likewise with U.S. starms. Last paragraph of the letter reads:

Agradecemos en todo lo que vale tan valiosa informacion y aprovechamos la oportunidad para solicitarle nos siga sintonizando, ya que proximante instrumentaremos un readjuste en nuestro transmisores y nos agradaria mucho saber como nos sigue escuchando en la misma frequencia." (Waldron, N.J.)
Well. ounofficially, it looks like "We gratefully acknowledge (all of ) what we regard as very valuable information and we would. like to take this opportunity to ask you to continue listening to us, since we Nill soon be making a readjustment in our transmitting equipment and we would very much like to know how (well) you continue hearing us on the same frequency". -Ed.

Back of the File... Concentration for the past couple of weeks has been on U.S. reception here, as excellent cx in that direction continue. No doubt, European reception is excellent from your part of the world. That seems to be the correspondence: When ECNA gets Europe, Hawaii gets ECNA. (Richard Wood) ... Cx seem to have tapered off going into February with TA's not near as strong as they were. Most receptions have been on the high end of the band. Still getting very weak reception from Tarawa but not as well as they were hrd on $1 / 31$. Only thing of interest is Nordsee-1610 and I suppose we'll get into a big argument about whether this is BCB or not; for my money, it is. (Same here, too -Ed.) (Alan Merriman)... Some of the TAs recently have been at season's best levels. Nice $D X$ cx continue here, and I don't mean just Nice, France: (Ben Dangerfield)... Wish I had more but will have to get new loop booster amp built first. Still need some of the hard-to-get parts. The present unbalanced FET ruins the DF nulls when used in direct-coupled configuration. (Clarence Freeman, Cal. Irom last wk's report) ... Cx were superb last week of Jan and first of Feb. Seems I hear more than ever before and could be better cx, better receiver or more accurate info ( tnx to $I D X D$ ) telling me where to listen. Maybe experience enters in, too...Seems our wandering Cubans are on the move again. Several unIDs suspected to be Cuben, i.e. on 1393.2 and'l399. MFs will certainly help, when order arrives. The R-390A has good selectivity to a point but the deep skirts are miserable, but it still is better than any other un-modified rar I have ever used. (Jerry Conrad).... CFFB-dx was Not Hrd by your Ed. in NYC.


## 

General: is I write this I am in the aiddle of a protracted period of North imerican receftion of stacerine, excellence. Coast-to-coast reception is bein". experienced on i.ll chanels, inclucing gravevards and regiorals, and there is no guarantee that the station dominating the chamel at any fiven moment will prove to be the farthest west, or the hest Coister which normally doninater. Gravoyarders from east of the Kissisirfi have bren «comonrluce, with several from Fenna., va., etc. It so happened that this period, certainly an all-tine North American peak since my arrival in Hawail, coincided with a series of frequency checis in the Kentucky/Vircinia area, which were, consecuently, easy logeings. But there hes been no particular dominant area within North America, and Alaskans have - for the first time in my experience here - been heard at seri-local strengths, $2 c$ or 30 db over S-9.
1/25: Fid-Hest dorinating Hest Coast on many fq'-, e.E., koIL over flen-1290.
1/26: An outstandine night; Conakry-1403 reportable, the best I have heard it, and one of the finest N.Ancrican nights in my experience. The WiND-1580 Pa. Pest gave pretty solid copy for over half-an-hour, and a $f / \mathrm{c}$ from WFLN-900 Pa., I kw, provided strengtis of up to S-9. Pacific generally fine, and Alaska very good(KJNP, KFAR, KICY). An Ill. graveyarder noted.
1/27: snother exceilent N.A. night; another Ill. graveyarder, $a_{\varepsilon}$ ain on $f / c$. Conakry in well, and traces of what beaming indicates might well be my second African, though not positively identified, Dakar, not on 764 , but, significantly, on the h.f. frequency of 1538.
1/28: Mainland stations cutting locals to pieces, e.g., KSTN severely disturbing KCCN-1420, wi thout looping.
1/29-30: Basically similar.
1/31: WB2, KDKA etc. semi-local. Both Alaska and southerly areas equally good, e.e., WSB and YFGD both strong on 750. Cuba, West Indies above average, and also Pacific. Rarotonfa-600 new. Asia very good, new Thai logeing, etc.
2/1: Swing back up to the north again, or rather, loss of outstanding signal from Tahiti, northern S.America, mid-Pacific, etc. N.America continued excellent.
2/2: WCLS-1580 good, CKLW-800 dominating its channel, WABC, probably the best I have ever heard it, WNBC very good; Alaska very good(KICY, KJNF). Central and northern S. America fairly good.
2/3: In retrospect, I would say that the period of outstanding North American cxs began here; clear sign of this was KMOX giving KPNW a run for its money, and similar tendencies with $\mathrm{KYW} / \mathrm{CFCN}$, etc.
2/4: CKLW right over XBLO, CHAB etc. KYW level or over CFCN; La. graveyarder on f-c.
2/5: K.OX almost level KPNN; bast Coast excellent; Alaska excellent, KCAl-790, long unheard, noted. Asia good.
2/6: CKX-1150 Man. dominatine its channel, very unusual. KVOX-1280 Minn. and other loggings from the Nan./Minn. area, an evident directional opening.
2/7: N.America now at its peak; 2BN-1 good all evening; WABC level and over KOB, the very first time ever so noted; WLW excellent; WHO ajmost level local KHVH. Four Kentuclyy noted on $\mathrm{r} / \mathrm{c}$, powers down to 250 watts(w,DO-1560, S-9). W. Va. $\mathrm{f} / \mathrm{c}$ for new state; WESJ-1560 F. F . and other west Indian signals good.
2/8: Another peak richt; 3 more Ky., ? new Ark., wTPS-1560 fich. (FSA 500 w.), etc.
2/9: For the first time, Alaskans at truly semi-loc-1 streneth: KTCY and KJNF, plus
 farther west on its channel. !HLC-1460 l.Y., Cirs-90C tue. new. whitm70 good.
2/2C: Still on pear. 2 new Va. (one fy), pa. GY, MAC-1300 Ind. 500 w. , etc. Witu151C kass. up to $S-9$, over XSU-1510 Cal.

Richard E. Yood

Next month the Voice of America will complete inatallation of its new transmitters at Tinang in the Philippines, making the relay station the single largest transmitting plant the Voice of America has overseas. The U.S. and Philippine governments reached agreement on a
new high-power relay station at Tinang on May 6, 1963. But it was not until May 1969 that the first of lo transmitters, each with a power of 250 kw , vent on the air at Tinang. The last transmitter is due on the air in March. The project's cost was put at over 23 million dollars.

The 2,450 acre transmitter si由e is in Tarlac province, 10 miles northeast of Clark AFB. All of the quarter-megawatt transmitters at Iinang were built for the VoA by the Hughes Aircraft Co. in Culver City, Calif. They are not known as a supplier of broadcast transmitters, although they produce other types of advanced electronice equipment.

All the programming relayed by Tinang originates in Washington, or other studios in New York, Miami or Los Angeles, and are picked up at the VoA receiving site at Baguio, in the Philippines, and then are relayed to Tinang and to another transmitter site at Poro.
Programs are transmitted in 10 languages to target areas in East and South Asia, and the Pacific. Chinese-language programs still encounter extensive famming, which has been a problem since 1956.

The VoA has another high-power relay under construction at The VoA has another high-power relay under construction at
Kavala, in northern Greece. Kavala relay will have 10 SW Kavala, in northern Greece. Kavala relay will have 10 SW
transmitters of 250 kw each with 22 diplexed curtain antennas for improved coverage of East Europe, the Middle East, Central USSR, South Asia and North Africa. The Kavala station will include a 150-kw medium-wave transmitter for improved coverage of the Balkans and the southern part of the Ukraine.
(excerpted from BROADCASTING; Feb. 16, 1970)

IDXD produces more new international MW station
information than any other source in the world!!
$x$
IGESI

## EDITOR： <br> r．j．edmunds Dor 946 wayne．п．i． 07470

Ukay，gang，we＇re trying several new things all at once，hi． Jue to George birthington＇s washday $\&$ other things，we won＇t be able to do the column at work，anc of course there＇s no mail Monday anynoo，so the thing is being done at home on my newly－ cleaned old crate，hi．＇lype size a bit bisger，but．．．．ikewise， I fergot to bring a map tracing home，（and my correctype．．．） but，we＇ll manage．Finally，we＇ll run things a bit out of their usual order this time for other various reasons．First will be a bunch of things per Cooper－l＇rent．
The following stations have been granted CP＇s for changes in directional pattern，xR location，ground systems，etc．，and should be expected to test a bit b4 completion，so watch．．．．

| 570 | $-W Y A A-P x$ |
| ---: | :--- |
|  | $=W H A P-I x$ |
| 640 | $-W H D O-0 h$ |
| 810 | $=W A T I-I n$ |
| 850 | $-W A B A-P A$ |
| 900 | $-W P I A-K y$ |
| 1010 | $=W I 2 L-K Y, ~ e r ~ K i$ |


|  | W |
| :---: | :---: |
| 1340 | WA |
| 1380 | WLRO－Oh |
| 1400 | WGBG－NC |
| 1460 | WXO |
| 1480 | KVA |
|  | KIGR－Mn |
|  |  |

## changes

SCH：NSP（NRC）
SCH： 24 hrs ，off wiM（NRC）
Thousand 0aks，ANT：D3，clarify（Father Jack） hnnatarico， 1000 DI （NKC）（RjE）（Len Kruse） dP is on $(\mathrm{JaO}$, no Lean）
UP in on（iajs）
SCH：off SM 0500－1000，MLH irr．（NRC）
Does indeed use early $A M B C$ time as per log．
Noblesville， 250 D 3 （ KjH ）（Len）（NRC）
SCH：s／off O300（NRO）
Delete CP，was init．decision only（JAC）
Eaton，Delete CP，was init．dec．only．（JAC）
Warsaw， 1000 D 3 （RJE ）
Kansas City， $1000 / 250 \mathrm{U} 2$（KjE）
$\mathrm{SCH}:$
Is on（inhC）．（iNKC）
Is on（NRC）
CP is（RjE）
$\mathcal{N}$ is（new str．）（NRC）
New call．，Hindman UP（ Kj j ）
Delete Cp to 500 Hl ，was only AXR UP．（JAC）
WEDC－TI
KPIZ－Tx
WCVR－Vt
$W K A P=P a$
WCVR－Vt
$1330 \mathrm{WTRX}-\mathrm{Mi}$

1460
KIRL－10
＇NGNE－3：1
WPFI－In

KX 1440 WCDS－Ky

## mianight to sunrise

## Ending ET－mx w／c\＆ew 0300 2／16（Jerry Starr，

 Youngstow，Ohio）On w／TP－mx 0230＋2／15（Marty Blumenthal，Wor－ cester，Ma．）Welcome－RjE
OK on DX past 0330 2／16，much trouble from KHOS rew／c\＆w．（starr）
T－mx hrd w／ID $03332 / 23$（Page Taylor，Butler NJ）ER－OC hrd w／ID $02302 / 23$（RjE）
Hrd w／a Johnny Cash single，followed by e c\＆w femele w／a record titled＂Cincinnati， $0-H i-O^{\prime \prime}$ ard $00152 / 23$ ．Coulda been WZIP or WCMS f／c．（Rjei）
Was off 0024 and on＇til about $03002 / 23$ ，but only SS there（RJE）
Hrd $01302 / 23 \mathrm{w} /$ WNEW off．Weak rr u／them， but no further copy．WNEW on 0300．（RjE，Page） DX TENT potent w／rr 0100－0200＋giving phone number（Page）Outrageous signal ollo－3215＋w／ number（Page）Outrageous signal 0110－3215＋w／
 knew there＇d me＂station mingles＂（hi，ERC but ＂．．．the station that wished on me
Hrd testing $2 / 13$ 0220 tune－in to $0243 \mathrm{w} / 50 \mathrm{kw}$ non－D＇Z \＆0245－50 w／50kw DA，but barely audible on latter． 50 kw DA is for CH ，as will be 10 kw DA nites．Will be testing for next 2 wks．or go Hxpected air date the first week in March．
 is Box 789，zip 81501 and，they VANT reports． is Box 789，zip 8 Louis，Mo．）Helcome \＆tnx．HjE （Kich Eddie，St．Louls，
Hrd w／ID $03122 / 9$（Starri）
Hrd w／ID 0312 fate for flood emergency $2 / 16$ ending $w / S S B$ On late for flood emergency $2 / 16$ ending
s／off 0210 ，musta been day pwr．（Starr） s／off 0210, musta been day pwr．（Starr）
Hrd iT w／TH／OC ó ID $02452 / 13$（Paul K．Hart Ft．Worth，rx．）
Wili．have PoP either $3 / 7$ or $3 / 14$ betwean 0100 \＆0500． $2 / 8$ test was apowerhouse here．（B1ll

Stone，Claremont，Ont．
sxcelient $w / S 5$ ID $02102 / 23$（Page）
Almost buried w／rr v／noisy TY $02102 / 23$ ．（Rjw） TuST hrd w／quiet mx，ID＇s in voice and rapid Morse $2 / 230059-0130+$（ RjE ，Page） Had ETPTT $2 / 230100+$ ，log sez should be RS＇til 0200．Hmmm．（ ijjz ）
（again）Hrd on $2 / 9$ test $w /$ exc．sigs． 0255 ． （Starr）
Hrd $05002 / 23 \mathrm{w} / \mathrm{WPOW}$ on，quite potent $w / n x$ 12／．（Pacse）
IRE es usual w／ET past 0150 2／9（Starr） Fird $\mathrm{w} / \mathrm{t} / \mathrm{c}$ ，ren well beyond 0140 2／3．6；digcov－ ered on tape replay $u / W S A R / W H B C$ mess（ Fj j ） Could swear I hrd a WTHI ID here 0145 2／15， but log lists $s / o f f$ 0100．A chance maybe，or just my ears playing tricks．（Rjui） Hac ET－TT－00 2／9，very few ID＇s（Starr）
（for those who don＇t know，hi，JaC is John a．Callarman，our il－ lustirious former publisher．Father Jack is Father Jack Pejza， of Ojai，Ca．＇linge big letters on this typer restrict the amount of words per line．．．．）

Finally logged uhis nasty $2 / 230317$ ．（u） 0 ． I＇ll have to write＇em to shut up so＇s they

S／off SSB 0030 2／16．（Blumenthal）early．．． Ke last week＇s item，did entire wr w／just 2 records，one：＂No Time＂，the other，＂Je－ sus Is Just All light with Me＂，which，con－ trary to popular belief is not relig．，but underground rock．（P．je）
Had PoP－ETT－w／Tr F mx past 0200 2／14．（Starr）
KBIB－Aㄷ WKOG－Ga Hrd ending EM－mx 0137 2／9（Starr）Hrdw／ w／L＇P $/ 16$（BIumenthal）

## taylime

sumsel
1210 WKNXGİ Fairly clear u／w心U w／pop mx 12／15 1742. （Blumenthal） Hrd 1000 2／11，never b4 noted daytime（soren－ son）

## T／C S

WGWH－1500；WDIC－1430；KWLA－1530；WBCI－740；WWDR－1080；WFOY－1240； WSIG－790；WHNS－1360；KWVY－1470；WKJK－1600；WTON－1240；KSYL－970 WYNS－1150；WLIY－1340 \＆WrUN－1150 by Page Taylor；WGMF－1500， WIIC－1430；KWLA－ 1530 by M．Blumenthal；WGNE－ 1480 ，WNS－1150 by RjE．WDOC－1310；KDXU－1450；KBUN－1450；KLAV－1230；WIOS－1480；KRCB－话 50 ；KPUR－ 690 by NRCime I＇11 lsit names in $\mathrm{r} / \mathrm{c}$ column，so as to avoid duplication $-K j \dot{ }$
Once again，blease jardor the large letters \＆the errors，and so on，but this tyner is really a truck，and I＇ve no correct－ tyoe．＇ihings＇ll be back to normal next week，so：

＋1210 wmex－Mass Is now off daily at 0200．（nk）

FRANK MERRILL Jr．－ 10673 Saline－Milan Road－Milan，Michigan－ 48160 Yes，it＇s＝again after a long absence．My DXing thus far this season has been quite $s_{5}=\cdots, \&$ I can easily list my endeavors of the en－ tire season within this Musing，hi．SSS activity：WWD－G90，WCRR－1530 WHRM－ 1580，WCIR－1070（for new frequency，ex－1060）WENR－1090 WMOB－840（new Calls）CKSM －1220，WRKN－970，WWLE－1170．Daytime：WLRO－1380．Evenings：HIJP－1010 WFIR－960 （new calls）TGED－1210 TGT－1187 HJCY－810 HJBL－1160 ？3？s on 10301040 1168，GKCV 1280 Tirana－1394（Country \＃58 or something like that）WHOM－1480（finaily；）PJAG－ 925 （heard previously on 905 for me），CHRC－800．MM 11／10－WMEI－920 w／HI \＆YVOD－ 780．11／17－YYNZ－1020（ex－1030 for me ）CKRM－900，CFOX－1470 w／Drake format rr． $12 / 7-$ WLIL－ $930 \mathrm{w} / \mathrm{ET} / \mathrm{TT}$ 1：13am but extremely weak becauge or Aurora（I was trying to ID the SS there）．12／23－HJAE－919 5am．12／25－CHGB－1310 presumed to be the FF w／no EE ID on the half hour（．Bill kaczko tells me that CKOY or some such is FF but had EE IDs too）．（CKOY is ALL EE－ERC）？？？－1400 w／FF poking through the mess at times around 2：30am．CJFP is NSP，but was CKPN also AN that morning， eastern members？12／26，WDEF－1500（ex－WJBK）heard A 12：00：01；they ho given their final WJBK ID just seconds earlier on $12 / 25$ \＆I just happened to be listen－ ing because of a friend＇s tip they＇d go c／u just after Christmas \＆I already knew they were changing calls．MM 12／29－WKND－1480 \＆WWSD－1090 Specials were heard． $1 / 31$ was the best TA morming I have ever noticed，w／wimals all over the dial． Portugal－1367 heard，plus what apparently were Spain－1385 \＆Portugal－1594．Tra－ ces of Albania－1394 were still there as late as about cam！By the way，my CHRC－ 800 evening catch was heard $2 / 8$ on the way home from work alone this one roed where CILJ gets rather weak（in their null，maybe？）I have heard CJLX KREI YEIO \＆PJB before along the same stretch of road so it might bear even more checking out．I＇m really 10cking forward to the CFFB Special．Now，the wey that every－ one is hearing CFFB，even out West，how come Alaska hardly ever makes it beyond the Continental Divide？CorrespOndents，I＇ve owed scone of you letters for as long as half a year but it may still be a while！Best DX to all \＆ 73 ．

RICH RICHMAN－ 14 East Cheshire Place－Staten Island，New York－ 10301
For the sake of variety，I＇ll start w／the veries this time． $\mathrm{v} / \mathrm{q}$－ WDAK（after $f / u p$ ）$v / 1-$ CKFY WGWR \＆WQVA（after f／ug）．New cotch of the week wes WNRV－990 Va．heard $2 / 12$ e 5：58－6pm w／ad \＆nice s／off．WANT－990 Ve．unn，logged earlier same SSS．A recent good catch I＇ve veglacted to mention was WIIJ－1590 renn．1／4，\＆ $1 / 5 \mathrm{w} / \mathrm{s} /$ orf © $6: 01 \mathrm{pm}$ ．MM $2 / 9$ provided the following let－down：A station heard testine $w / \mathrm{c} / \mathrm{W}$ during wwy＇s $S P$ ．$A_{S}$ the signal was much weeker than that of WhVA I figured I ve finally gotten a second station on 1170 ．Then © 1：53am，it was announced that this was WWYA testing their AXR w／5，000w．Emough to meke uou want to رfere．（Did you？？－FRC）MM 2／16－I found that Ga．sta－ tion－you know，the one w／more aliases than the guys on the FBI＇s＂Ten Most． Wented list＂，namely WKOG，testing again，（）1：17am tunein till l：20 s／off．Test differed from previous ones in that the tities of the musical selections（recent $c / w)$ were given．As soon as they left the eir，another tester was there on 1560 ， They played the latest from Guess who \＆the B rds－no ID heard，good signal．SS mx heard $u / W H A M$ © $1: 35 \mathrm{am}$ ，the Mexican，I guess．（Or WBNX phenonemon which is heard here \＆around the NYC area－ERC）The date of my mystery tester in 690 us－ ing a Johniny Cash album from 1：07－1：40am was 1／17．The AM of 2／17 found lots of activity on 1330 during WEVD＇s SP but nothing new．Fach of the following hed its turn at dominating betwean 12：15\＆ $1: 15$ ：WHOT WCRB WFBC Kink on RS，\＆WMLT test－ ing（announcement heard＠12：33am）．Thanks to Rick Marr for the wuST info． Thanks to John Johnson（in his $1 / 31$ Musing）for showing those two cities in Va． \＆Ind．the gryesty way to spell their names，hi．NYC radio has suffered its greatest loss in some time－DJ Tom Clay has left for the WC．（That＇s awful， Rich－who is he？－ERC）Broadeasting（2／16）informs us WAIT is asking the FCC permission to operate unlimited time on their clear chamel frequency．Would WTAE be the most likely candidate for this situation？：WMTR－1250 w／ERS test－ strong unid signal w／ad，during daytime，no clue from ad．Which station in Hawa－ 11 has the distinction of being the $S$－most USA station？I＇d sure like to be there．
 treportins Crom Ononcupo, Philippines, $2,3 / ; 0$ ) Greetings from the Fer Bast: Nell, I Im sure mant of you are wonderin; what happened to las. I'm now quite a wr: from m exotic position as "LA\& Cuban DX-pert" from lieta (near Miami) Fla., as I was a fex jears ajo. Now I'm a hard-workins missile fire-vor. troi -ecinician (FC radar) aboard a =loatinj pyrotechnicel platiorm, tryine desperate 2 ir to Thevenise m. quipment but would rather see if it "loats! But the perate $\underset{\text { lo }}{ }$ to ne bench the scopes and meters are not all in vain! How else does a DK10ng hours behind the scopes and meters are not al in vain. how eise does a dx
ret see Semoa, New Zealand, and New Guineat Bj the way, if you can fre to

 LX, hi: fuci lend, Gisborne \& Thuranza were the parts visited, with a side trip
to Rotoria Cor some fresh air. NZBC is very friendy; in Gisborne they went so to Rotomia ror some fresh air. NZBC is very friendly; in Gisborne they went so
fer as to put me on the air plain U.S. rr \& c/w \& readin spots for $1 \frac{1}{2}$ hours fer as to put me on the air plaing U.S. rr \& c/W \& readind spots for li hours
over $2 z \mathrm{C}-1000$ \& $22 \mathrm{c}-1280$ in "rejional linkup". I regret not havine a tape of it Sorry, also, not to have had the chance to visit some of our Kiwi members durine ny stej - ma:be next time. Also I saw Japan, Okinawa, Philippines, Hong Kong \& Da-Nang; also Red Chine from a distance of 300 yards - close enough: I return to Cal. \& ERBA meetings next month; I'm home-ported in San Diezo. Local Hong Kong stations are EE "R. Hiki"-545, CC "Comm. R. "-610, CC "RHK-640" CC "Comm. R. "-550 \& EE "Comm. R.-1030. Macao's CC serrice on $7+0 \mathrm{k}$ gets around, \& Philippine stations are a blast; one carried a hair-dressing (?) commercial involving two girls with swear words. Japanese radio is blah; they watch the colour tube there as much as we co - that's why. Before I close, I'll let you know that I'll be home in Uleta for three weeks starting in mid-April, so stand by down there! cood DX to all; it's great to be back! 73 .

DAN PHILITPS - X-2 Seminary Village - Louisvilie, Kentucky - 40207
New loggincs are as follows: 1/14-WATI-810 logged RS 12:30pm with good signal. Same day s/offs included on 900 WOZK s/off 6:15pm, never heard in Ala. Aiso YDOT \& WGOK-900, s/off E:15. 1/23- I heard WCGA-900 Calhoun, Ga. s/ off ef 6pa followed by KCW-1580 Mo. s/off 6:16. 1/26-I heard "END-1580-TEST e $2: 42$ :' WPAC NY testing. WPAC pretty well wiped out WEND in the E, I imacine. 2/6-I notec WCVL-1550 (0) 2 for a new one. 2/15- I heard whor-15:0 Gorson, Ga.
 no sien on imic Dx. Others noted but ajead, heard were WDIC ric, KIOA WWGW CKOC KONO TTCY \& HFLA. Durini the two hours I DKed this MM I noter the Sollowins cer-

 nino. I point this out because in most cases I listened for five minutes on each 2400. I point this out because in most cases I listened for five minutes on each
weitina for IDs which never come. Only TT w/ID was WKoc so for the mornint I heard 16 Tiers \& hed one ID. This is really ridiculous. I wonder what FCC would do if 1,000 DXers wrote them complaininz about stations not IDing. Would they 1isten? Beautiful wX continues w/rive" of ice on ground. It took 30 minutes to scrape ice off windshieln of car. You New Yorters have it made riding those subways, hi. Well enough for now. N wife is goine into the hospital $3 / 6$ for operation so DK season looks over for a while since I must become chief cook and bottle wisher. 73s.

STEMART DRAK - 2108 South Simpson Street - Philadelphia, Pennsylvania - 19142 $f 11$ of a suçen alter three sood months w/many new loginins , the bottom seems to have dropped out. So far in Feb. I have exactly one tentative catch. On $2 / 4$ a possible KJSK -900 Neb . Tring e $2: 1 \mathrm{jam}$. It wasn't for 1ack of tran, though as I was at the dials each night possibie. the ore weekeni $2 / 7-0$ I hat to worl \& missed a sew I ould have used. On the verie sicie or the ledzer, I co tase a brightor note. VFI R-9f0, WTPN-1600 WFIC-ijこ0, \& WKRR-1500 ain sent v/2.
 of senting for veries, thouch mirst lorntns were maje a feu months prior. I


played like a tune. on MM 2/16, 1560, 1:32 OC on, 1:35, a few short passages of mx, 1:40 three tone beeps, 1:42 carrier off, no IDs. Any help wo these would be appreciated. In the v1/from WFIC the CE seys he was surprised I heard WIC u/ WCKY. They should be on for further tests soon. The address is WFIC Radio, Box 475, Collinsvilie, Va. 24078. Collinsville is in Henry Co. \& lies between Bassett \& Martinsville. I saw in the local newspapers where WFIL AM-FM-TV were sold ty. Triancle Pub. Co. I hope this will mean a change in $\mathbb{N}$ policy \& open 560 a an. I have to arree w/the statementI noticed in DX NEWS about "Your Pest is gain. . ${ }^{\text {I }}$ Yet it is $d$. with their own. Good DX to all. 73 .

RICHARD E. WOOD - U. or Hawaii - Dep't of European Languages - Honolulu - 96822 Intest veries: KXLE-1240 Wash., WGAR-1E20 0., KYES-950 Ore. KNIT-1280 Tex., WFIN-900 Pa., most distant report, previous best was from Cai. I regard this as my best U.S. verification; one interesting point is that the DA of WFIN is a cerdioid, beaming due N; I have heard several stations which beam N, although I am in an SW direction from them. Explanation, amyone? (Over the North Pole arda?? -ERC) Must be a minor lobe. Also KMFB-1300 Cal., most distant report, KLEB-1600 La., most distant correct report. What I heard on $1 / 31$ wps, it turns out, part of KLEB's annual PoP for the FCC. Just shows, it pays to keep your ears open every night, not only MMsx \& KLAV-1230 Nev., most distant genuine report, although they say some people listen to the station while visiting Vegas but send their "report" after they get home. CX to NA continue famtastic, \& it never rains but it pours. When my much-wanted 40 th state, Miss., was heard, not just one, but two stations came in, in quick succession. Reports are out for $2 / 10$ to WPUV-1580 Va., r/c, WAZL- $1490 \mathrm{~Pa} . \mathrm{r} / \mathrm{c}$, KTEL-1490 Wash. Fi 3 , off 2:01am, YOZE-1300 Ida. s/off 3:01am, WAAC-1300 for Ind. Hz. Then on 2/11, WCIS-1460 Miss. $r / c$, WMOX-1010 $r / c$, in quite we11, giving me two shots at verify ing state 淮0, WSOY-1340 I11. 2/12, KWYN- 2400 Ark. noted ETing \& dominating the channe1. KFA-1510 Wash. seems to haye stopped ANing agein, \& WMEX Mass. is often remarkable. My unheard states are now the Carolinas, Del. Md. N.J. \& New England except Mass. Paul Hart has calculated WBAL-1090 throws only 10 w my way, so I suppose I'll have to look for Ma. elsewhere. Congrats to Alan Merriman on Ces -844 in Va., a fine catch, and a sign of what current CX are like.

FRED OSTERMAN - 436 North Forest Road - Williamsvi11e, New York - 14221 844k brought a new logging 2/25 © 7:54pm, NoT Gilbert though! Thanks to phone tip from Ron Christen, St. Lucia was logged on this frequency w/ Love is Blue, then EE Caribbeen NX, at 8 pm . No positive ID, but it must be St. Lucia up $4 \mathrm{kc} / \mathrm{s}$. Oh we11. 2/16 brought my 48 th state - $\mathrm{kJC} \mathrm{C}-1140 \mathrm{Nev}$. heard very weil on $\mathrm{f} / \mathrm{c}-\mathrm{rr}$ "Always three in a row on K-Luck". Taped \& reported. Same night, KELO-1320 heard on s/off for N.D. \#\#, KINOX f/c for S.D. \#3. 2:38, WHUN1590 Jackson Miss. on $\mathrm{f} / \mathrm{c}$, continuous IDs. QSLs few and far between. KXRB v/i for TEST, WVAB sent a recefptign verification $\mathrm{v} / \mathrm{q}$ for TEST. WBAA $\mathrm{v} / \mathrm{f}$ for TEST. v/q- KSTB VOW-755 Portugal, TIQ (\& pennant). I can't wait to try for CFFB. Still nada from WRYT (or Keck for that matter, hi).
amN douglas r. Juen - Box 10543 - CMR3 - Sheppard afb, Texas - 76311
Greetings from Sheppard AFB. Well, since coming here about a week ago I really haven't got down to DXing yet. I do have a RX which I bought nt the $\bar{B} X$. It's a Sony pocket radio Model 3 R- 67 \& it seems to be quite good. I hope to get a lot of DXing done on the weekends so look for a Musing here more often. To Buffalo area DXers: Hello, I'm not dead \& you will hear from me often To $A M N$. Bruce Reymolds: I'd like to meet you \& talk DX. I am in the $3776 \mathrm{~S} / \mathrm{S}$ Roon 304 so if you can look me up, please do. Before leaving for USAF 12/18/69 I got the following veries: v/q-KBIG WSPA WPDX. v/1-WHUT WIL WMHI \& others, but I don't remember them. $738 \&$ good DX. (The best to ou in the Air Force, Doug:)

[^0] may be the Sun．followin first Sat．－ERC）fing first Sun．，thic wan seconc．（I 1：54－2 s／ofe Cor Mont． 13 ．WDOL－1470 Ga．copied on Emirr \＆freavent ids 2：i5－ 2：25 fadeout u．WVOL WOHO combo．KKHI 15シ0 Cal．in w／beautiful si，nal a siofr，en


 WVNJ＇s listed $r, c$ time，un though．SS on 1194A looping cuba，12：30，but faced， so no ID hdurd，if Eiven．WCSR－1j40 Mich．20GEed 12：40－12：55 wifrequent IDs and ciw also．WWCA－1270 has s／off（2）1：02 for the last two MMs，so perhape a perma－ gent sked chance，ex－2：02．KRDS－1190 w－S～T beautiful signal（2 1：04．V0A－？100 Munich w／EE NX \＆ORTF－1205 good leveis E 1：O5．Unk ET／mx on 1560，off © 1．15， WKOG？WMTI－1530 © $1: 17$ ic on $w / E T$ ，sounced just like NNRC TEST in 12／69．Ques－ tion－which one on 818 e $1: 32 \mathrm{w} / \mathrm{man}$ talking unk lanzuage，then into mx ，perhaps FP lanfuage，Andorra？If so，where the heck is Andorra？ET all MM $20 n g$ on 1460 w／Little Richerd aibums，but no IDs．WCVR－1320 impossibie due to IIIS．WOR off again／on again，but I did log lIRO 1：57－2：06 \＆aceain 2：56－3，much wanted \＆appre－ ciated．MOW for MMPC．WDSM was noted w／c／w saying until 7 am ，so boo to them， meybe NSP． $2 / 12-$ WTAD 90 Ill．logged on RS E：12－6：25pm fade，WLBL Wis．s／of f e 6：30，MMA－960 Ia．logged 6：44－7，mostly w／Lifeline． $2 / 13-$ WNJH N．J．on r／c nice－ ly 12－12：15 w／repeated IDs，very little TT．CHLO－ 1570 Ont．on first dey of RS on 1570 12：01－12：09 like a local w／rr．That morning I happened across WCMY III． operating on 1435 k 9：09－9：30．I called them \＆they soon signed off．Normally WEEF／WIRE cover them．2／14－KKIN－930 Minn．for a nice Valentine＇s Day present a $6: 25-5: 45 \mathrm{~s} / \mathrm{off} \mathrm{w} / \mathrm{c} / \mathrm{w} .2 / 16-\mathrm{WDAD}-1450 \mathrm{~Pa}$ ．s／orf e $1 \mathrm{w} / \mathrm{SSB}$ ．WKOG W／ET 1：02 off by 1：25．WDXI－1310 Tenn．s／Off（3）1：06，unusual to hear them on RS．WGNE－1480 F1a．on r／c w／Dixieland 1：5－1：45，KWKY－1150 Ia／on f／c－TT 1：45－2．

ALAN MERRTMAN－Box 6 －Fairfax，Vireinia－ 22030
We11，time for another Musing．CX have been excellent the past month or so，but very jew new domestics heard．Mostly foreign，w／CX fully as food as in 1965 but more consistant this time．Veries coming in nicely $w /$ the ollowine new ones：KECK KXRB La Coruna－638 WWSD KRBB WKFE TIQ－1203 Lille－1376 WAAB WVAB WCRV Droitwich－1088 WJAG WEEI WJSM T1rana－1088 Mileno－890 WAYD WBIG \＆ WKND．Also one of the most attractive $v / g s$ ever received from EAJ1－8c7，we 11 worth fettins if you can hear them．New DK： $1 / 12-$ WCRV－ $1580 \mathrm{w} / 3 \frac{1}{2}$ minute ET／mx （3）12：031．WJAG－780 kinda tough w／WBBM on but I managed a report．KRBB－1560 w／ i／c－TT 1－i：15，not regular，per verie．2／9－WDEE－1500 for call change e 12：fo． KCMC－740 quite good＠ $2 \mathrm{w} / \mathrm{c} / \mathrm{w}$ ．2／10－WSAN－1470＠ 1 ，fourth report as I see then are now verifying．2／13－WILO－1480 fair 3：30－3：45 w／r／c－TT．2／18－KFLN－D0 w／ r／c－TT 2：20－2：35．This was rather weak \＆bothered by GRM but one to 100 k ．Wor in NE if you need Montena．I don＇t think this is in the NRC f／e list．Foreicu CX tapered off a bit now so maybe some new domestics will make it．I am lookin Forward to GFFE DX．I sure hope they make it here．Enouch for now，73，［G later．

JOFN W．HOOGEPHEIDE ， 3 Marquette Drive－Marquette，Michigan－
Tape recorder DX brought $=/ \mathrm{c}-\mathrm{TT}$ of WAFI－I5 50 Middesboro on second Sat．Attemptic at second Fri．r／c of KFJM Orand Forls brought a TTer or son 2 \＆off 厄 2：15，but all IDs wiped ot by W：PD．MM 2：10－At lam，a stronz het on 764k © 1：0 Arabic－type chanting e $5-3$ level \＆in comes ：r．a
 n list．Anwer not a preat mignt bit my irst aise on mA this seacon but not didn＇t trenk that it would ever happen．

DX this week looks like this：2／8－KALO－1250 heard e $2: 03-2: 15 \mathrm{am} \mathrm{w} / \mathrm{m}$ －TT u／WTAE－2／9－WCSR－1340 heard 12：07－12：57am w／ET／TT／TEST very tough W／QRM mess．WCAZ－990 $1:: 5-1: 30 \mathrm{r} / \mathrm{c}-\mathrm{TH}$ ，WCVR－1320 heard w／ID e $1: 32 \mathrm{am}$ on TEST，very $/ \mathrm{cm}$ 10ud． $2 / 10-\mathrm{WFV}-1580 \mathrm{I}$ heard $12: 15-12: 30 \mathrm{w} / \mathrm{f} / \mathrm{c}-T \mathrm{TT}$ ，WTID－1270 $1: 12-1: 21 \mathrm{am} \mathrm{W} / \mathrm{f} / \mathrm{c}$ TT o／WXYZ，KCHR－1350 1：47－2：01am w／f／c－TT w／QRM from what seemed to be WSIR． Verie this week from WAVA， $\mathrm{v} / \mathrm{f} \& \mathrm{CM} \&$ rate card．C U later．

STAN MORSS－Route 3 －Broadford，Massachusetts－ 01830
2／9－WTTI－1530 Dalton Ga．TEST 1：14am．WCVR－1320 Randolph Vt．1am （What＇s that？？－ERC）WKOG－1560 Gordon Ga．test 1：25．KIRL－1460 e． S／C music．（What＇s that？－BRC）KOFO－1820 Ottawa Kansas still on，3：08am．TT－1270 to
 to $3: 11 \mathrm{am}$ ．WIOC－1290 still NMM ．KHOS－940 fucson either put on
Verie，WKOG．

RODDY FREEMAN－ 9029 Meadow Heishts Road－Randal1stown，Mary land－ 21133
Hi DXers．Resuming daytime DX from where I left off last til
Due to an image of WCBM，whose Owings Mills Md．XR is nearby，WHJB－ 620 Pa．is audible only shortiy after sunrise，so I＇m not counting it in my daytime－oniy DX． Continuinc：2／12－WMAL－630 D．C．w／MoR e 2：37pm，WNBC－660 NY w／ads \＆MoR e 2：40． WCBM－680 Ma．w／ads，promo，MoR＠2：4－4：46pm，WOR－710 NY w／ID © 3pm．Next Iocged was WPIK－730 Vz． $\mathrm{W} / \mathrm{c} / \mathrm{w}$ © 3：14pm．Lceal WEMD－750 Md．whose bealutiful new studios I recentir toured w／＂Trading Post＂＠3：16pm．2／13－WABC－770 N．Y．w／rr \＆ads＠

 Time $118 m ;$ ry e 11：06．WYRE－810 Md．w／ID，Merine WX © 12，toaal number of deytimeonly logn gines now stands at 19 from five setes \＆D．C．Jemes Brown has taken over 100 c Soul station WEBB Baltimore．With him comes a new DJ staff，jed by the great ＂Moonman＂most recently w／UST Weshincton．Note to N．Y．area DKere：Does anybody know arthing ebout a rumor that kingpin c1 mx station WQXR is plaming a format change？Format changes alao allegedly in store for WNBC．And what＇s this about WNEW auditioning talent on the air？I＇m still doing the SM show at WNAV－1430 An－ aspolis．Anvone with any info，please write．Till next time， 73.

ERNEST R．COOPER－ 438 East 21 Street－BrookIyn，New York－ 11226
Some veries＂vq from WWSD－1090，then $v / 1 s$ from CKFL－1340，
KRDS -1190 both $W / C M s$ ，and WKOG－1560 explaining they have had call letter mixups， not explan thet verie covered them during their second－time－around on NTK．Nicper to DY．Wed．2／18．Two loud SSes on
 Behind them was Radio Corporacion，Managua，for a report this time．To the sci－ behind them was Radio Corporacion，Managua，for a entific Boston Brigade－is there such a thing as a partial Aurarat way here． low end of the dial，but not on the higher？It sometimes seems the high end of the ， for WSER－1550，Md．on ET．MM 2／23－TPer on 1560 ＠12：46，unID．One a1so on 730 （2）12：47．WET－1110 wes off \＆poted was en SS 12：53－1：03 s／off w／Ave Maria，unID． Wixie－WIXE－1190 in nicely on TFST w／rr mx，\＆I phoned em as they asked．They
 THE Much $m$ ithe Cuban Minute Man but I sort of think at解 not TEST was first announced in DX NEWW，hi．Radio HIJB－830 Santo Domingo was AN w／ Was ilist announced in DX Nw，hi．Radio here most on the time don AN w ／ booming signal runains whe into the gil me ANing has spresd to Objio country．I think the tam s／on－SS 5 in is again Horizonte－they were on EST at any rate．UnID SS on about 855 AN；another on
$S T$ on 1000 after 3am IDing as＂Radio Diez＂（Radio Ten）．Two SS on $890 \mathrm{w} / \mathrm{WLS}$ off （e）4：15am．WWRL \＆WNEN off much of the AM but nothing new there．C UN 7 ．


[^0]:    muse ofter, gang, and rempmber to double space. deadilne is each monday.

