

APRIL 17, 1971
NUMBER 25

$$
\begin{array}{r}
\text { * Wish I could say something classy for you to put on } \\
\text { the front cover 'cause I'm rejoining, but I can't." } \\
\text { (Harry Helms; Ga.) }
\end{array}
$$

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IN THIS ISSUE
Latest NRC Log Updater - Russ Edmunds
Holiday Inn Station List - Russ Edmunds
La Voz de la Esperanza Logs - Jay Murley \& Harry Helms
Verification Signera - Ernie Cooper
Pattern Controlled Loops - Gordon P. Nelson


NEW NRC MEMBERS THIS WEEK...

*Joseph F. Cárey, 51 Strathmore Circle, Braintree, Mass. 02184<br>*Harry Helms, Box 111 Clark Howell Hall, Univ. Ga., Athens, Ga. 30601<br>*James E. Johnson, 9116 Warwick Rd., Indianapolis, Ind. 46240

Welcome to the NRC, gentlemen, we hope to be reading of your DXploits often here in the pages of DX NEWS. Why not write into Musings and introduce yourselves to the entire membership? Your New Member Kits are now being prepared and will be mailed out at the earliest possible time.

## PRINTING PROBLEMS DELAY DX NEWS

Following several weeks of delays in the production of DX NEWS due to press breakdowns and other problems at the printer, the Publication Committee decided to cancel our present printing contract in order to obtain more reliable service. This issue has been printed by our former back-up printer, who's now taken over regular production of DXN. Because of his automated equipment we anticipate our new printer will be giving us faster turnaround; FRitors may well be able to advance their deadlines in the near future. The reproduction of some of our "marginal" copy such as press clippings and light Xerox copies of QSL's may perhaps suffer for a couple of issues as the printer becomes accustomed to the problems peculiar to our copy. We apologize for the delay and inconvenience and hopefully we'll be back on RS by the time you read this.
*GPN \& BGK \& CAR

Non＝tpr11 12 CKRW 610 Thitehorse，Yukon Territory 1，000 3－4 NWRC Mon．April 26 NG B G 1400 Creensboro，North Carolina 250 2－？NNRC Hed．Mill 28 VCOX 1540 Camden，Mlabama

1，000
IRCA／

CKR－610．Goryy this tip is late，but that＇s the way we pot it here in Brookivn Both Ton Sundstron and John Tweedie，NNRC CPCers，notified us of th DX TEST，which actually was arranged by Michael Ijnch．Address Ry this station is CKRT：Box 1，799－Whitehorse，Vukon Territory，Canadn

WGBG－1400 TVGBG is a country／western station of the＂Top Gun＂type，and so we＂d Mone imacine，elit and musie they 11 ， to Hr －Ralph Lambeth，President \＆General Manager，NGbG，Box 2， North Caroline－ 27420
irranced by
Iweedie

This is one to mark on your calendar，as it＇s on an＂odd＂day of the week－Vednesday．Country／western music will be used，plenty of IDs， au they want a self－addressed，stamped envelope for their reply．Ou nember，Steven Kennedz，is Chief Engineer here，and he ll be looking forverd to lots of reports．You＇ve fot some toughies to combat，like TPTR－KXEL－ZNS－KCUL，but this one is 1 kw ．non－directionel，and we hope many will hear and report this fine TEST．Info from John Lorbardo

## MEMORIM－MRS．DON REYNOIDS

ark Hikinaon，NaCer of Horth Holiyvood，Cal，senda ths this sad pote；
＇I heve sone sed news to pabs onto the MRC morberahip－eapecinilv the olver nen－ bera．Wrs．Dorothy（Dottie）Dejnolde，vife of Dier Don Paynolca， 19055 Holivvale

 persoceslly or by lettirn ower the yesra and would 10 ke to contact fin jurtne this ryint periad．Letiers of inquiry would cortainly be in bal taste．＂
 felt sympthy aceil out to our Arlent，Don Meynolilis，ut this difeserlt tine．

Yeries aro in fron severel，for a happs chanet $71 / 30-1530$ ，al－
 rood ooe this norning，but I won＇t mention It until next 1ngue．is1 3／z2－I bosi hoped I wall gattife ane of thtoen new Il．C．esila on 1590 when I bend the Ti thire
 12：49－1，but then $1 t$ IDed is ioct，fichmot

 fon sern noted．Nhe－7，
 noujs to oet a reparts off to htn．Gr even to get on ID，h1．sorebaly of tuo if
 no $\$ 174$ of＂Licon del Tortes＂ 1700 ，Fornerly sal．IN $3 / 20$－thonehody ith on B．0 in IS with what seened to te $k$ 有，bat I coulan＇t get evan a halr a elue sa to who it









## OHN H．SHANNON－WPIP－Pittsburgh，Pennsy1vania－ 15222

## Well gang，the only＂big＂news here lately was a nice visit

Fron Jerry Starr who spent a couple of weeks in the Pothole Capital warking for Hap．We hed os thance between our work ikedi to get togother fror a few hours ALscussing DK, listening to DK tepes，coepering logn，ote．I vish I could got over to Yadiand in April，but Iwill be working as unonl．No lags here at work， ao I have to rely on meccey for recent DE．The firat that eomes to ulot is VSVI on 644 on $3 / 8$ around $3+30 \mathrm{na}$ ．Also the TEaNe from WBTP WJDM（umn）WHLJ WSAK（um）
 peraitting no to log machwanted $W$ ITM $3 / 8$ sround $4: 3$ ban teat ing $8 / \mathrm{s} / \mathrm{on} 35$ ．You ast hear this $s / o n$ to belleve it：Also $3 / B$ ，WRAT in P．R．logred ot $s / 0 n+e g 3$ s I20nll， 1520 k ．Foceign DX not much Intelyelthough severnl hekird，no new onea except anove．Iurtugal－665 in every evening in March so fer，but eignals not，toc strong．I en glad TaRef（1）Is gone fros that area as I enjor Ifstening to Portu－
 sing．How about the week of $4 / 4$ ？That will give him two weeks（with the Faster skip）to type up oope 900 Musings for the nowelesized edition of DX MEWS that


 the ood coupldtely bovebrev RX bere．I son now in the process of designine bune colid atate IF circuit，and elso or building ench stage Into littie ninsbopes soi con plag in airferent circuits and evalunte chenges mare clearly．I an st． 111 in－保
 onger setiviely building．At they say on ch．an in Janeatovn，nWYP ．Why Hot Youngut own／Pittaburgh in＂72t

Mox Hingas－ 138 Kirk Rosd－Younsetarn，Chio－ 44511
Greeting ail，os a specisi iti to Deve Ginko，TAD reaber 预，Dave hi．I woula elso 1tke to the the sh the hardent person to reach by telephone， back in Philly．I pot only spons for mont to viah Dave Schatct the bert of luck ers in the area．So fron un，the bent（ Did hot or sll elght of the other NRic－ forget the evernhure，Fer exemple soling to be there froe everywhere．For example，I got a letter from Tom MeCormeck just totay say It it be VII be here with all his gste，gis t you nete it．So eone nil．Da here sain＇t been 8000 ． $3 / 6$ brought my flat reception of WTCL．They shoald be om the afr by $5 / 1$ at the latest． $3 / 10$ brought $\operatorname{sic} /-1990 \mathrm{a} 11 \mathrm{o} / \mathrm{W} E \mathrm{FP}$ for a pew catch 68.16 pm ． It uns quite en evening for the southern atetions．Mere fron dek catch \＆8：16par．

 cenn LVEI－1035 fron Haiti．jsss on $3 / 18$ braught nothing new but some good catches



TIM KCHPDOT $=34$ Grosu Btreet－Westan，Gutario
I would 11 ke to extend © beleted aelcome to $5 \times 1 \mathrm{p}$ Stenbel，who gofned IME in Jinusiry，and who helped we out on as unID．I have no bew bX to re＝ port aince inst Musinit，and have not been listening too setively．I triod Focr the ITCF－1000 IEC－Pof on $3 / 13$ ，but beard nothing except WCFL＇s overpowering sioc inl and chra phlatter．of course the andy vay I can get oround locelat isk thet Is to uee the portable．I also hed en unib IT on $1340 \mathrm{3} / 21$ fron $12: 15$ to past $12: 20 \mathrm{~mm}$ ．New veries：WJMA－1340 and WDOR－910． 73.


4 MRC D LOREMZC - 35 Sy lvan Drive - Hyannis, Massachusetts - 02601
I was very interested in Alex Bowab's comments on water path retion (2/20 issue) \& for one would like to hear more about $\gamma$ our experiences in this area. I too am fascinateu with this subject. Recent DX: KFBK-1530 cood w/Mor to $2: 30$ ID MM 3/8, KKHI-1550 also in well this MM; IRDS -1190 fair w/country rock 3:14-3:25, on 1 y second time heard. 3/10-HJCX-700 R. Sutatenza alone on channei w/special IN beamed due S 9-9:06pm; ZBVI-780 noted et s/off 9:13pm w/CS?. $3 / 13-\mathrm{WCCR}-1580 \mathrm{r} / \mathrm{C}-1 \mathrm{~T}$ 1:17-1:30, onlic one ID noted, that © $1: 17 \mathrm{~s} / \mathrm{on}$. I noticed that XIN-9OO left its OC on after 1:45 s/off, so IRC, this may be your unID OC
 here. Thanks, Marc 3/15-TA-1504 عood i/instrumental MoR 12:11. This one is otten heard but never


 heard this one at least 1.2 jifferent MMs! WPJD- 1550 Tenn. Fi/orcan mx \& piano $\operatorname{mx} 2.45-3 \varepsilon / 0 f$; m was 'inspirational'. No trace of KLIC-11lo THST, only the jammer. YVLX-570 ctronr w/Rumcos NX \& chines C $4: 35$. WOM-1330 Conn. s/on-SSB ammer. 5 . 6:50pm; ZDK-1100 on past llpm w/soul procram. YVo - 340 "On:ac Portenas"e $7: 14$

 pm before ID, then - another ad! 73.

JOHN P. LOMBARDO - 23 Grove Terrace - Irvington, Itew Jerse: - 07111
Hi thrre! Some new veries have been adacd here since last Muse which are: CKNX WSAY both v/l, WKC v/q, IILLO/f, wLLt veriad on a slip of
 os you neople (?) I have just ordered the SM-1. I hope it woms as well as some of you people (?) l have just orcered the SM-1. I hope it woms as well as son $12: 33 \& 12: 54 a m$ w/very heav; QRM from WKBW. There was a fairly strons station on 625 ple inc light mx between 1:25-2:07am without any announcements. This was probabliv rIRICA $w /$ their new XR. I checked the next $S M$ but there wasn ti a sion or them. $3 / 15-A$ fairly weak ID wes received from WCMS-570 0 1:33am, but it was hard to tell when the test ended because they were only wisin an OC. At 2am I receive rivi-070 TEGT w/a rood simal. I tricd for a new monthi\% $\% / \mathrm{c}$ wich was reported br the IRCN, and it tumed out to be very successful as UPJD-1550 Tenn Was heard w/a beautiful sicnal between $2: 45 \% 3$. The test consisted of orcan ma w/TDs given about ever. minutc. 3:17am, I tuned in on an SSTj on lit3oli whech turned dit to be the WBTS $r / c$, but the test was conducted vetreen $3: 17$ ec $3: 27 \mathrm{am}$. This test is incorrectis listed between 3 is $3: 15$ in the NRC $\mathrm{f} / \mathrm{c}$ list. $3 / 21-\mathrm{HBIX}$ was heard conducting ex ET Arounc 1:33am with just an OC on. 735.
G. HABLEY DCJEURERE - Box 10 - Hencicks, West Virginia - 25271

Veries lecep trickline in. Since $m$ last report I're adueu
 The ones that are outstanding are NKLC WOV: NSGE VMIN FinNR \& MTYO. I sent reports to all of them in times past, but $I$ neverdia receive replies. I'd like to complete this state before 1971 is out. Tuesdav I heard both WRRI-1520 \& VPRR1050. If they verity, it 'li leave only WIm-900 that I won't have from Mary land. And Fidid can be heerd here practically any day carly in the morming. NGTT' E ad. dfess is Bos 1187, Huntington, W.Va. 2.571t, and is not the same as the one given the MRC Lo: for WSAZ. Vell, I had better close. I'm to meet a freiend in a fow minutes when ve'll to to Oakland, Md. for a couple oí hours.

WRPEN Brout - Ishavaj, Rhode Island
Hi. 1 fev veries I have received durins the Winter: KGII WKI
 hHE 2DK. lost were NRC TRSTs and $\hat{\mathrm{I}} / \mathrm{Cs}$. 73s.

DARRYL BELANGER - Box 495 - Swan River, Manit oba
Hi fron the Northland - only a little heard since last Muse.
First, sorry, ERC, for neglecting the time for KRKS -990 TEST . According to their letter they test as "regular weekly maintenance program" from $2: 20$ to 2:30 EST w/ instrumental hymns \& ennouncement at end of test. On to the little DX heard late1. . 2/14-WISM-1480 $\subset 11: 30 \mathrm{pm}$ poor $\mathrm{w} / \mathrm{mx}$. KAUS-1480 on $2 / 21$ © $11 \mathrm{pm} \mathrm{s} / \mathrm{spots} \&$ NX, fair sirnals. 2/24-KRLX-1100 © $8: 30 \mathrm{pm}$ booming in $\mathrm{H} / \mathrm{upbeat}$ MoR. 2/28- One of most HI Hocir to grams, first time heard since I lived in Winnipeg. $3 / 10-\mathrm{KLNB}-570$ e $10 \mathrm{pm} \mathrm{w} / \mathrm{WN} \Lambda x$ partiy looped playing MoR. Finally, on $3 / 14$ E 10:45pm, my best catch ever, XERHlj00, R. Tricolor, way u/"local" KSTP. Two taped IDs. If I hadn tt logged them on $\vec{S} W$ earlier in the year, I'd still not know who they were. But thanks to hearing their distinctive slogans between records, it was easy. These last two catches were possible since I re-wired my loop with proper wire. available frequen cies are decreasing due to "iocals" KLAK KXEL KKJO (ugh!) KOMA KFBK KVGB KDKO KSTP XERF. O h well! There go the 1500 s and with $540-640$ gone the same way there's getting to be less DXing room up here. Veries trickling in slowly have been: KXRB $v / 1, C M$, \& sales folder, KFML $v / 1$, two CMs, KAUS $v / 1 w /$ date \& location typed in; XMO \& WNBC, $v / q$. Several reports out but poor results so far. Two questions: What are the powers of R. Tricolor-1500 ent XERPM-660? Who is the best bet for the SS $u / W G N-720$ ? About it, so I'll s/off - 73 and good DX.

BRUCE WINKEIMAN - 1404 Alumni Place - Iawrence, Kansas - 66044
3/17. I'11 run off a quick Muse now and then hit the books. Ugh: My DE rever is up again due to the acquisition of an SM-1. I tried it out over Spring break last week and it's working out real fine. Signal strengths are mucho er ater than with the old loop. All the following were heard on the SM-1 at home ( D 1 ; inwood, Kansasj: 3/9-WMBD-1470 © 12:20am. $\mathrm{W} / \mathrm{WX}$, then KRBC © 12:22em w/WMBD nulled. CJBC-360 e 1"01am w/FF NX \& s/off e 1:05. XETRA-690 e 1:26am w/ soft mx, announced "full AM Stereo" (23 1:30em. 3/10- on 670, unID continuous mx from 12:35am tune-in to lam fadeout, no ID caught as of course the $S=8$ stignal dur ing the whole time faded e lam to absolutely zilch. KBOI? Then © $4: 36 \mathrm{pm}$ doiñ $a$ little davtime DXing, KGWA-960, and KWOA-730 w/religion © 10:12am. Due to the compact size of the $5 \mathrm{M}-1$, it's now here in Lawrence along with my fi-2515. But the buildins I'm in nakes the directional characteristics of the SM-1 completely useless. Huts! Nevertheless, some DX has been attempted. Here's what I've heard. 3/1c-KFRE-730 C $6: 25 \mathrm{pm}$, this one dug out of the mess thanks to the SM-1. My Sony portable save only dead air. 3/17-KFAL-900 E 7:06pm fachtinc it out w/ KEYN; WSUI-910 © 7:17pm w/cl mx, this one hed an S-9 sognal, rock-steady for 15 minutes. KARK-920 © 7:09pm w/mx. No veries in because no reports out. I ve cot to get started in that area. Tbtals from home (E1linwood) DXinc: 218 stations, best catch WQUs-1230. No totals available from DXing here at Iawrence, but the: aren 't very hich. Nell, time for the books. 73s \& good DX.

DOUGLAS B. SHARP - 5524 W. Villow Hichway - Lansing, Michigan
I haven't had much time to DX lately, but on several Man I've cravled out of bed to listen. Can anyone figure out what the Morde Code is on $530 \& 534$ ? I 've noticed this several times. A bcacon, perhaps? Latest DX: 2/ $15-$ WCLS $-1580 \mathrm{w} / \mathrm{rr}$ @ $10: 08-\mathrm{m}$, WHOM-1480 © 10:32 through the mess, WCNH-1440 © 10: 43 pm . $2 / 16$, on SSS, WGNI-1220 C 6:11pm, WCGO-1600 © 6:31, WIXZ-1360 IDing as "Wixzee" C 7:37pm. MM 2/22- KSTI-1170 u/WWVA w/rr e 12:20am. I have a tentative Sordcaux-1-1205 e 12:43em fichting the YVOZ/WOAI splash. This is my first it log. Local HJIM-1240 was unexpectedly off. I called them \& ther said their sil ent period wa s 12-5:30am Ms. With WJMM off I longed WJBC-1230, WBIR-1d 40 \& FIn -1240 around lam. I haven't seen any of my Mjsings yet. Since I'm kinda new, what am I doing wrong, ERC? 73s. (Hi, Douglas - you're sending them to the wrong address - Musings come to the address atop the first page of this section - this address - Musincs come to the ad
one was rorwarded by GPN - ERC)

WE ${ }^{2}$ OR ON OUR SPRING SCHEDULE - GET THOSE MUSINGS IN BY THURSDAY, APRIL 15: It's been a long time since I've reported to these pages. lons. Re-in $10 / 67$ \& NRC since $2 / 68$. I'm currently working fulltime at a local eIRCA since 10 , lectronics firm \& planto RX here is a Hallicrafters $5 x-80 \mathrm{w} / 20$ tubes (for you ube-counting iriends), utilizins several IWs \& vertical antennas for $\mathrm{BCB} \& \mathrm{SW} . \mathrm{Also}, 1$ 've got two 4 box loops but no Magnet, hi: work sked prevents Mi sessions \& many times also ISS DX so that is one reason why I haven't reported as much as I would've liked to. The last time I was able to $D X$ MAs was back in January. I now have 401 veries from
 2 states, enc int KWJJ-1080 KIII-1 KS ) WGHN-1550 KSWW-1250 KROC-1340 KSEJ-1150 CKEI-590 (!) CJDV 1450 (best GY on RS ) WSHN-1550 910 SRS -725 (after $1 \frac{2}{2}$ years) HCJB-700-DX, KPOI \& KFJZ. Some of you may remember W DU catches back on MM $4 / 20 / 70$. The only ones I was able to report by tape or written) were IYC- 880 \& $310-7 \%$. Well, IYC sent a $v / q$ as picture in the $1 / 20$ NENS $\& 3 I 0$ sent a $v / q$ w/the wrone date \& time. Besides that the $3 L 0$ WAS badiv, torn in transit. I re-sent the tape \& the written report \& received a verie (in 10/70) for VIRGo 6150 k instead! It would seem that report sent to fussies arcn't cheched ver well \& that the are probabl autonatic verifiers. I'm probably not checked very telling ancome anything he dionort an $11 / 9 / 70$ ? Comments? JKC, did ou ever ret a from them for the $40 D-1550$ report of $11 / 9 / 70$ ? Comments? JKC, did you ever jet a verie from 4 CD for your reception on the same date? Itm planning a trip to west ern Neoraska (Scottsbluff) \& I plan to take FX \& loop to take advantage oilne later ISR time to try for DUs, Ilawaiians, etc. This will probably be before DST sets in so watch for my report in IDXD in the future. 73.

KON ROMSTADI - 2719104 Street - Toledo, Chio - 43611
Hi. It's been a while since I Mused so I think I will get mivpins fingers back into shape. On 3/19-20 Dan Mycrs had a get-torcther over at his house \& I had a good time but wis ned that more NRCers would have come. Now to DX. 3/16-iNTN-1000 Lexington, Miss. in rood e 6:45, WOLF-1490 Syracuse, N. I. C 10pm. 3/17- CKCK-620 Resina in u/O WIMJ/WAL C $12: 10$, WKAQ-580 San Juan dominating channel C 12:15am. 3/18-NKTY-500 LaCrosse, His. © 7: 15 , WIXK-1590, New Rich mond, :is. also e 7:15. 3/20-:TOO-1390 Bellerontaine, 0. in © 2 pm , WERT-1220 Va
 0. in C 4 . I'd like to welcome Dave Burke and Grry Siesal into the IRRC. MIMO1520 is with the American Contemporary offiliation. I hope to Nuseazain in 24.

DON BGGMFW - 321 Horfman Court - 183 - Crown Point, Indiana - $1+6307$ 3/22. Greetings. Some real DX here for the first time in almost two months, but I'm afraid I've let the better part or the season slip away from me. Here's what I've heard of' late: MA 3/22-CX seemed real dooj to the hest, W/KSL beine unusuali\% strons, -390 since $1930^{\prime \prime}$. (My 1934 verie is for $13^{\prime} 0 \mathrm{kc} / \mathrm{s}$ ! -ERC) WAVI-1210 C $12: 30:$ on w/simx using Fifth Dimension album \& frequent IDs. Finallv Kmwo-1030 e 1:00

 I've wanted for a long time, KPNY-1060 (2 218 on RS u/unID cl station, is finalip CrRA-jC0 C 2:28 rockine awa on MSP RS. Iater in the day WrIA-900 © atypm s/ off. Total lowed here in Crown Point after sir months is now 6OE. Here's onc for the "if thinss aren't tovich enough for DXers already" department. Somebod: fell asleep w/TV on this past M as IVI was evem/where $C 3$ \& a check showed all IV staitions were off by then. Ohh. I'm looking forvard to the YAD Guys ${ }^{\text {' }}$ Confab upcomine. Little chance of meakine San Francisco for NRC, so Y-tom will have to do. I' 11 be in NewOrleans $3 / 27$ for five days and one of my secretaries had the audacit: to make reservations at an HI for me - sounds like a frame-job, but omest - I'm innocent! 73. (For SHME, Don! - ZRC ) Are the MESS goinc to do it this year? SYou bet your eweet Cubbies arR THE BAY AREf IS INVITLIG 1 LL NRC:RS TO THE AMNUL COIVEITION IIN SAN FRANCISCO!
(no name) - 4318 Farringston Avenue - Indianapolis, Indiana - 46201 to meet a hiçh school mate going to school in Austin \& I think we 'll try some DX down there. Myabe I will be able to 10 GIBC down there 8 appreciate it, hi. They are pains when you want to log around them. That's true with every local thouch, isn't it? Well, more DX, but one last think. I don't think I'll make the chin-in at Youngstown. Why? Because I'11 be down in Austin soaking up the sun while Youngstown will suffer a blizzard, hi. No, I hope everyone has a grand time there. Meanwhile, I'll tell $\mathfrak{y}$ ou how the tennis is cown there. $D X: 2 / 20$ -WFIA-g00 Louisville e $6: 1 \mathrm{l}$ tpm a/off, WHON-930 Centerville, Ind. © $6: 15 \mathrm{~s} / \mathrm{off}$, KWH - 1130 Shrevenort e $6: 44 \mathrm{pm} \mathrm{w} / 10 \mathrm{cal}$ NX, WGAD- 1350 Gadsden © $6: 55 \mathrm{w} / \mathrm{mx}$ \& WING-1410 Dayton C 7:04 w/mx. 2/21-WIOD-610 Miami © 11:05 w/NX. 2/25-WBSC-1550 Bemetts ville SC E 1:34 w/ER, ID. XDUT 1550 probably the SS topping the channel w/talk 6 1:45. 3/1- NBLJ-1230 Dalton Ga. w/TEST @ 1:56 till 3, zood simnal, report out to them. WYLS-1350, York, Ala. © $3: 52 \mathrm{~W} / \mathrm{ID}$ for ET. What's their power? (5,000 D-1 - ERC) WTOP-1500 Vashingt on (e 3:55am ending Georgetown U. procram, then nice pop. WPNX-1460 Columbus Ga. ending NX © 4:03. WHBU-1240 Anderson, Ind. w/ad 6:45pm \& WISN-1130 Milwaukee e 6:46 w/WX. 3/3- WMBI-1110 Chicago éc 6:59pm w/IIX, MDGY-1130 Minneapolis e 7:02 w/NX, then CKSB-1050 St. Boniface Man. © 7:43-7:54pm in $F F W / \mathrm{mx}$ \& announcements, and fantastic instumental mx. A surprise! WHN-1050 NIC © 10:04pm w/Mutual NX. Now, there's a pest, ERC. (They can 't be all bad, Mr X - they stood by for the WINC TEST! -ERC) KMMD-910 Camden NK. © 11:01 w/NX. $3 / 4$ brounht TVOJ-1320 Jacksonville e $1: 35 \mathrm{am} \mathrm{w} / \mathrm{mx}$, WIFE slop. WARI-1430 Abbeville 1a. C 1:48-1:50 w/TI \& ID, probabijif/c. UERK-990 Muncie Ind. © U:15pm w/pop, WPFB-910 Kiddletorn, 0. E 6:28 w/ spots. 3/6-KARK-920 Little Rocj © $10: 42 \mathrm{pm} \mathrm{w}$ pop. 3/8- HKK-1420 Cleveland C 12:53-1 light rax program, kRIPT-1350 Des Moines $\in$ /off about $1: 10$, WrOC-1290 Savannah © $1: 35 \mathrm{w} / 1 \mathrm{ight} \mathrm{mx}$, OPM. WKTi=-1090 Kinc N.C. W/TES'I Irom 3:06 past 3:31 w/TT mx \& IDs, WIBC slop, report out. WLBC-1340 Muncie Ind. C 6:45pm w/pop, VKAM-1460 Goshen Ind. © $6: 49 \mathrm{w} / \mathrm{mx}$, \& WRRI-1480 Terre Hate C $6: 53 \mathrm{w} /$ Tay lor "Sigh". Peace my iriends, and keep up DX. Any DXer in Aust in Tex. or Merphis, Tenn. who would like a call, put your number in DX NEIS. I'll give you a ring when I'm there. So lont.

BOB HUFI - 9242 Varwick Road - Indianapolis, Inciana - 46240
IIi Janc - its time for another Muse. Lately DX around here has been exceptional. haven t rot and good. On $2 / 27 \mathrm{MBAM}$ IN GOOD © 6: XPM, KNOE-540 fair $66: 4 \mathrm{G}$, CBEF in $2 \mathrm{FF} \mathrm{C} 6: 50 \mathrm{pm}$ CEPT: Radio Belize in 40 ? - ERC, That about rounds out the DX for Februar, AX CEPT: Radio Belize in crood as usual $C$ 11:06pm on $2 / 27$ at 840 . Cood thincs alra:s come in pairs, so WHB\& \& KHTO-560 in on $3 / 1-5: 59 \mathrm{pm}$. Lon eawaited KCPA on $3 / 2 \mathrm{C}$ $7: 16 a m$ on 1030. Other DX includes: WRBC-1300 o/slopover from local $H I F E$, in $3 / 200$ © $6 ; 30 \mathrm{pm}, \mathrm{KAPs}-1480$, a f/c © 1: $10 \mathrm{am}, \mathrm{HBT}-1110 \mathrm{o} / \mathrm{KFABCC:Olpm}$, a cood catch on 810 a:ter local WATI s/off was VSJC @ 6:47pm on $3 / 7$, not heerd for a lone time KasA-1520 © 10:10mm on 3/9. WDBJ, biv the wa, chan eed call letters to IFIR. fext, es if that wasn't all, semi-local ifKMM-1460 Goshen, Ind. © 7:40 on 3/15. A real sumpise (not for $\because$ ou old timers), XmRA-Ég e $5: 30 \mathrm{am}$ on 3/18. That muat have been a rooi morning because recional powered linM-950 in Denver ridinc on SRS overpowered 'dXLi, 5kw, locel located about six miles from RX ior wita Colo. station. (iNXL uses onliv j00V pre-SRS -ERC) Finalliv a zood Canacian catch on 1580 on $3 / 17 \subset 10: 59 \mathrm{pm}$ was CBJ in FF w/an $5-9$, runnine 10 kw . I hone to zet a Supermanet soon - that realay oucht to raise totals: That's all the DK I have now, but I certainiv will have more in the future. 73 s to all.

BERIIE DUFFY - 350 Richmond Terrace - ADt. $1 P$ - Staten Is1and, New Yorl: - 10301 This DX season I have to settle for ons Gualic, staion, \& verie, namel.ت 'T. Ataleva'. HJB'-790, Bucaramance, Colomia, which I loused LicC $3 / 1 \mathrm{C}$ 4:40-5am. Ther verified with an attractive Spanich lancuace banner, and letter just 12 da:s after my report. They showed the: much aprieciato DX renorts.

## INTERNATIONAL <br> DX DIGEST Momativi

 REPORTEDLY IN OPERATION...CUBA. "Comment on your addendum to Conrad's Thirty-Country-in-English article: Forrestal spent about 3 weeks in Guantanamo in September of 1969, and while there I listened each eve to CMKS-1290's EE - the extent of the EE discovered by me was a 6-6:30 pm (local time) news/commentary... the last 10 minutes of which was an update on American atrocities in Vietnam. It consisted of alternaing male (Mike LaGuardia - I remember his name) and female commentary. Whether this program is still carried I don't know. They tagged the show by saying it came from Radio Havana Cuba, as I recall. (Info from Alex Bowab, aboard the USS Forrestal) Good, Mike, this confirms the information I had obtained from another source. So indeed there are a full 30 countries audible in English in the Latin America/Caribbean area! (Ed)

GREECE. On March 23 rd the Athens Armed Forces Radio station on 1142 left the air in the evening and did not return until 1843 GMT; at this time both transmitters returned announcing that the break in transmission "was due to tests of the new powerful Forces'transmitter, which will be put into operation shortly. " No further information available at this time. (Editor)

IRAQ. Baghdad Radio began test transmissions of a new commercial radio service, the "House of Peace Radio" ("Huna Idha'at Dar as Salam") on March 24 th on 1090 kHz ; according to the Iraqi government this is the first commercial radio operation in Iraq and will operate 16 hours a day. (Editor)

YUGOSLAVIA. Radio Borba in Belgrade is a new station on the air since March 2nd on 1349 kHz ; mostly pop music and commercials. (ARC)

PORTUGAL. A new station is now in operation at Sao Gabriel on 971 kHz ; this is an E.N. operation. (Bengt Ericson, touring in Portugal)

WEST GERMANY. RFE on 719 kHz began operations with a new sked as of March 7th: Weekdays 0350-0015, Sat-Sun 0350-0200, Sun-Mon 0530-0015. (RFE)

INDIA. AIR's new 100 kw transmitter at Simla on 770 kHz was officially inaugurated on January 25 th. (ARC)

TAHITI. Papeete ORTF is now operating a relay on 1450 kHz ; this has been heard and QSL'ed by NZ DX'ers. (NZDXRA)

PLANNED OPERATIONS, RUMORS, ETC.
SAUDI ARABIA. A MW station is currently under construction at Jizan. (Ed.)
CYPRUS. Beginning in April of 1971 Radio Monte Carlo will begin test transmissions of the new relay facility on 1232 kHz with a 20 kw transmitter. These tests are supposed to consist of nonstop music; a permanent 600 kw transmitter is scheduled to begin operation in 1973. (SCDX)

INTERNATIONAL WATERS (HOLLAND). Radio Nordsee returned to the air on $2 / 21$ after two weeks of tests on 1367 kHz . Programming is in Englsih and Dutch; two addresses are currently given for reception reports: RNI, PO Box 113,8047 Zurich, Switzerland (the old address) and RNI, Postbus 117 , Hilversum, Holland. Nordsee is now verifying with a colored card showing the Mebo II; to obtain a QSL reports must be sent to the "Chief Engineer, Iechnical Staff Department" at the Zurich ONLY. Enclose 3 IRC's. We don't know how willing they will be to QSL old reports but it's worth a try at least. (Terry Greenhill, England)
MYSTERY ON MALTA? MAYBE!

Before the recent move to 1511 kHz from the old channel of 1546 , the $\mathrm{BBC}^{\mathrm{r}}$ Central Mediterranean relay station (listed as only 10 kw ) on Malta was quite widely heard here in North America. So widely heard, in fact, that some of us began to suspect that the BBC was not telling the full story about this station compared with other stations with the same (supposed) power in that part of the world on nearby frequencies the BBC Malta operation seemed too well received on this side of the Atlantic... Your Editor sent several letters of enquiry to the BBC about the power and antenna of this station but no reply was received.

Several possibilities seem reasonable to explain the $B B C^{\prime}$ s seeming reluctance to give further information about this particular Arabic language relay station. While 1546 was allocated to the U.K. under the provisions of the Copenhagen Plan for broadcasting in the European zone, the channel allocation was for regional service only. It may then be that the BBC found it had to operate with higher powers to assure adequate coverage for this station and is unwilling to admit that the formal strictures of the Copenhagen plan had been violated. Or it might be that the BBC is unwilling to release information about this station because it might reveal which specific areas of the Mediterranean are of greatest current concern to H. M. Government... Or, least likely, perhaps the British Government has been less than candid about the entire operation (shades of the Botswana BBC relayl).

An NRC member recently visited Malta and decided to check 'em out. Says he: "I got a run-around when I hiked out the Delimara peninsula to visit 1546; no markings on the facility to reveal what the thing was - only by knowing from World Radio Handbook that it was located at Delimara Point did I know the location. The engineer was outside the building, but played the hush-hush routine, saying it was a secret operation. After I told him I knew what it was (that info which is gleaned from WRH) he stuck to his guns, soI found out nothing..."

Our trusty amateur spook did however manage to take some colored photos of the Delimara station, however, and has sent them along to us. The colored pix won't reproduce here in DX NEWS unfortunately, but they show the following. The transmitter site consists of two separate buildings surrounded by a low-security fence. Both seem to be pre-fabs, one for the generator
system ; the other for the transmitter itself. While the exact details of the transmitter are not visible, based upon the size of the power plant and the transmitter building it seems reasonable that the transmitter is in the lokw50 kw range, and is not really in the super-power range. No evidence of the receiving antenna system is visible in these pictures (taken from a range of about $1 / 4$ mile). Most interestingly, the transmitting antenna system consists of a pair of guyed towers cut for about 1500 kHz .

One of the pictures happens to show both the transmitter complex and the "Zandadari Tower" in the same shot; with the aid of some of our old detailed OSS maps of Malta we've been able to determine the exact transmitter location and beam orientation for this station. As shown on the map below, the station is located at the extreme of Delimara Point in the Southeast part of Malta. By combining these recent pictures with the map we discover that the two tower pattern beam is aligned at an azimuth of about $175^{\circ}$ true. As shown below, this particular station is designed to provide primary coverage to the oil-rich and politically sensitive Libyan area... And this probably explains the relative "sensitivity" of this particular installation - sometime during the past year a Whitehall memo was passed down directing the Foreign Office (which controls the BBC's External Services) to "concentrate" on Libya. Since the original political directives establishing the Malta station were motivated by non-public foreign policy decisions, the "hush-hush" aura has been communicated all the way down the line to the personnel actually operating the station... As anyone who's visited a USIA-controlled stateside operation has discovered, though the re might be 50 tons of steel transmission towers beaming signals into a particular area for all in the neighborhood to observe, local station personnel will more than likely deny that there's a transmitter there, much less confirm your observations of antenna orientations, etc.

The antenna configuration shown in these pictures helps explain our unusually good North American reception of this station; the back lobe of the two tower pattern beame d on Libya happens to correspond roughly to the great circle bearing to North America. While the antenna patterns for most Central Mediterranean area Arab beamed stations have major lobes in the E-W plane (e.g., BBC Cyprus-638); the Malta to Libya beam happily gave us a back lobe strong enough to reach to North America. Ours is not to question why, but to to obtain $\Omega S L^{\prime}$ s if at all possible. . !



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Receptions: (All times in IDXD are in GMT.)
548 Algeria. Oran logged 2315 3/12 with very weak audio, YL talking and vernacular mx; usually only appears at this time for a helf-hour or so. Not needed. (Kocsan, New Jersey)

* 548 unID. Still ariving me zany. Was in on $3 / 6,3 / 12$ and $3 / 17$. Was s-6 to 7 at times but audio weak. Comes in after Algeria signs off and loops below Algeria, which confuses things. They stay in with deep fades until after 0200. Has classical mx and much taik. Is not German or Arabic. Had thought of Russia, but loop bearing way off for that. (Hoffman, Ocean City, N.J.)
555 Nicaragua. Radio Tic-Tac, Chinandega barely IDed $3 / 180425$ with the usual fare on this one. (Gleason, P.R.)
575 Costa Rica. "Musical $575{ }^{\prime \prime}$ San José hrd IDing this way 0445 3/8. (Objío, DR) 647 Gt. Britain. Daventry in $04533 / 10$, fair with some sideband splash, a man in German and YL in Slavic lang at 0500, and following European Svce sked as shown in WRTVH. (Kocsan, N.J.)
660 Mexico. XERPM, Radio Juventud, Mexico, DF very strong with a singing ID at 0639 on $3 / 15$ and playing pop mx. (Objío, D.Rep.) (Sullivan, Mass, next )
660 Colombia. Cali HJJM hrd with MoR mx, frequent Radio Uno IDs 0640-0700 3/15. 660a Haiti. Radio Lumière at s/off with NA at 0404 on $3 / 8$ after news in Eng. (Cajio)
675 Ecuador. Radio Atalaya, Guayaquil very strong with football, or, soccer as you call it, commentary, as well as some recordings from a game played as you call it, commentary, as wend as ( Objío)
700 unTD. Eng and Spanish mixed here with WLW looped, 3/10 0020 with equal strengths from East Caribbean area; one had an 8 -note whistle and suppose this was the spanish spkr. (Kocsan, NJ)
720 Panama. Radio Republica, HOB50, Chitre with Panamanian-Indian music, gir singing, under the Cuban, the ID was in the middle of the song by a girl, then at the end of the song, this at 0552 on 3/8. (Objio)
725 Ecuador. HCMB2 Guayaquil, "Radio Guayaquil" is listed here by 1971 WRTVH; possibly my mystery NSFer but will wait for a decent ID before logging. (Schatz, Fla.)
750 Japan. JOIB strong with NHK pips at 1100 and $12003 / 12$ with no trace of $K F Q D$, indicating a sharp edge of the absorption area as being somewhere between Anchorage and Kodiak. (Millar, Everett, Wash.)
765 El Salvador. This freq was // 770 at 1125 3/15; has anybody found out which relay is in which city? (Hauser, Texas) (Not to my knowledge, Glenn-ed)
765.5 E1 Salvador. This freq mssured on R-530; running // $77005453 / 15$ and IDing as, "YSKL, la poderosa, primera en todo el país", offering prizes. (Wood, Baton Rouge, La.)
770 El Salvador. This freg with ranchera mx, same as 765 , this one stronger here. (Hauser, Ix.)
780 Br . Virgin Is. ZBVI in like a ton of bricks at s/on 1000 on $3 / 15$ and the S-meter hit 20 over 9 Crazy comercials; no fading for 20 min . (Hoffman) 10 Colombia. Radio Sutatenza, Bogotá at 1017 3/14 under a weak WGY (who were IDing as WGFM and evidently testing axr); the SS read a list of calls and freqs, then into a mixture of taik and sedate LA music. (Kocsan, NJ )
810 Panama. Onda Popuiar, Bocas del Toro, with pop mx pgm, asking for reports to Apartado l795, Panamá, went to 0452 s/off with NA $3 / 8$. (Objío)
825 Costa Rica. Titania with excellent readability $04273 / 18$ with MoR musjc, much of it US origin. Specific ID as "Titania", sans Radio. (Gleason)
(C) Titania, TIOS with local pops at 0300 3/3. (Alster, NJ)

830 Haiti. 4VEC at $10353 / 15$ in Creole with prayer while WCCO looped, had a hymn to the tune of GSTA, WRTVH has them sked in Spanish but the Sp'h was on 1035 outlet instead. (Hauser, Texas)
834 Belize. Had a cultural pgm at 0427 3/18 about language origin and the derivation of words. Best ever heard. (Gleason, PR)
854 Peru. Radio Nacional, Lims playing tapes of soccer game at 0607 3/15 (Objío)
860 Brazil. Padio Mundial, PRA3, Rio de Janeiro, hrd for the first time on $3 / 15$ at 0600 with pop mx and ads. (Objío)
860 Mexico. XERPN (not XERPM-ed. ) Cd. Juarez, Chih. believed to be the ofthrd XE-; definite call, at least as to the XER-- portion of same, at 1230 $3 / 2$ and would appreciate efmg of call/location as the only place I can find it is in VeeJay \#4. (ifillar, Wash. state)

* 880 Peru. Union Radio, ORz4x, Lima. This stn was hrd IDing this way instead of the usual "Radio Union" at 0612 on $3 / 15$. (Objío, D.R.)
© Finally logged this with Radio Union ID 0809 2/18. (Millar)
880 New Zealad. IYC at s/off with GSTQ, quite good $3 / 12$ at 1100 ; note coincidence of logging JOIB-750 some time and date. (Millar)
890 Cuba. Radio Musical Nacional, Ia Habana s/off at 0500 on $3 / 15$ with NA and was to s/on at 1200. (Objío)
899 Italy. Milano in at $05153 / 10$ and was best at 0535 , Canadian on 900 was annoying but not destructive; man in Italian with varied mx including rock group, pop mx and combo with singing in French; musical chimes and I.S. at 0530. (Kocssn, NJ)

900 Nexico. XEW, La Voz de la America Latina with a long newsreel s/off at 0621 on $3 / 8$, no NA hrd. (Objío, DR)
905 Ecuador, Radio Espectaculo, Guayaquil $3 / 18$ at 0440 with chicken rock, part US and part Iatin and one ad after every record. Poor copy; In is based on music and ads rather than station ID. Several ads that I recognized for definite fuayaquil merchants or Ecuadorian products. There was a kad het from someone else on the same frec. (Not another HC-, tho.-dfg) (I think there wes a YS- reported here once-ed.) Who's here? (Gleason, PR)
935 D.D.R. Burg noted with mx and deejay L\&C iNA $3 / 22$ at 0520. Muffled local TIMZ-940 with UCL loop, otherwise almost impossible. (Schatz)
935 Morocco. Agadir $3 / 130237$ with man chanting and stringed instrument at 0240 ; YI ancr at 0253, strong signal but audio fighting heavy WPAT QRM, this was the only TA readable over the atmospherics. (Kocsan, NU)
940 Cuba. Hrd 1001 3/14, ID hrd under channel mix - as to location and call I no longer attempt to reconcile and decipher conflicting logs and station lists and the continual changes on this island. Faving hrd all, the only difference in the programing of Cuba, North Korea and Peking is the language used. (Kocsan, IVJ)
950 Colombia. Radio Sutatenza, Barranquilla $3 / 141000$ with 6-note IS reading' list of calls and freqs, then firmly IDing twice; as on previous day, the pzm consisted of long talks in Spanish interspersed with single Latin MoR selectoin. Strong signal over mix but fades out by 1030. (kocsan) 1000 . Radio Cayacos, HILF, Apartado 1222, Calle Drverge 78 , Higuey, 1000 watts, operates 1100-0300. fird for the first time on a visit to the place. (Objio)
1032 unID. sparently Cuhan, noted $3 / 10$ at 0030 with frequent mention of "Isla de Pinos" (not "Juventud") with youth-orieated pgms, rock music, some in English with socialist honilies and dogms interspersed between records. Rather depressing to listen to. (Mleason, P.Rico)
** 1034 unTD. Very waak. Hrd 3/7, 11 and 16 from 0300 thru 0500. Soft language and could be Portuguese but bearing is $110^{\circ}$ and is far too much for Parede which is a dead 68 degrees here. Iot even the 665 signal was readable from Portugal on any of the three nights, anyway. Thought it might be East Rand, but no English - do they ever go to Afrikaans on this freq? Bearing is right on the nose for them, and for Portuguese Guinea for whom the bearing is also correct but, ace WRTVH, this latter has only 1 kw and s/on at 0600. (Hoffman, NJ) (Sure seems SA likely Bob as 1286 was also tentatively rptd around that time by Jacobs in Philly. -ed.) unID. Someone hetting the Haitian here on $3 / 11$, probably the Panamanian as that would correspond to good E-W reception on 3/11. (Gleason, PR)
** 1040 Dom. Rep. HION, Santo Domingo, is Radio Ahora again. (Objio)
1045 Panama. HOJ2, Ondas del Canajagua at $00523 / 11$ loud with perm of commurity events and typical Panamanian mx, e.g. same as on 1115 . (Gleason)
1055 Colombia. Radio Valledupar, Valledupar 0200-0400 with exclnt sig, Caracol pems and local IDs. (Gleason)
1057 Colombia. Radio Bucarica, HJGU, Bucaramanga. 3/18 0230-0300 with a discussion of various topics of national interest such as the Pan-American Games, and the political situation. Ihey repeated the same block of spots every 4 or 5 minutes. (Gleason, PR)
1080 Venezuela. Radio Barcelona at $1000 \mathrm{~s} / \mathrm{on} 3 / 15$ with Venezuelan NA and folo by ancther anthem or theme sonj. (Hauser, Texas)
** 1089 Cuba. RFS has nothing listed on 1090 so what is this? Was clobbering XERR, poor thing, with a distorted signal but no hetrodyne, 1059 3/15 with "el rapido de las 5 y 30 " and was // 640. (Hauser, Tx
** 1091 Dom. Rep. Radio Amistad, Licey al Medio, drifting from 1090 on $3 / 5$ (Objio) 1100 Antigua. ZDK with frequent IDs and at $10233 / 15$ was offering $\$ 11.00$ for news tips. (Hauser)
1145 Colombia. Radio Cristal, Medellin at $02053 / 18$ with the results of the drawing of the lottery of Cucuta, was // with La Voz del Norte-1340 and Ia Voz de Bucaramanga, plus one other not clearly hrd named. (Gleason) 1.148 unID. Looped HJ-, oz20 $3 / 18$, definitely Spanish, with an all-talk pgm, seemingly a commentary. (Gleason)
1210 Venezuela. Radio Coro, YVMN, at s/on $2 / 7$ at 1000 completely in the clear, and was moderately strong. (Millar, Wash. state)
1214 England. BBC-1 with pop mx and deejay 0555 3/22, ID 0600. (Wood, La)
1225 Costa Rica. Radio D-B, San Jose ID clearly hrd, $04003 / 18$ saying, "Radio D-B, diez kilowatios de potencia, San José..." and this was the best II- signal hrd on the band. (Gleason)
** 1230 Colombia. Radio Calidad, HJKK Cali with lots of pop mx and ID at 0738
** 1235 Bermuda. ZBN-1 no longer AN, apparently, as hrd s/off at 0611 on both Bermuda. ZBM-1 no longer AN, apparent y, as hrd s/off at
$3 / 18$ and 19. Has newscast 06000610 then a brief anmt and GSTQ. OC remains on for a few minutes afterwards. (Sullivan, Mass)
(C) Noted orchestral version of GSTQ at $06003 / 22$. (Wood) (Note item recently in IDXD pertaining to expected move of this one to 1230 , if $U$ need..
** 1240 Dominican Rep. Radio Sol, Higuley is now on the air, call is HIRM. They were formerly operating on SNW but are now on MW only. Info later. (objio)
1240 Bahama Is.ZNS2, Nassau, noted at opening SM $3 / 21$ at 1300 giving name as
240 "Badio providence" and this is the only time I have hrd this slogan. is "is is is Blogan. is ZNS2, AM and FM in Nassau." The format is MoR mx with the "Bahamas Radio Network" news on the hour at which time they are // 1540. There has been no reply to my request for them to move to 1245 kHz . (Schatz) nid. Hrd 0310 3/18 with Lain romantic mx and shallow voice modulation format fits the Quito station, but doubt it due to power; the other HCstns not particularly strong. Anyone else rptd here? (Gleason, F )

* 1270 Dom. Rep. Radio Ambiente, Cirector is José A. Peña G.; began testing on 3/15; no call l.trs assigned yet; Telefono 447. (Objío, D.Rep.)

1285 Nicaagua. YNRPS likely 0254 3/14 with heavy beat IA mx, anmts. 0305 INA and off 0308. However, at one point, seemed to mention Chiclayo (Peru). Will have to check out anthem. (Hauser, Tx.)
1306 Suspect cuba here. 0350 3/18. Accent indicates this, as does the format. Talk, TC every minute, ment of "Reloj"; would fit RFS listing. (Gleason)
** 1320 Cuba. unid "Reloj Nacional" hrd MMs with WGMA silent. Possibly CMKL from 1200 as latter not hrd there recently. (Schatz, Fla.)
1340 Guantanamo Bay. AFRTS alone except for traces of CMGU MM $3 / 22$ using UCI loop to muffle everything $N$ and $W$. Immature-voiced deejay played old chicken rock and gave every time check with the expression "before (after) the hour of ..." and were in AST. No definite ID noted in 50 minutes of taping. Unable to hear them with standard loop. Young deejay makes the stn sound like an outlaw. (Schatz, Fla.)
** 1348 Haiti. Stn hrd at s/off with NA at 0200 on $3 / 12$, DF for Cap Haitien, suppose this is La Voix du Nord, 4VCP, drifting or moved ex-1465. (Objí)
** 1350 Venezuela. Radio Guaicaipuro, YVTZ, Charavalle, sloff at 0258 with NA on $3 / 12$ to s/on at 1200 . First time hrd. Not on 1360 as per YV list ap-
1356 pearing in 6/6/70 issue. (Objío)
tanos at 0230, s/off at 0302 with NA (Objío)
1394 Albania. Tirana in Czech 0600 3/22. (Objio)

* 1400 first syllable is alweys stressed (Wood La Colombia. Emisora Variedades, HJAS, Barranquilla, hrd IDing at 0433 on $3 / 15$ in this manner instead of Radio Variedades; possibly a change of name. (Objío, D.Rep.)
1457 unID. BBC station (This is thought to be the England xmtrs here, carrying Foreign Svce -ed.) 0040 and on $3 / 11$, powerhouse signal. Playing cI mx. 0100 gave GMT TC and BBC ID, no more This is by far the nost easily receivable TA here. That evening, no northern TAs were readable except 1439. (Gleason, P.R.)
* 1459 Mexico. XEXQ, R. Universidad Nacional Potosina off freq from 1460 at $03353 / 14$ with opera, synopsis at 0410; by 0420 was obviously parallel With 6045 SW altho no ID hrd. (Hauser, Texas)
1466 Monaco. 3AM2 with exc level (stronger than adjacent domestics) 0530 3/ 18 with pop mx, "ici Monte Carlo". (Sullivan, Mass)
** 1493 unID. 0025 3/11 hrd man and woman talking in what appeared to be a romance lang, with intervals of music. IS was chimes or vibes, with an 8 or 7 note sequence; appeared to leave the air after IS. On $3 / 12$ noted them with a poor signal at 0000 with the same IS 4 times. (Gleason, PR) and . Stn with a lot of pop rxx with taped "Banco Ia Filantropica
 -ried them again several nights but too weak to get the correct name. (Objlo, D.R.)
1502 Foland, I presume with Clear IS (Chopin) on the hour 3/9 at 2255-2315 and, apparently, after about 2 minutes of dead air, at 2303, a pgm in German. (Gleason)
** 1550 Australia. 4QD logged thru CBE OC 0940 3/19. Had taped $2 \frac{1}{2}$ hours of this freq for 10 straight days and they came in on 4 of them. Often overrode WAAY and WKFE but weak and heavy fades with short dominant periods. I finally got definite logging data on the loth day. I also had French lang for one minute at $09353 / 19$, no idea who. (Hoffman, NJ) (Great DXing, Bob. I think the FF might be possibly a Nova Scotia icebox? -ed.)
* 1560 Cuba. Radio Reloj Nacional, La Habana is here ex-1560; ID 0600 3/15. (Objío)
** 1589 Mexico. To answer a Floridian's question, and correct ryy previous rept, the variant here is not Monterrey, but listed ( 100 watts night) XEPT, Misantla, Veracruz. Hrd on $3 / 14$ at 0329, with Mexican mx and anmts, off at 0335. Msd about 1588.5 this time. (Hauser) --Have 2 reports of veries from ZDK-1100 and some changes; e.g. KBYR to switch to 700. Details on this next week. Also a suggestion to return IDXD to EST will be run. 73


## USA

"LA VOZ DE LA ESPERANZA" DOMESTIC SS LOG: Researched by Jay Murley; Compiled by Harry Helms, Jr. for NRC/IRCA
"La Voz de La Esperanza" is the SS equivalent of the "Voice of Prophecy" program. The format is similar; it is hosted by B. Perez Marcio. Times EST; all on Sunday unless otherwise indicated.

ARIZONA
KIFN Phoenix, $860 \mathrm{kHz}, 1130$
KEVT Tucson, $690 \mathrm{kHz}, 1100$
CALIFORNIA
KICO, Calexio, 1490, 1030
KWAC, Bakersfield, 1490, 1130
KGST, Fresno, 1600, 1530
KAZA, Gilroy, 1290, 1300
KALI, Los Angeles, 1430, 2030
KWKW, Los Angeles, 1300, 1130
KOXR, Oxnard, 91C, 1600
KCAL, Redlands, 1410, 1130
KSEE, Santa Maria, 1280, 1230
COLORADO
KFSC Denver, 1220, 1730
CONNECTICUT
WILI Willimantic, 1400,1930
FLORIDA
WQBA Miami, 1140, 0900
WSOL Tampa, 1300, 1630 Saturdays
IDAHO
KCID Caldwell, 1490, 2330

## ILLINOIS

WEAW Chicago, 1330, 0830
NEW JERSEY
WWBZ Vineland, 1360, 1905 Thursdays
NEW MEXICO
KABQ Alberquerque, 1350,1030
KSYX Santa Rosa, 1420, 1330
NEW YORK
WHOM New York, 1480,1300

KUNO Corpus Christi, 1400, 1000
KGBT, Harlingen, 1530, 2230
KLVL, Houston, 1480, 1130
KVOZ Laredo, 1490, 0830
KCOR, San Antonio, 1350, 2000

*Gordon P. Nelson

INTRODUCTION. As most loop buiders have discovered by accident, it's possible for a loop antenna to exhibit a directional pattern with nulls which aren't exactly $180^{\circ}$ apart, or of the same depth, or both. "Skewed" patterns are generally undesirbale for most BCB DX'ing applications because such distorted loop patterns inevitably show inferior direction-finding and nulling properties. In particular, the ability of a loop antenna to totally eradicate signals from powerful local stations is seriously degraded by even a very slight amount of pattern skewing (see LOOP DISTORTION - WHY GET SKEWED?; DX NEWS, $12 / 17 / 70$ for a detailed discussion of this problem).

We have discussed the origin of pattern distortion in loop patterns in past issues of $D X$ NEWS and have offered a number of practical suggestions for improving the pattern properties of existing loop designs. A fully balanced and symmetrical loop such as the fer Altazimuth design can exhibit a pickup pattern which is indistinguishable from that of an ideal cosine loop within the limits of practical measurement (nulls greater than 80 decibels in depth and within $0.05^{\circ}$ of symmetry) - but only if considerable care is taken in construction and adjustment. cleaning up a skewed loop pattern to improve null depth and symmetry often requires quite a bit of thought and experimentation but the results are well worth it.

After a few hours of tinkering in an attempt to clean up the pattern of an ailing loop the following intriguing thought has no doubt crossed the minds of quite a few members. Even though skewed patterns are the result of careless design or loop construction, why shouldn't it be possible to intentionally control the amount of skewing in order to position the nulls where they will do the most good?

Suppose you're stuck with two semilocals on a particular channel; unless they happen to be colinear (that is, lie in the same direction or $180^{\circ}$ apart at your location) you'll never be able to null them both out with an ordinary loop; either one, yes - both, no. Suppose instead you were able to set the nulls to any desired angular separation instead of being limited to one fixed value such , as the usual $180^{\circ}$ ? Proper adjustment of the pattern could result in a pattern with a null in the direction of each interfering station! Carried to the logical extreme, it should even be possible to skew the pattern nulis so greatly that they would appear to be superimposed; this would give a loop pattern with only one effective null. The benefits for the MW DX'er of such a controlled pattern loop would be great indeed...

The mathematical theory describing the simple single-nulled loop pattern (also called the cardioid pattern because it's roughly heart-shaped) was worked out many years ago; both the equations and considerable experimental data were oresented by Beverage in the same classic 1923 IRE paper introducing the Beverage antenna. Simple cardioid loop circuits have been in use in all loop-based radio


Normal undistorted cosine loop pattern; nulls exactly $180^{\circ}$ apart.

"Skewed" loop pattern pattern; nulls are separated by $\theta$ degrees; in a pattern controlied loop this angle could be altered at will


Basic cardioid pattern; the angle $\theta$ of the angle $\theta$ of the
skewed loop has skewed loop has been reduced to
zero, thus super imposing the nulls

DF gear since the $1920^{\prime}$ s and are included in most radio navigation systems using the loop antenna as the basic directional element The use of the cardioid pattern circuitry has generally been limited to providing "sense" in DF and navigation systems, however; that is, to permit resolution of the $180^{\circ}$ bearing ambiguity common to all cosine (figure-8) loop patterns. In most loop-based DF systems, the exact bearing is taken with the loop operating in the cosine mode and the cardioid circuitry is brought into play only to resolve the bearing ambiguity by converting the cosine pattern into a rough cardioid shape. The question of why such direction finders are not simply operated in the cardioid pattern mode continuously is a fundamental one and the answer will become clear later in this article.

While the ability to resolve the ordinary $180^{\circ}$ pattern uncertainty is useful if you're trying to distinguish between a weak TA and LA carrier, for example, the BCB DX'er actually wants much more from a pattern controlled loop: he wants to be able to quickly and easily control the angular separation between the nulls - and this includes the cardioid pattern as a special case. Because the equations and descriptions of the basic cardioid loop pattern have been discussed in many radio texts over the years (Terman, Bond, et al.), quite a number of technically inclined DX'ers have experimented with loop patterns and have attempted to build practical cardioid loops. The great DX magazines of the Thirties such as RADEX featured items on loop experimentation from time-to-time, and a number of NRC'ers have discussed various types of intentionally induced loop pattern distortions here in DX NEWS over the years. The author has been working with various types of controlled pattern loops for some years in connection with the design optimizations for the Altazimuth year infon 11 present few of our findings both theoret loop design and we 11 present a few of our findings - both theoretical and experimental - in this article. In particular we'll attempt to explore some of the basic problems and limitations Inherent in the practical controlled pattern loop, explain why these loops often behave "strangely", and offer some suggestions for future research.

THE BASIC CARDIOID LOOP. The point of departure for the Seeker After-the-Dream-Loop is what we'll call the basic cardioid. By this

An hour in the library will teach you that all need be done to produce a loop pattern with any ddesired amount of null skewing is to combine the signal from the loop with the proper amount of signal from a vertical antenna (with an appropriate phase shift) By adjusting the amount of vertical signal until it exactly equals that from the loop and fixing the phase relationship properly presto: - a cardioid loop with but a single null. It all seems very simple until you try to do tt - then the real fun begins...

Before exploring the complications which arise when you attempt to construct a practical controlled pattern loop suitable for general $B C B$ DX'ing applications, a bit more discussion of the basic cardioid equations is desirable.

Our recent article on Loop Distortion (op. cit.) included a set of equations which we derived to explain the relationship between electrostatic pattern distortion and null skewing and depth. Although our particular derivation was concerned with the effects of small amounts of skewing on loop performance, the equations we derived also describe the properties of the basic cardioid and controlled pattern loop (the final pattern equations are the same as those derived by Beverage, et al., although our approach was somewhat different). These simple equations suggest that the construction of a practical controlled pattern loop should be quite trivial; although this is not actually the case as we'll see when we re-derive the equations taking additional effects into account, it's definitely worthwhile to delve into the basic cardioid as a warm-up for the full treatment...

Suppose we take a loop antenna with a perfect cosine pattern (the Altazimuth is good enough in practice) whose output voltage for a particular signal in the peak direction is given by b volts, and combine its signal with that from a perfectly omnidirectional vertical antenna whose pickup for the station in question is equal to $E$ volts. Furthermore let us control the phase of the signal from the vertical so that it differs from that of the loop by some amount o degrees. The angular separation of the pattern nulls is then given by the expression:
$\Delta \theta=2 \operatorname{Cos}^{-1}(-E / B \sin \phi)$
[Equation 1]
in keeping with the following conventions:

(see Loop Distortion, op. cit., for the derivation)

The RMS voltage pickup in any particular azimuthal direction $\theta$ is then given by:

$$
=\sqrt{1 / 2 B^{2} \cos ^{2} \theta+1 / 2 E^{2}+B E \cos \theta \sin \phi[E q \cdot 2]}
$$

And the pickup ratio (in $d b$ ) between the smaller lobe and the larger (analogous to the front-to-back ratio used in the discussion of more conventional types of antennas) is then given by:
$B / F=20 \operatorname{LoE}_{10} \sqrt{\frac{B^{2}+E^{2}-2 B E \sin t}{B^{2}+E^{2}+2 B E \sin }}$
[Equation 3]

What does this mean in terms of actual numbers? As we showed in Loop Skewing (op. cit.), we must fix the phase angle o equal to $90^{\circ}$ if we wish to obtain unblunted nulls. For the moment let us assume that we have been able to get an exact $90^{\circ}$ phase shift between $B$ and $E$; what is the effect of increasing the amount of vertical antenna pickup? Let us define the quantity R to be the ratio vertical to loop signal ( $=E / B$ ) and see what happens to the resulting pattern as we vary the amount of vertical pickup.

The following table shows the effect of varying $R$ from zero to unity. The first column is the value of $R$ for that particular pattern; the second gives the amount of angular separation between the nulis; and the third gives us the ratio between the smaller and larger lobe peak pickups.

| VALUE OF R | NULL A SEPARA | ANGLE | MINOR MAJOR | $\begin{aligned} & \text { TO } \\ & \text { LOBE } \end{aligned}$ | (NORMAL COSINE PATTERN) (ROUNDOFF EFFECT) <br> (BASIC CARDIOID PATTERN) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| \% - 3 \%38 | 180 | DEG ${ }^{\text {- }}$ | 9 |  |  |
| 8.8981 | 180.0 | DEG - | -2.d9 |  |  |
| 8.8916 | 179.9 | DEG - | -8.ap |  |  |
| 3-8168 | 178.9 | DEG - | -8.17 | DB |  |
| 8.180\% | 168.5 | DEG - | 1+7 |  |  |
| \% -9ada | 156.9 | DEG - | -3.59 | -18 |  |
| g.3209 | 145.1 | DEG - | -5.38 |  |  |
| 8-473 | 132.9 | DEG - | -7.36 | DE |  |
| a -5818 | 120.0 | DEG * | -9.54 | DB |  |
| - 6888 | 106.3 | DEG * | -12 +1 |  |  |
| 8.7888 | 91.15 | DEG * | -15-1 | D8 |  |
| 8.8886 | 73.74 | DEG. | -19.1 |  |  |
| 8.9888 | 51.58 | DEG* | -85.6 | 5 D9 |  |
| 8.9983 | 16.22 | DEG * | -46.8 |  |  |
| 8.9993 | $5 \cdot 125$ | DEG• | -66 -3 | D8 |  |
| 8-9999 | 1.626 | DEG* | $-860$ |  |  |
| $1+9898$ | Ø | DEG * | - $\mathbf{0}$ | cer |  |

The above table shows a number of the characteristic properties of the pattern controlled loop quite effectively. Note that for very small amounts of vertical pickup the angular separation of the nulls changes quite rapidly; this is the extreme sensitivity of a cosine loop to electrostatic imbalance which was discussed at length in Loop Skewing (op. cit.).
(Continued next issue)

| 620 | KTAR - AZ | 980 | WSIX - TN | 1240 | WWCO - CT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 680 | WPTF = NC | 1060 | WNOE - LA |  | KAKE - KS |
| 730 | CHYR - ON |  | CFCN - AB |  | WBAX - PA |
| 760 | KGU - HI | 1090 | WBAL - MD | 1320 | KXYZ - TX |
| 770 | KOB - NM | 1110 | WBI - NC | 1360 | WKII - MI |
| 790 | WTAR - VA | 1150 | CHSJ - NB | 1370 | WSPD - OH |
|  | $W M C=T N$ | 1170 | WCOV - AL | 1400 | WICK - PA |
|  | WLBE = FL | 1200 | WOAI - TX |  | TGIL = II |
|  | KGHL - MT | 1230 | WINO - FL |  | WBIZ - WI |
| 850 | KOA - CO |  | WERI - RI | 1430 | WLAK - FL |


| 1450 | WOCN - FL | 1500 | KSTP $-M N$ |
| :--- | :--- | :--- | :--- |
|  | WMFJ - FL | 1530 | KFBK $=\mathrm{CA}$ |
| 1470 | WBIG - NC | 1600 | WUNR $-M A$ |

FLEASE BE SUPI TO SUBMIT ARY CHARGES TO THIS LIST TO DDXD, SO THAT WE MAY NOTTFY ALL MEMBERS OF THEY. SINCE YI LISTS ARE SOIEHHAT OUT OF DATE BY THE TIUE WE CAN GET THE:, CHA:GES MAY HAVE ALREADY OCCURRED. NEXT LIST SHOULD APPEAR SOMETITE IN MID-JUNE, 1971. -R.JF,


John Tull - K.C.-MO.

EDITOR:
r.j. etimunds bor 946
Wijnt. I.1. 07478
(201) 385 -6397

```
Greetings, again = lo and behold your editor has actually found it possible to
once again DX ( what's that, hi ) and therefore a celebration is in order, or
something like that. This time, a few changes in order dictated bythe available
time to type the column. The "D" section will come first, wherein may be found
the results of some of the calls and/or.letters I sent to stns. re CP's:
changes
    570 WFAA-TX Wikl be NSP wnen ac new XR site this summer (Paul K. Hart,
        Ft. Worth, TX)
    * 660 E0wll-㴗 Ft. Wor
    CHFI-ON Target date for CP is 5/1/71, per stn
    + 700 KBYR-AK CP: 1000/500UI, po: 1270
    + 600 WSST-FL new call: Largo
    WBAP-TX Ditto WFAA-570 (Hart)
    860 WUCR-TN new call: Sparta
    940 WFNC-NC CE pens that info as to when CP will be on is "between the
    stn. & FCC,"and therefore won't tell us .
    1050 CFAC-AB CP is on (stn)
    1110 WHYT-TN Per stn, target date is 5/1/71.
    *+1000 KRLD-TX SCH: 24 hrs.,SP MP 0200-0600 Per stn. (Hart)
    1170 WMVI-NY Per stn., target date is 9/1/71.
    $1220 WKTZ-FL ex-WDCJ
    1240 KFLY-OR Has been granted temporary operations under interim co-op-
rative ownership by competing applicants
    1430 CKFH-ON Per stn., target date is 6/1/71.
    +1450 KAWT-AZ CP: 1000/250 UI
+1520 CP -MA Greenfield, 01301; 5000 D3; ADD: 4 Bank Row.
+1530 WFIC-VA CP: DI
1600 + WPDC-PA ex-WEPN (still off air)
```

                            call applications
    | 710 | WQSA-NC (CP) req: WZ00 1150 Morro Bay, Ca. req.: KBAI |
| :---: | :---: |
| 850 | Cuthbert, Ga: req: WCUG (not a grant per any sources) |
| 970 | Fairbanks, Ak. req; KIAK 1240 Globe, Az., req.: KNJB Wabash, In., req.: WAIT (dunno if 600 or 1510 , as I can't find the applicants for either to compare w/ notice on this) |
| Drew, | Ms. req. WDRU - no info at all on this, not even any record of an application, and no notice whatever of it being granted.... <br> sunsel \& evening |
| 1270 | WLIK-TN 0/u WXYZ for a change 0290-45 3/10 |
| 1290 | WTOC-GA In w/ WVOW, WHIO 2050 3/10 |
| 1460 | Wrad-TA In as usual all eve $3 / 10$ ( nomally, we don't run usual items - RjE) |
| 1560 | WDXR-KY 0/4 WQXR 2100 3/10 |
| 1580 | WCLS-GA Alone $21103 / 10$. |
| 1590 | WWTC-SC o/WETT for new $\log 2116$ 3/10 |

CHANGE: WYNS-1150 to Lth MM 0130m0145 ALL MONTHS (RJE)
CHANGE: WHSC-1450 to 4 th MM 0130-0145 TT \& Phon. ID's. (RJE)
DELETE: 2nd FM: WSEL-ILHO-Ms (Hart - per stn.)
ADD: 2nd $W M: W G H Q-920-T Y$ 0020-35, OC, brief TT, 1 ID (RJE-per stn.) 2nd TU: WMVB-1/山O-NJ 0100-0115 TT ( 3 Tu © 3M) (RjE-per stn) 3rd FTM: WVOS-1240-NTY 0010-0015 TT (RJE-per stn.)
TENT.CHANGE: to 4 th $\mathbb{N}$ 0200-0215 WBIR-1240-TN W/TT (NRC) al so hrd 3rd $1 T 1$ TENT. ADD.: 3rd MM: WPJD-1550-TN 0245-0300 w/TT (Boyd - hrd sev. mos., anne'd as ET)

3MM: WBIR-1240 (see above); WTHB-1550; KXEO-1340; KVOP-1400; WCLC-1260;
3TV: KNIT-1510
 WBCB-1190; $1 \mathrm{FFD}-14,00 ;$ WTOK-1240; WDIK-12h0
KV: WPLD-610; W2YB-14901


## midnight to sunrise

570 KVI -WA Hrd well, only second time ever for nice tape ID 0330-35 $3 / 15$ (Hart) town, Oh
770 WABC-miTY Noted w/ OC,TT 0133, then off 0205-55 3/12 (Wes Boyd, Youngs-
790 KCEEmAR Hrd $03403 / 25$ / ID in cl mx pgm. Anyone know their SF? (Hart)
830 WNYC-NY Hrd ET $0033 \mathrm{t} / \mathrm{in}$ to $00453 / 23$ ( RjE )
850 WJW OH S/on SSB 3/16 AM, was off 0100 (Boyd)
900 WLMD-WD W/ regular ET $3 / 220040 \mathrm{w} / \mathrm{WN}$-type tones: 1 sec. on, 1 sec. off. (RgE)

+ $940 \mathrm{KIXZ}-\mathrm{TX}$ MI SP starts 0130 - hrd s/off $3 / 15$ (Hart)
WIID-IA Almost alone 3/16 AM, no sign CJGZ, WINZ, KIOA. (BOJd)
970 WJIXXSC TEST poor here due to WHSW.. best 0220-0225 3/15 (BOXD)
1000 KOHO-NA Exc. level, 3/8 0208-0220 w/ MoR, little talk. Killed by WOFL test 0220 (Phil Sullivan, Leominster, Ma)
1080 KRTJ-TX
1090 WKTE—NTC
7110 WBT -NC
+1240 WHIZ-OH
1250 KTBC-M
1260 WFBM-IN

1340 WKGN-TN WOOK-DC
1360 WBAY-?
WKII-MI
WNNJ-NJ
$+1380 \mathrm{KUDL}-\mathrm{KS}$

+ 2400 KATI-NT
$+1410 \mathrm{KRIG}-T X$
1420 KTOE-M WTCR-KI
1430 WLAK-FL
1450 CHEF-2U
1470 VBIG $-N C$
1480 WYZE-GA
KBOX-TX ET noted in prosress 0hL $6 \mathrm{t} / \mathrm{in} 3 / 1 \mathrm{~L} \mathrm{w} /$ mostly TT, w/ daytime 5 kw RS G 0600 arain. This is not recular, only a yearly pop

1490 WDLC-NI Hrd w/ PoPOO22-27 (t/in-t/out) 3/22 \& again ard $02003 / 23$ Subsequent call showed that PoP ran 3/22 0000-0401 \& 3/23 0000-0130\& 0200-0245 ( RjE )
1550 KKHI-CA Best copy all season w/ s9 peaks 0240-0300 3/16, only wk. WAAY after 0300 (Boyd)
1580 WSPF-FL Uncomrionly strong atop channel 0056 3/22 (RjE)
Thassit for now, so 73's


SPETIAL PRODINOSS:
MON. APRIL 19 : O100-0130. WWLE-1170, Cornwall, N.Y. w/ 1000 D3. Will run code ID's, some TT, talk, mx, \& will accept noncollect calls. WWVA should be off, so this may get out somewhere. Probably RJE at the mike for this. May have been listed previously as 4/22, but Easter forced change after info submitted.
MON. May 3 : Sometime between $0030 \& 0130$, WDLC-Il 90 in Port Jervis, N.I. will air a semi-regular f/c w/ Cambridge Crystals in MA. CE Walter Holois can't be more specific, as his time is determined by Canbridge that AM. Will run TT, $m x$ \& ID's for simulcast $A M / \sqrt{M} \mathrm{f} / \mathrm{c}$, and should run between 15 and 30 minutes. ( RjE )


John Tull - K.C. - Mo.
$\rightarrow$ PLEASE DELETE ALL PSA PONERS LISTED WHICH ARE HIGHER THAN 500 WATTS. 42

SCH: 0645(0825)-0100
WJFA-VA

WPIT-WI
WEGA-PR
WCH2-PR
IDD: Spier : fill Rd. SCH: $0700(0800)-0000$ (2200) CP: LOC: Vega Baja(cl) SCH: s/off 0300 Camuy, 00627; 1000 D1 is on.
WLOV-3A Clar call
WGHN-MI delete CP
WPRC-IL $C P$ is on
CP -BC Burmaby, 10000 UL (erroneously listed ll70) CP: 5000/500 U2 (po: 1230)

WIZO-TH p500
KAGE-MN
KUDL-KS
KELD-AP SCH: 24 hrs., AN MI
100-0630
WSTC-CT
WILI-CT
WBAT-IN SNH: 0530(0600) 0100 (2300)

WBAT-IN ADD: 120 N. Miller AVe., SCH: $24 \mathrm{hrs}, \mathrm{SP}$
$\mathrm{MM} 0000-0530$ MM 0000-0530
ADD: Box 968
KVOE-KS
WCYN-KY CP: 500/250 U1
KEYLLMN ADD: 15 So. 2nd
KXGN-MI CP: 1000/250 U1
KNOR-OK CP: $1000 / 250 \mathrm{Ul}$
KTMC-OK SCH: 0645(0800)-0000 (0030 Sa, 2230Su)
KBJM-SD SCH: 0800(0930)-2200 (2000)

KIXX-UT CP: 1000/250 U1
WHLF-VA ADD: BOX 526
WATW-NI
NBTZ-NI
ADD: Box 269 ADD: Box 24; SOH: 24 hrs SP MM 0200-0600
WRJN-WI ADD: Radio Park; SCH: 0645(0800)-0100
WRDB-WI ADD: Box 309; SCH: 0700 (0900)-2300(1900)

WRIG-WI SCH: 0600(0800)-0100 (0200 Fri, Sa; 0000 Su )
KATI-WY SCH: 24 krs, SP IE: 020?0700
2410 WING-OH SCH: liSP
KRIG-TX SCH: NM SP 0200-0600
1420
WAOC-FL ex-NETH
KTOY-MN SCH: NSP
1430 WIRE-IN ADD: $4560 \mathrm{Knollton} \mathrm{Rd:}$
Wh. WQOK-SC PrR: 5000/5000
KDMT-TM PRR: 5000/5000
KDIMT-TY $\quad$ HTT: U4
1450 AlTE SHI; SCH: 06001830

2150
KAVT-AZ NTAB-CT HELITMN
WSVE-RI
KYTM-SD
KFIZ-II
KFI2-:I

WDIB-TI
促CO-II
TPVL-CH
CJOY-CN

TANA-AI KXAR-AR

KDRS- $4 R$
KKAN-KS
KXRA-MN

KLGE-N
NIM-MS
KOKC-OK
KNDC-RD

Kinc-TX
KVOZ-TX
WVVA-VA
WVEC-VA
WEZ-HI

CLX HI
TOSH-TI
1500 WKBX-ive
WKBX-iNC
KA:CX-IM
CP -TA Greenfielc, 01301;

WKJR-MI
TFIC-VA
WYNA-NC
TQXR-MY SSH: s/off 0020
MAI-FL IOC: Dau Gallie, 32935
KPMC-CA SCH: C845-0400
WKKS-KY
TDE:I-YA
KL HX K K
NTO-I:A p500
KTAT-OK p20
KOHU-OR pl95
WKNH-GA ZIF: 30655
FTET-OK AITT: D3; p500
INPDC-PA ex-WEPN (still silent)
CP: $1000 / 250$ un
ADD: 474.5 . Washington SOE: 0700(0900)-2300 SCI: C500-0000 SCH: 0700(0800)-0100 ADD: 18 W .1 st st ; SCH: 0630(0700)-0105 (2305)

SOH: 24 hrs., SP Tues. SCH: 0630
CP: $1000 / 500$
SCH: N: SP 0105
Burnaby, delete
CP is on (really this time)
ADD: FOX 138; SCH: 0530 (0630)-1830

SG: 0630-2320 SCii: 0645(0745)-2000 10DE 1310 Broadway; SCI: 0653-C105(0005) D. $:$ Drawer D; SCF: C640(0755)-0100 CP: 1000/250 U1 ex-KTMN
SCH: $0800(1000)-22000^{\circ}$ (1500) P: 1000/250 U7
P: 1000/250 ul
ADD: Box 672 ADD: 1930 E. Pembroke

AD: Box 416; SCH: $0630(0700)-0100(0000)$ SCH: 0700(0800)-0200 SCH: 0600(0700)-0200 (0100 Su 2 Mon ANT: D6
PWR: 500; NTT: D1 2IP: 87101 5000 D3; ADJ: 4 Bank Row
DELETE CE Ops on 10 kw Dat CP.

STEVE KMP - 6149 Monteverde - San Jose, California - 95120
she kump - in mod number of veries as well as new catches in, so thought I
ff Richond withdrew their bid for the 1911 asce Convention, so San Dieco \& Toledo will fight it out for votes. San 191 1 INCA/Iewport Beach/San Francisco in '71! Veries: v/q-WVOK- 690 Birmintham, P2X25-725 Surinam (took only 374 days, airmail at that) WCFL- 1000 Chicago, CHUM1050 Toronto, KOCL-960 Phoenix, KLO-1430 Ogden, KGEM-1140 Boise, CBE-1550 Windsor vemo- 60 , \& a Roycroft v/q from KKUn 690 Honolulu. v/l- KixJ- 1350 Jasper, Texas, KMWJ-750 Grand IsLand Neb., KAFF-930 Flegstarf, Ariz., KFIV-1350 Modeito, KiSO1050 Vasco Cal., \&KUC-1140 for their DX TisT of $3 / 15 . \mathrm{v} / \mathrm{c}=1 \mathrm{TREX}-1100$ Grand Junction, Col. v/f-KGMI-790 Eellingham. DX since last Muse: $2 / 28$ eveninf: Logs
 on KFIV-1300 a KII 1070 B.C. in well w/KNK off e 5:11. M/ 3/8- KCBa- 1170 s , orf o/kvoc, kicg-1500 Tex. ID on $\mathrm{BT} C 3: 57, \mathrm{CMBC}-690$ strong for $10 \mathrm{C} 4: 03-1: 25$, KFEY ID on ET $\mathrm{u} / \mathrm{CHBC} \mathrm{C}$ 4:11. If: $3 / 15-K L U C-1140$ DX. for NRC in strons $3: 01-3: 14 \mathrm{~s} / \mathrm{Oir}$, no mention of IURC. Ther called procram a frequencer measurement. $3 / 18 \mathrm{ZST}$, on 1425 K © $/$ /off $1: 02$, a Mexican sa; int would return to the air at Gam IT, call sounded like Xize but not sure. KGIIC-1560 Wash. ID u/KPMC © 9:08pm. SSS 3/20-KIQS-1500 Cal. o/looped
 They had rr, promos, a few jinjles, mentionea location which I won't divulee here It's somevhere in SCPCPOSDDX country. KTOK-1000 0k1a. 3: 50-itan w/Voices in the Headiznes, NoR, INX, poor simnal. ZAGL-1560 DX TEST for IRCA from Lencaster, s.C. in strone from lt:30 s/on to $4: 55 \mathrm{~s}$ /off; had old rex, a few jinsies, IDs after every record - thanks, Harry Helme: iKI-930 w/ID C 5:2c; KHJ off. CJCf-930 w/Mos 5:29-5:41. Goin- backwards a few mintes, CBL-740 5:05-5:15 w/hor; KOLL-00 in wh ID © U, KABL on RS but nulled. NHOO-990 Fla. in w/acod sicnal 6:03-6:?3am, ni ITX till 6:O4, then WX \& $\mathrm{C} / \mathrm{w}$. WCAI-1560 Melbourne, Fla. 2 this AM w/an almost $10 c a l$ like siznal $\subset 6: 16 \mathrm{~s} / \mathrm{on}-\mathrm{SSB}$, into promos, pingles, $\mathrm{c} / \mathrm{w}$, faded into mess by $6: 29$ but enouyh for a report. KJo-1550 \%o. w/farm prosram 6:34-6:to, then into rr W/YL DJ. 73. (STEVE STMI IN HIS VERIE SIGNBS - HAVE YOU? -ERC)

## JAY MELEY - 1733 C-nclestic: - Newport Beach, Calirornia

To those of you debating a trip to this Sumer 's INRC Comvention in Sen Francisco from out-of-state, we're tryint to add sone inducements to make it even tore worthwile. Like another club's official convention in San Diego, \& a joint Zrasa-SCecpsD Conclave (or call it someting less polite if ;ou're emilier with us) in the micidle. To put it all together, it will take a stron ioint menber IRCf vote for a Sen Diefo Convention. If you hapnen to be a joint meriber, we to appreciate your support. If successful, it should increace the turnoit at $\mathrm{S}_{\mathrm{p}} \mathrm{n}$ Francisco. I had a pleasar visit from four refional DXers who had to exant ine the sea of fluorescent lighting we wife installed in here redecoratine scheme. If Icould hamess all the noise the", cenerate, I'd probably have to apl: to the FCC for a construction Dermit:

CESFR CBJIO - Calle B.F.Fojas tó - Santo Dominco, Dominican Republic
Hi DXers, here is some info for Domentic DXers as heand rrom here on 3/14 - $3 / 1 \%$. at 10:30pm man-1490 hiami Beach was heard very yoou despite their 10w power. it 11:10 WBIG-147) Greensboro N.C.; C 12:018 3/1; , im io on 890. toon 11/S that I logred F. Munilial, PRAJ- 860 Rio de Janeiro, \& changed Frequency to 880 to hear wCBS also on ver ctront. HCBS s/off © lam \& cut carrier, but about 1:15 returned and said "WCHS New York, testing an a frequenc; of 380 kII but before this I could 10 Union Radio, Lima, Peru on the same frequenc:. Arser that \#CAS ruined the spot. NTX-WN New Orleans C 1:33 for wirst U.s. station on this requency, alwajs heerd Cuba here; then WiRL-1uCO N.Y. © $1: 54$ (how do you live that arnie?) \& station not supposed to be on the air ver tesinn $62: 05$ on隹
 on that frequency. I usualre hcar nck only,
 20 , (il in Florida in 1972. (wA:O-1530 is its $\mathrm{r} / \mathrm{c}$, thirü $\mathrm{i} M, 2-2: 15-\mathrm{ERC}$ )

"Drelve Format" is a sort of syndiented zop ho propaming that tis henry on parhaps a Josen or more atationt sercon the eountry, Inciubinc
 nay have notiond in liatining to sone of these stations, that except for the cell

 ter veing the object of a lot of eritilesans. "Smike Fownt" fs the format of a rettor on the wC by tho nerin of 3111 prake, ant $1 t^{\text {" }} 2$ rmored he recetvit a fee up to $\$ 100,000$ a your fron anch of the atatione uring his format an "procranaing consultant ${ }^{\text {t }}$. It 10 also rumcoed he han a uromitoring set-ip of all these atationa In his hane in helofir and in a antantiv checkina up in his produet. I baliove mont or sil of the $1 \times 0$-jenernal atations use thia fonmt. He ta nino involved in the treining of DJs for these etwions, and you any sliso have noticed the, all seen to soond the same. I zot this lufo froe an article eniled Captain Pluple Crean's Fienifah Plot" hy 前arsy Sherex, in a book celled "The Age of 耳ock", edites by Jonathan Elaen (Hew York: 1969 , V1ntage Books $\mathrm{V}-535$, a subsidiary of Emidon Houpe, $\$ 2.95$ ). I cen't help but notice the succeas of EAC in verlicine 88 stations - I have accese to neversl zoot 88 report notols, but ay problon is thint I doo't know ary 38 ptrsies to vescribe progran details, otc. in the ropart.
 Sinee rejoining the 1FFC in $3 / 69$ I don't think I've seen wuch a feature. I vould be willing to type a stenoll for such a project if soneone would semd ne a good
 typewriter is an Underveod Dtandard, but I'n ignorant of whint sort of ribbco it uses. (Good tiles, Gamles - my bo Dener could help the in this aren! -EAC)

WhC was off the atr on $5 M 3 / 14$ berore is after $\operatorname{zan} v / F T \leqslant C C L$ leaving the sir every fer minutes. Staion underneath WABC, wns probably KOB, but I
 from HIIX. Jolun E. Shurnont tha atstion you mentioned recently on 1166 कn 2/15 from lickaville (two milea Fiof here) was probably pirate whis who ahoved up lant year around april w/giDe to the vorika. Evident ly they are gettint boloer and are EIving Iovatians. I Just ett a coll froe thel Jvarts. I recently recefved the Fuasell fateman gooster snd have been tertfry it out. Its ubes are mary. When used alone it adds up to 3006 b int n . It cent be used to edd materma and ground terminale to your RX. The umit usen Infuctive couplint ant ahould be pinoed nonr your radio" 200 p , Then the undt van uned with the Guardian 5000 , the booster in
 the Pealist ic twr siemel inin Boiniti to be atrout 40 F. Mare info in noxt report.








6.31 , KanC on PSA porer (Why not ube PSP for Pre-Jumrise Power a Leave PeA an Pibr




 very poor bere due to Whain but anbuch hitn s plecen for a report. GidD-1590 on a 2:4>-3 W/argnitm; no mention of this betne E F/a but every nonth at the sane tine






 isc been of 001 seceon $4 / 2 / 70$, I has 300 even. If of $3 / 25 / 71$, I have ita tex







 gesra C lils. In a gnos lone tine. Ho s.at - 200 bad it dsan't cot in [X IFSt in the. cros-
 1510 for Gue* 1 heerd ta






 are

 off ita weetiy polilimhag mken - onter, antert

We11, I declued It is eboat tine I bo here in Jeat Dor1in, what w/G
 locestion it the politicel scem

 Gohel and pert up. Well, on to \& Misinu* montro is in perder. I bive been tix-




 peane for yod ayt.

 Thartin oryve, but one koll


 thoult eit this mart 8 lat




 terten vil1 be toductively capled to uxietinc remplels in a hitbly semastive poren

 tif is roeth, irent. I durv vieh ,

 cron X.Y.) NOI-

 chan o fore iet alrea

I have not done a creast deni of listening aince in last repart. ©

 rieuli. TPTE-NO ablanket $\&$ I thoucht for aureve vould be in for rone very Auraral Cx , but Ths appeared inter on, Includide 1530 which doan's rako it here too otten, wo I voo-







 thin Located in? $3 / 8-$ Wh







 niee $v / 1$ fron BCJB in adilition to $\mathrm{v} / \mathrm{q}$ \& 1 liternture; like very promptiv w/their $v / g$. That vill to it for thi cane though v/a v/s s
 neasom. 73.
7. D. HOCKTEY -

Greet ines invor jivenue - fpt. 101 - Alevaniarin, Viruinia - 2ej03



 tine for IX. However here'a ty intest: wis sipo ith vork and ditn't Lave mich Mllvankee tectine Tor Fla. 5 , MaXX - 00 o $4+100$.




 I've sent then both thrue reports on not ve -


 Bramer relajed via Dric Dikieco. I cound NH 6430 On , thenla to a $+1 p$ froo Joo

 slso 10 giced over thee weekend the r/c fron for $2 / B$ recept ion, $L$, 200 for nape. I


 on ldenf. It is not a belanood
 en fone tocen parts, all of then very easy to chinian. The whole thifes anly ur



a la the Shil. I am going to do a little more experimentinc with it, then I mas see if IIf wants to publish a brief description of it. I have onlij had a chance to try it briefly so far, but during the day it brind up to shor nidta
 Levels without the preamp. More after some wore experimentint and the first Mu test next weel:.

15i $3 / 22$ : CX very active in all diroctions. ATrane-1224 very



















 thit chennel hes become real mons of IJa eiter + a.f.






 133 Halliersters. Dore later. 73e.
 furcher niee verificetica fros en lat statica arrivad - tt's a
 Evole, thet I repertes 11/30.0.58n+ It verifled in \#E, 3/29, I seded TKCY-1300


TGTY LGKI\#URA - Bca 6291 - Portanouth, Vircinin - 23703
reetinze ajain. Just a few lines this time. lost UXing oi
le fe has been during datite houre around noon. It is amazing to find wKB -1000 reaiable with semi-10cal WAR-1000 nulled. WSJS-600 with WCNO-600 nulled. NFNC940 stronc and WEIS-1010 feir. WINL-930 came in with WIM-930 nulled. NSIT-1920 has etront cround wave here. Does any one DX on low frequencies (200-400in)? CLB216, Caroline Beach, N.C. puts in e rtront grounll wave here. Can they be only 1, NWW? Fhere is $25 E$ around 400 h ? Best wishes t111 next week.






I doubt if MPId. or N. S . PRP. Can anyone confirm CFLV Sin s/on as 6 ? Sevs 8:30. WHM 3/8-WKTE-1090 N.C. TRST came in good o/XERB © 3-3:35 s/off; WSTX 980 Renn. fair in the mess nost of the AM \& seems recular now that they're TSSP-WFDR-1070 Ga. ET w/WSPD, I forgot what time. WCNW-680 H.Va. s/on coco w/ $250 \mathrm{ww} \mathrm{w} /$ HPTF s/on C 5, but WPTF's 11 was back next M4. 3/12- A creat morning for DK, startinc w/ChN-1410 B.C. © $3: 15 \mathrm{w} / \mathrm{rr} \&$ fair-good simal o/unID CRM \& MMN-1400 slop. HVI-570 irsh. finally showed up after months of trying w/Mor o/u WKBN 6 3:30; CHYT-1110 Alta. W/MOR \& much dead air o/NET $C 3: 55$, thenks to KFAB SP . KPR must be coint directional again like they were before that tornado blew away two of their three towers. SM 3/14- KTRM-990 Tex. weak w/c/w \& no TMM C $6: 35 \mathrm{am}$; XIJTV
 $2: 55 \&$ SID; HJHJ 600 sinally, w/complete ID © 3 , cuban QRM; IUWC-1 140 on very zood w/no GRM unt il 3:14s/off, v/1-CM back already. $3 / 10-$ WLOL-930 0 . $\mathrm{s} / \mathrm{cm}$ poor w/unTD CPM E5; KRLA-1110 Cal. a pleasant surprise w/rr qe fair sicnal e 5:35 Was ooć equm, normally Nop; Then WCN-1550 Tnd
 Tex. decided to I had ri RX set on 2150 before I went to minute I turned on my RX w/Mor e $4: 05$. KCMC-740 Tex. MM $3 / 22$ was treat! KGMS 1380 Cal \& ID as "KTAL, $98.1 " \in 6: 40$, CBL off till 7 SMS WX, \& s/off C $3: 55$; G\&E Islands' VSZ1-must ve been WX, \& s/off C 3:55; G\&E Isiands' VSZ1-must 've been the one w/weak carrier on 844 k ETET excellent w/no heard on HF A-2515 which is on sale for $\$ 50$. WicI- $1560 \mathrm{~s} . \mathrm{C}$. four provinces, and four $4: 33$. Heard total is now 1,176. I heard 24 states, for $\$ 40$ postpaid. Good $D X \& 73$.

CARL DABEISTEDN - 1924 South 55 Street - 敬 2 - Omeina, Nebraska - 68106
ly haven't had too much DX just a short note to tell you I am still around. I real derson \& CO., a world-wide firm of CPAs, and orree years. I work for Arthur Anincide. I also got married last September. However, I mav and the $D X$ season codials next year. I also may have a rood chance of may be more active at the senior training schools which is ending as the of attending one of our firm's transportation will be paid for! protty food coinention berins. That way, my and Convention are both foing to be the treining schod else now - see you later. 73s.
HQ-
JUST A LITLEE NOTE। THOUEHT
YOU MICHT APDPECIATE. / RECENTY
UINED ONE OF THE COMPETING.
DX QLIBS AS A EACK-UPTO THE
NRC. WELL, NOW I OAN SAT IT
MAKES ME APPRECIATE UMAT
a grenat cluo we hme. keep
UP THE GOOD WHRK!

A-S. Kamp B - R. Musco C - D. Copeland D - R. Mood E - M. Sorensen F-K. Tyon

- 1

G-W. Boyd H - T. Kerfoot
I - G. Atkins
$J$ - B. Bennett
K - K. Birlinnmier $M-E$. Zooper
$0-A$. Merrinan
P. M. Llewellvn, CE

610 KrA TmL H. L. Comstock, CM
630 CKAR D. Smith, CTech
VLAP L. Owens, CE
650 KOY AmK D. C. Stuart, CE
$740 \quad \forall \mathrm{VqCH}_{\mathrm{C}} \mathrm{J}$. Tisdale, CE

86 KCON 0
870 W II C U R. Denison, CD
$900 \mathrm{KrU} \mathrm{MmIN} \mathrm{R}. \mathrm{Thorsen}$, $i f J$ ii $I$ Helen $G$. Brayert $\begin{aligned} \text { Bn }\end{aligned}$ pr
$\begin{array}{llll}910 & \text { K Mial D. Cattiy, M } \\ 920 & \text { K C }\end{array}$
$K$ DoH L J. E. Hyde, CE
KPT L V. Pressle:
940 KBRE C. F. Hunter
W AvNV $V$ C. E. Neer, GM, CE W JUR Z H. W. Peith, M
980 KfF WmB
1170 i HfL J J. Super, CE CJM
1180 K OMF I W. H. Patterson, CE
1230 WES X F. A. Piraino, CE H J B C M. J. Beasley, Do
WSTR J. Greenwood,
K INqU Z
J. Waiker, CE
iin $A$ D. Coller,Stupse
Y E I I V. P. Deland, CE
if HABY G. F. Merki, CS
1240 if mD C Mrs. A.B.Pucinski
$1230 \mathrm{~K} \cap \mathrm{IK}$ E. L. MeKinney
1270 UqB R B. Zehring, CE C JqC 3 u/u
CGG R. Hilker, Of
1200 K GqI L L. J. Pugie, E
1310 TTE B D. Douchty, CD
1320 C KqE C u/u
1330 K lmE S J. McAdam, O
1340 K R A. M R. Wood, Do:
1350 :! Iro U W. Raile: CD
1350 Y I C X M. Manker, CD
1370 $\because \mathrm{KqAT} \mathrm{T} / \mathrm{u} \quad \mathrm{G}$

$-380$

1390 W EqO K E. J. Kerwick, CE KGER L. Crumbaush, CE
1400 W JHO K. Rigsby, PD
K XfI V W. L. Fichett, CE K Vho P H. V. Smith, CE
1410 W PqO P A. Sarbanc
1420 K U I Y Tex Smith, WOC E. E. McHenry, A to DOE KTOE H. Engel, CE
1410 K Q V J. Hancock, CE
1430 W M N C Madelvn Y. Patton, PD WI RE G. W. Trout, CE W N A V Mrs. E. Smith, M
1440 WQ O K T. Huckaby, CE
V B CM R. Hale, CE
K pmu R H. Shelton, CE
K mo T T. T. Tourtillot
K U I K Mitchell Ce
K EW I K. Mitchell, CE
1450 WrI AmB N. Howard, CE
WrIV AmB N. Howard, CE
W J ER D. Greff, CE
W M F J J. Mcelure, CE
K E E P W. Ross, M
$21+60 \mathrm{KTmYA}$ R. W. Knipp, CE
KBRZ J. E. Martin, CE
W AfC 0 J. Vinson, CE
$K$ SqO a. Myers, ESu
1470 C FqR W W. M. Youcay, CD K Kfb $C$ H. F. Ridswav, CE
1480 K TrII S D. Petcerson, Ce
1490 W X I T R. Term, PubSerDir K AmI R F. Kzlil
1430 weC FhR G. Stearns
if R D W T. Berry Jr., sale M
1500 W Dfe $N$ C. HcHen, CE
1520 K MP L E. J. AT exander,
1530 A A O D. In; ram, A, E
1540 W Pot R J. J. Cruise, Ce
1540 K ims $A$ J. M. Clark, CE
1550 KUAT R.G.C.Henarickson, ©
N N T N D. Lefebfure, CE
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T CfG A Bomen, Gu
1550 in TR C. Scott, Cr
W aqixme $\operatorname{H}$. Neiman, VP , GM
is EK C M. DiLillo, CE
W D XR J. Bartleti, CE
1570 W F GM (J. Rejmer, CE
(I. Souder, GM

1580 WKUN D. Morris, CM UKI D D. Fatrick, FJ
1590 N E R A R. Balfour, Ce
li,00 W F R C R. Fee
We have more on hand - keep them coming. We thank these folis for the neat wa, the sent them in \& for usin's the abbreviations Be sure of the spelline of the rames, pleas

