

OFFICIAL PUBLICATION OF THE NATIONAL RADIO CLUB


BOX 99
CAMBRIDGE. MA. 02138
"I am very happy to see reprints of numerous articles from past issues of DX NEWS being reprinted. This helps us guys who have either thrown away or lost our past issues as well as the newer members." (Walt Breville, Mo.)

IN THIS ISSUE...
CONVENTION REPORT - Big George Kelley
NRC DOMESTIC CONTEST - BGK \& GPN
FIRST EDITION OF DXTRAS - Eric DiRicco
RADIO DIRECTION FINDING - Dave Fischer
CARE AND FEEDING OF THE WAVE ANTENNA - Jerry Starr BEVERAGE EXPERIENCES IN FLORIDA - Jerry Conrad

NEW NRC MEMBERS THIS WEEK:

* Robert Bundy, Caroline Is. (second subscription)

* Wayne Frank, Moose Jaw, Sask. *Thomas Steele, Milwaukee, Wis.
* A. Scholl, Brant Lake, NY *Wm. Willis, Redding, Calif.
* Harold Jones, Jr., Elberton, Ga. * Paul Sidney, Sag Harbor, NY
* Jerry Miller, Bellevue, Nebr.

Welcome to the NRC, people, we hope to be reading of your DXploits often here in DX NEWS. Why not introduce yourself in a Musing?

RENEWALS THIS ISSUE:
Belanger... Fell... Janecko... Entine... Fischer (Bob) McGraw... Dillbeck... Drewes... Nisnik...
"David Solinske of WOKO - 1460 has asked me to pass along to the NRC that he will be verifying reports. If anyone has an old un-answered report, send a duplicate. He's very interested in DX (DiRicco) ".

IMPORTANT NOTICE: See page 2 for information on how you can join up with the FLASH ALERT SERVICE to receive immediate information on last-minute Specials and Tests!
*** Another giant 40 page issue this time ... We started off this Volume of DX NEWS with so much fine feature material on hand that the Composition Crew has hard decisions to make each issue deciding what to run and what to hold over... This time we decided to hold over GPN's conclusion to the Auroral article in favor of the Beverage articles so that members who get fired up sufficiently will have time to set one up before the first frosts hit in the North. Among other material held over is a fine article by Jay Murley on DX'ing the Pacific area stations, a balanced FET amplifier by John Tull, and a lot more *:* To the best of our knowledge the final details of the VOA Okina wa test have not been firmed up; our original date, the last week of October (traditionally the best time for Asians in the Eastern part of North America), was washed out because of the persistent solar/auroral disturbances currently occuring every 25 days or so as the sun rotates - and due to hit again at the end of October. The tests will probably be held the first few weeks in November if not later; mall DX NEWS and join the FLASH ALERT SERVICE (see below) for the latest information! ** Apologies to Glenn Hauser, Don Jensen, and Wendel Craighead for neglecting to credit them for the Swaziland information which appeared in IDXD last issue; a typographical error... *** CREDIT goes to the following Boston area members of the Publishing Committee for the past few is sues of DXN: Composition - Big George Kelley, Randy Kane, Cary \& Lynn Pall, \& GPN; Addressing \& stamping - Composition crew plus Ray Moore, Chuck and Jackie Rossier, and Mark Katz; Retyping articles - Cary Pall and Jackie Rossier; Computer mailing updating - Big George; Random $H Q$ work, including moving $H Q$ to its new location - all of the aforementioned plus Margaret Noore, Mark DeLorenzo, and Harriet... *** We're holding the projected time sy referendum cver for awhile; talk it up but keep your arguments succinct, please! ${ }^{*} * *$ We hope to run pictures of the Convention taken by Russ Edmunds this week; the quality isn't the greatest though, even after two hours of darkroom tinkering by Harriet, Big George, and GPN, so we may end up making a last-minute substitution... *** Next week we begin our high-low publishing schedule; instead of running 28 or 32 page issues every week as we have done in previous years, we're going to try to alternate 20 and 40 page issues, thus making more efficient use of postage; the idea is to continue to average about 30-32 pages per issue as in years past but to make use of the fact that we save about $\$ 40$ in postage when we run a 20 page issue; above that size we pay the same, be it a 24 or a 40 page issue. Paying 40 page postage rates for smaller issues makes no sense at all and we'll be trying to adjust our page counts this year to optimize the use of the postage we must pay, at least until our currently frozen Second Class permit comes through...

## FLASH ALERT SERVICE A REALITY!!

We now have two eager and enthusiastic centrally located members to serve on this most important operation: Carl Junker and Fred Tankersley of Dayton, O. If you wish to participate, do the following: get 10 postcards from the $P$. O. and ddress them to yourself. On the last card in the stack make a note to yourself 'last card" or somesuch to remind yourself to send in more cards when your first batch runs out. Send the 10 cards to Carl Junker, 1312 Colwick Dr., Dayton, Ohio, 45420, in an envelope with the last card in the back of the tack. When a last minute special pops up too soon to make into DX NEWS, Carl and/or Fred will drop you a note limmenintely Tolaphone FLASH ALE information to Carl at 513-254-9936; if ma mownri call Fred at 513-253-947 This is for Specials and Tests only!

BGK \& GPN

YUBA CITY DIGGINGS (revisited)
The 1971 NRC Convention was held at the E1 Rancho Hotel in West Sacramento, Calif. over this past Labor Day weekend. There was lots of activity at the El Rancho; people drinking and jumpin' up and down, lots of yelling and screaming; folks grabbin' and huggin' and having a real fine time. The NRC group almost did as well, radio people being what they are

Well now, here's what took place. On Friday night the early arrivers all gathered in the lecture room and went through the process of meeting one another. Nelson wore his Maxwell equations shirt; Erickson planted what was believed to be a bomb in the room; Father Jack freaked everyone with his beard; George Kelley complained about the width of Nebraska; Don.Kasky was nowhere to be found. Russ Edmunds, Mark Katz, and GPN drove out from SFO in an insipid Javlin that had a "Desert Only" switch which when activated turned Northern California into a desert! The ERBA crowd was seen walking around with Krishna Mulvaney shirts on; and the new RFS made his debut. On Saturday afternoon most people looked in vain for a good place to eat; others sampled the local variety of vegetables. GPN gave several lectures on Aurora and other such things. On Saturday night the banquet was held; several choice comments were passed on to the chef, Gregory Grok of Grass Valley. After the Alka Seltzer was passed out, the auction got under way. Jay Murley was our inebriated auctioneer. The NRC made money by selling copies of " 9 slaves for 6 cents "; Schatz went for 4 mech. filters and nearly had his Santa Monica summons auctioned off. DEE showed everyone that he has a paper fetish by purchasing only useless paper items. Nelson out-bid everyone on the right to toss a fully clothed Erickson into the Piranha infested pool. Then came Sunday! The scheduled VOA group visit was sabotaged by some one at Gibralter Steamship. The business meeting was next on the agenda. The BPC fielded questions; also discussions on Postage increases were brought up, with the majority voting to compensate for the increase by prorating each member's expiration date rather than to raise dues. A time vote showed most favored a switch to GMT; because of this we will hold a referendom in the near future. We formally voted our intent to incorporate the NRC, hopefully in Freneau, NJ.

THE MEMBERS IN ATTENDANCE WFRE:
Gordon Nelson, Boston... Russ Edmunds, NY C... Mark Katz, Boston. . . Charles Rader, Hamburg, NY... Andy Kerr, Creswell, Ore. . . Dave Bennett, Richmond, BC... Father Jack Pejza, San Diego... Duane Giese, Sacramento. Don Erickson, Sideriver... John Daller, NYC. . . Ron Schatz, Miami. . . Glenn Hobbs, San Jose. . Clarence Freeman, Auburn, Calif... Len Lockwood, Olympia, Wash... Bob LaMotte, Martinez, Calif... Don Kenney, Santa Monica. Don Kaskey, THE BAR... Big George Kelley, Mofey, Mass... G. Elston, Santa Clara, Calif. . . Bill Harang, San Jose... Michael B. Northam, Portland Saralie B. Northam, W. Portland, Ore... Robert Karchevski, Daly City, Ca. Roy (TEX) Varnell, Novato, Calif. . . Steve Kamp, San Jose. .. Steve Oster, Los Gatos, Calif. . . Paul Welka, San Jose. . . Bruce W. Ba con, Los Gatos, Ca. Ed Krejny, Cleveland. . . Jay Murley, Newport Beach, Calif. . . C. H. Draeseke, Vancouver...


WAITING FOR THE HEARTBURN TO END AND THE SATURDAY NIGHT CONVENTION AUCTION TO BEGIN: left-to-right: Father Jack Pejza the New Ron Schatz, Chuck Rader, Andy Kerr, Frank Kennedy, Glenn Hobbs, super-patriot Steve Kamp, ; back to front on the right: Roy (Tex) Varnell, Don Erickson (cooly watching for unnamed threats to his watertight intregrity), Duane Giese, Len Lockwood, and Bob Karchevski.


IMPEACH NIXON! The New Ron Schatz, reigning NRC Southerner, reads text of White Citizen's Council Nixon Impeachment petition; l. to. r.: GPN, Murley, Schatz, Northam.

IN HE GOES! NRC Publication Committee Chairman GPN (right) awards NRC-IRCA interclub harmony award to Don Erickson; DEE accepts award in Piranaha filled pool shortly thereafter...
from
Glenn Hauser
$\qquad$

71-72 DOMESTIC CONTEST

STARTING TIME: 12 AM EST on 10/18/71, ending 12 AM EST on 5/16/72 ENTRY FEE: 50

This contest is somewhat similar to the one run by Stewart Drake last year but there are significant changes.

Object: To log the best-point-scoring station on each of the 107 spots on the North American standard broadcast band 3 seperate times during the contest period. The reporting dates that you must have your catches in by are Jan 15, 1972 and March 15; with your final form submitted within 2 weeks after the close of the contest. You may relog the same stations that you listed on the previous form if you actually hear them during the next scoring period. But you cannot 'hold back' on old DX catches for the final form. The day your letter is postmarked will begin your new DX period, so make sure you mail early so you won't miss the deadline (and disqualification).

Points: Each entrant must indicate his location and equipment when he enters; only one receiving setup can be used for the contest. The scaling factors will be mileage, power, antenna, and the Zone that you live in.

| MILEAGE |  | STATION POWER |  | ANTENNAS USED |
| :---: | :---: | :---: | :---: | :---: |
| 1-100 mi. | 1 | 100 watts | 20 | Antenna built into receiver: ---- 10 |
| 101-200 | 2 | 250 watts | 15 | (i.e., Transoceanic portable) |
| 201-300 | 3 | 500 watts | 10 | Longwire (up to 600 feet) ----.- 7 |
| 301-400 | 4 | 1 kw | 7 | Unamplified loop (external)---.- 5 |
| etc. |  | 2.5 kw | 5 | Space Magnet (all makes) -...-- 3 |
|  |  | 5 kw | 4 | FET A. A. or any amplified |
|  |  | 10 kw | 3 | external loop. ---------------- 3 |
|  |  | 25 kw | 2 | Beverage (any longwire over 600 |
|  |  | 50 kw | 1 | feet in length)---.---.-------1 |

Scoring Zones:
Zone A: B. C., Ontario and all provinces East of it. New England, N. Y., N. J., Florida, Washington State, Oregon, Calif.

Zone B: PA., MD., Del., VA., N.C., S. C., GA., ALA." Miss., LA., TX, N. M., Arizona, Nevada, Idaho, Montana, Alberta, Sask., Manitala.

EXAMPLE: You live in Zone B(1.5) and you hear station WTFY $1 \mathrm{kw}(7)$ at 1200 miles (12) on equipment with Unamplified loop (5) gives:
$1.5 \times 7 \times 12 \times 5=630$ points
Yes, your totals will be astronomical!
Power factors will be determined by time when a station has different Day/ Night powers (Wesolowski's LSR-LSS charts will be used). Stations heard on FC/ET will be scored on highest power assigned. Mileage will be deter-
mined from center of city to center of city.
In submitting your entries you must have the following data: DATE, TIME CALL, FREQUENCY, and STATION LOCATION. You will do your own scoring but each entry may be checked by the contest manager. Send entries to: George Kelley , 118 White St., Belmont, Mass. 02179.

Your final score will be the sum of the 3 contest periods. We will run scores at the end of each period so you will have some idea of where you stand. Prizes will be awarded. Good luck and good DX.

I am sorry to inform the NRC membership of the death of DXer Bill Wortham. Bill passed away July 12, 1971 of a fatal heart attack.

I first met Bill about a year ago when he first joined the NRC. I was thrilled when he joined because I found that he only lived about a mile from me. In my fourteen years of DXing I had never lived near any DXers. Just having a DXer nearby was a new experiance for me. Bill had begun DXing in the middle thirties and had received quite a list of 250 watt stations all over the country during that period. He quit DXing before WW II and had just recently resumed the hobby. His wife had passed away about a year earlier and he had begun to DX again to help him pass the time and relieve some of the oneliness that he was going through. I can remember the frustration he had in trying to build a spiral loop. When the space magnet came out he bought two of them because he was so pleased with it. We didn't get together much because of my busy schedule but quite frequently we would talk over the telephone about DX. Bill worked for Southern Bell and was reaching the age when he would retire. He also helped to keep up his mothe in law who lived with him. I don't guess I've ever been as shocked in my life as the night of September 30 when I called him to tell of a new logging. His mother in law answered and told me of his death. Being a preacher $I^{\prime} m$ not usually lost for words but this time I was overcome from the shock. I think at this time that NRCers who would write a short note to his Mother in law, Mrs. Lytle, would find that their notes of sympathy would mean a lot to her. Her address is 3404 Lexington Rd., Louisville, Kentucky.

Death is never easy for any of us, especially when it is a person whom we share a hobby with, but Bill was a fine Christian man whom I'm sure is in a much better land now. He will be missed here and I'm only sorry that more of you did not get to meet him. Goodby Bill.
(Rev. Dan K. Phillips)

We also regret to announce the passing of BPC member Mark Katz' father in New York following a series of heart attacks. We all extend our deepest condolences to Mark on his tragic loss.

JfY mulizy - 1733 Cendestick - Newport Beach, Celifornie
Bad news first. "Holidey Inn's successful lon-running Dolly Hol:ds. Show (ell-niaht music on some 37 stations) looks sase, may expand, " accordin to Fred v. Aliss, the show's sexles end pronotion menajer. A key format chence
 for listeners in the Sest tr, ns to lou Western suet "Hero Jepho (wali) Show" ai KV00-1170 Tuler hed been sjmulcestin KSL, Salt Lake KSL alone with all-talk.
 The two Celinorniens on 170 remain unchanjed - Sen
 Wa - "The ieaver Sound" W/heavy reliance on oldies from the feint treces of a telk show on 1160 , 'cause KSL is ell alone on the format. Dia some sEinal meesurements on T-iuana's XECM - enj published rumors that they re rumn ne $2,500 \mathrm{w}$ are poorly writien novellas. Multiply their official power bj ten for a closer zuess. Interestiñ MM on 8/30: KMPC-710 A XETRS-690 were both off. LA paths weren't decent, but KKUA Honolulu dominated 690. Now if my ouija board is correct, both will meed additional XR maintenance arain next $6 / 19$, just in time for thunderstorm seeson beck 5 ). I heven't Jot the new slocens and calls squered oway $;$ et (due to MNIs) but some of the Colombians seem to have switched around. I do trust that Objio or Schetz or Conrad will sort the mess out for us.

RICHARD LAUHEAD - 591 W. Co. Road B, St. Paul, Minnesota - 55113
I zuess I'm past que for a Musinj so here goes. $D X$ is pickinc up here, helped along by a recently aquired Space Maynet. Best so far was HJFVa. to 40 on $9 / 19 \mathrm{w} / \mathrm{wHO}$ off, very strong from 1:43-2 when WHO berean testing. ID was
 qiven effer
 1020, fair $12: 24 \mathrm{em}$; CMKV-600 fair e 1:42; $2: 45 \mathrm{~mm}$; WWSW-970, ,ood © 2:48. Also 620 rood © 2:30. MM9/20-WSBA-910, poor © 2:45am; WWSW-970, food e 2:48. Also on $9 / 20$ I heard WN(? (IS on 990 E 2:50 w/UPI NX. I can't find him listed amwher Cen an one help? (WNOX? -ERC) They gave location as North Selina, and time was EDT. A couple of comments on EST vS. CMI. Why EST, why not CST, or MST, or any other time? Really now when a club such as ours has members in many time zones the only fair time to use and the easiest for everyone to convert to local time if desired is CMT. I sey GMT for all sections. $73 \mathrm{~s} \&$ e cood $D X$ to all.

Greetine $n 11$. First report to Musing for me bince gomur
ship bejen about four months ago. I probably would have contributed earlier but as some of you may know, I in EC DX Forum editor for the IRCA. Other vital stats wre as follows: I am 19, attend the community college in town (which is six block aw\& ) \& have been DXing since 1/69. Current totals are 670/41/6/23. Best foreicn catch is a toss-up between Sierra Leone-1205 and ZFBl-960. Best domestic either liPFB-910 or KSOK-1280. I plan on an all-out assault on foreign DX this season, especially since I have that marvelous NRC LI Log. It appears we re in for a ver: active season, DX-wise. WCers are already reportine TPs \& even the members of the Blue Water Chapter of IWCA (myselif \& three other area IRCAers) urv experiencin; cood, lencthy Western openincs, w/KUUU \& KlLK the best of the BVC atches. Only one disappointment during a fruitful Sumer of $D X$, there wasn't catches. Only one disappointment durins a one, havins read GPN's article. I will be doint a lot of SSS DXine as stations to the $S$ of Michigan tend to make their ondy appearances of the year from about ten davs before the Fall Equinox to abo ny appearances of the year from about (hen, weleope to you, fellow Editor! We hope jou'll be sble to chine in here


RICH EDDIE - 152 West Rose - St. Louis, Missouri - 63119
Howdy from the Gateway to the West: Lons thae no Muse so I dedided that I take time to Muse and let everybooy know I'm still alive. I fust recently added a Navy surplus ris called RBwhich tunes 200 k to $2,000 \mathrm{k}$ in four bands $\mathrm{w} /$ an 17 of 140 k , and seems real sood. Now to some DX heard on it. Sat. 9/18- WEBQ1240 Harrisburg, Ill. 5:37-6pm w/rr. Sun. 9/19- KJPW-1390 Waynesville, Mo. 2:122:25pm w/up-tempo MoR, WFIW-1390 Fpirfiela Ill. 2:26-2:40pm w/Apostolic Faith program, KWRT-1370 Boonville, Mo. 6pm w/ID \& NX, KIRS-1360 Mountain Grove, Mo. 6:54-7pm s/off. Tues. 9/21-WLOV-1370 Washington Ga. ending r/c@ 1:20am. The following DX was heard ict 1 Realistic TRF portable: Mon. 9/13- WCLO-1230 Janese ville Wis. W/Mutual NX © 7:30pm. Thu. 9/16-KTAT-1570 Frederick, Okla. w/f/c, 1:25am tune-in to $1: 35 \mathrm{~s}$ /off; WHII-1570 Bay Springs, Miss. tune-in 2:26am to tune out © 2:45 W/DT/ET; WEUP-1600 Huntsville, Ala. 7:58pm e s/off, KCRG-1600 Cedar Rapids, Ia. w/ABC NX 7:5708; WAPX-1600 Montgomery, Ala. © 9pm w/NX \& the best catch of all, WYRE- 810 Annapolis, Md. I heard only one voice announcement \& one Morse Code ID during the whole time due to KCMO Kansas City \& splatter from WBAP -820 Ft . Worth. So much for DX. I just received my 500th verie award from NRC, and it looks great. During the Summer I did FM/TV DX which wasn't too bad. Lately I've been bearing beacons on IW, only I can't find their location yet. Those who want a list of them Just write. Special welcome to John Tull and Randy Stewart and all other new members. Totals: 923/510 45/43 6/5 16/11. I uust be nearing 30 lines so I'11 say goodbye for now. I have KXOK \& KIRL SC for trade - just write. Good DX \& best of everything, fellow members. 73s.

ROBERI EDDY - Box 123 - Newpart, Ohio - 45768
I've been a member of NRC for about 10 year and am just getting around to my first Musing. Reason for waiting so long: practically nothing worth reporting last season (poor CX) and laziness. By way of introduction, I'm 24, single, and work for an electronics distributor in Marietta, O. I've been DXing W BCB \& IV since 1960. More recently I've been concentriting on FM to the neslect of other bands. BCB totals to date include 38 states, sixprovinces and 42 countries heard. I haven't been keeping an accurate count on total stations logged, since I'm more interested in countries. Best verie to date is $4 \mathrm{RK}-840$. M RX is a surplus BC 453 and crystal controlledconvertors that provide coverage from 540 k to 30 m in 360 k segments. This set-up makes for excellent bandspread on $B C B \& S W$. Antemnas include a $50^{\prime}$ wire \& loop. You should be hearing from me more often this seasom. Plans include the erection of two beverage wires $w / a$ length of about 2,000'. Orientation will be NE/SW, and NW/SE. Hopefuliy, TA reception will be much better. 73 s \& best of DX. (Welcome to the Column, Robert, and please do come in often! -ERC)

I am expectine a very good $D X$ season this Winter. All the early signs are good. I have one new verie: WXRI-1300, PP. Since relocating in the Montreal area the DX has been: 9/17- The TEST froe WYRE-810 received despite severe slopover from local GJAD-800. The CW IDs helped. Shortly thereafter I heard unn CHIC-580, w/best signals ever, o/u WTAG, W/CFRA semingly off. CFRA nighttime signal has been very weak lately. On $9 / 18$ the TAs were extremely good @ SSS w/764 by far the best. Other unns were on 665755 The were extremely good @ SSS w/764 by far the best. Other unns were on 665755773782 1025. I tried to take a $1 \alpha$ S on the Spaniards on $827 \& 1097$, 14 Algeria-548, but in vain. Then at 7: 20-7:41pu EST I took a report on CFTR 680 , for a Dell call. The evening of 9/20 copied considerable info from an unID on $1400 \&$ sent a detailed tentative report to WICK-1400. The evenins of 9/26 produced a lot of good Caribbean DX: 4VW-1325 "R. Haiti" was very strong 7:07-8:13pm EST \& I took another try at a report. Then I tried 830 for $4 V E C$ but instead took detailed copy on a new one, HIJB-830 who ID as "HIJB" \& have hard-sell pracranming. During the evening I also noted HIBE-1180 "R. Mil", YVMA-1070 "R. Zulia" \& ZDK-1100. Those three would have been new logeings had I obtained enough info to send a report. When I was on holidays ated quite $C X$ remain quite sood; TAs peaked for we around $9 / 11$ o then deterior throu throu chout the period, however. DX: 9/2-WNRV-990 Va. © 7:29pm s/off way atop. WKBQ-1000 N.C. © $7: 300 \mathrm{w} / \mathrm{tail}$ end of s/off $\mathrm{w} /$ Now the Day is Over as backsround rather than 5 listed in NRC Log. WABQ-1540 O. © 7:45pm s/off. 9/10- Dresden 1043* Dibr © $9: 35-9: 46 \mathrm{pm}$ w/talk by man in GG \& licht pops; level very good; but modulation a little shaliow. 9/12- Tirana-1088* e 12:10-12:20am w/talk in language, probeblv Arabic, \& into chantind. I may have had traces of Libya-1484 thise,

 $-7: 14 \mathrm{pm}$ w/NX, sports, WX to s/off; very strong \& ennounced s/on es bam e just after WBRJ. WAVE-970 Ky.* © 8:58-9:02pm W/MOR, ID \& NX; WWSW nulled. 9/15just after WBRJ. WAVE-970 Ky.* E 8:58-9:02pm W/MOR, ID \&-NX; WW / Rullea jufter WAXU-1580* K. © 7:45pm s/off; mucho QRM. WVKO-1580 O. © 7:45 s/oIf judafter WAXU. WFUR-1570* Mich. © 7:59pm s/off \& promo for FM; CKIM nulled. 9/16-WIQT$1000^{*}$ N.Y. E $7: 14-7: 15 \mathrm{pm}$ s/off-SSE \& slogen "WIQT Beautiful Music." WINS-1560 0. 2 7:40 s/off w/FM promo mixed w/much WQXR. WEAW-1330 Ind. © 7:58-Bpm w/Wow the Dey is over "\& into s/off. 9/20-WIHB-1550* C 12:30-12:38am w/r/c $\phi$ frequency TDs. KOA-850 Col. © 12:50-1:010m w/religious mx, ID \& NX for tape. KWLA-1530* La. (e 1:46-2am $\mathrm{w} / \mathrm{r} / \mathrm{c}-\mathrm{TT}$ \& frequency ID. WSIX-980 Tenn. E 2:30-2:32 w/HI \& local ID. KFAB-I110 Neb. © $2: 55-3 \mathrm{am} \mathrm{w} / \mathrm{soft} \mathrm{mx}$ format to brief ID © 3 for tape. VAAO1530 Ala. © 3: 15 am w/tail end of $\mathrm{r} / \mathrm{c}$; seid would resumt (3) 5:30am. WNIO-1540* 0 . (2 7:20-7:23pin w/prowo for rr concert \& SID; QRM from CHIN. WQTW-1570 Pa. © 7:28 pm s/Off way on top; amounced PSA of 346 w - is this a call change? CHIN-1540 ont. © 7:29pm s/off w/call pronounced as a single word. I must be close to 30 , so without further ado, 73 \& DX. * are new logs; others are new tapes.

DAN K. PHILIIPS - X-2 Seminary Villeçe - Louisville, Kentucky - 40207 on 6/12/71 Frankin McCornick, the AN DJ @ WGN, died. For the past 12 years he had been quoting poetry on his show. He will be missed here. New news is titat this Summer I built an FET $1^{\prime}$-squere portable fitimul. 10op. I used the p;ans out of March 1971 EI \& substituted \& loop for the loopstick in the articie. In comparinc it with Gary Atkins' Space Majnet sone interesting conclus-
 rom wor 1 to 35 units up to 1600. The FFP is better for nulling in most instances especially with tilt char 160. The is better, ror nullisi in in in actersitcs. It was cheaper to buila also, abut $\$ 12$ in 1600 /ransistor portabie er that consistentiy shows up is that from 1200 to $1600 \mathrm{~W} / \mathrm{my}$ transistor portable plugsed in the null is not balanced, althoug it is over the low portion of band. However, when the portable is unpluged the nulling ahaactifer stics came back. What gives? Anyone know a cure for that? I took it to Daytona Beach \& I did some $D X 8 / 2$. The results were that $I$ could hear in the middie of the day the followine stations: WQAM WGTO WIOD'WPDQ WAPE WGBS WPAI-730. On 790 WNRR/WISE fighting it out. WQIZ -810 WKKO-860 \& WEAS-900. That ocean is great for groundwave. Iew locsines herc in Louisville. $8 / 30 \mathrm{WNSL}-1260$ on (3) $1: 30 \mathrm{am} \mathrm{EDT} \mathrm{w} / \mathrm{fire}$ alert. $9 / 22$ I loged WCD-1320 \& WQIN-1270. Totals now $1,506 / 561$ in 25 countries verified. I- am looking forward to the new year. It will be a busy one here. I hope to rraduate in May from the Seminary \& then who knows where I'll be. 73.

RICHARD CIARK - 4110 Bajvies Drive - Fort Iauderdale, Florida - 33308
I am"very gled that the NRC Corvention will be in Miami next year
 I assure tou that this maring your plans because a year 11 of Jou at Mami is the atewai to IA DX. Miami in ${ }^{1} 72$ ! 73s.

LET'S ASK AGAIN FOR MORE MUSERS. AND WHEN YOU DO, PLEASE DOUBIE SPACE AND ALSO PLEASE LTST YOUR DX BY DATE AND GIVE CALLS \& FREGUENCIES OF YOUR CATCHES, AND THE IME (Z. I.T.) THEY WERF HRARD. IF IT IS A FREQUENCY CIECK, GIVE THE OPENING AND CLOSING TIMES OF THE CHECK SO IT MAY BE PIACED IN THE N.R.C. FREQUENCY CHECK LIST.

JOHN H. SHANNON - 478 Eest Hirh Street - Kittanning, Pennsylvania - 16201
Hello geng. Ions time no Muse here due to a plain lack of time for DXing. Only a couple of hours per week of serious DXing right now. With the new volume starting, a re-intro is due. I have been DXing since 1963, seriously since mid-168. Totals are 1,480 stations, 49 atates, nine provinces, and 60 countries. I don't bother with veries. I do tape some of my DX. I use a completely home-designed and built RX w/four FEIs, two ICs, and three bipolar transistors. Antenna is a 6-inch ferrite rod w/an FET preamp. DX goals for this season ere reaching 1,500 stations by $1 / 1$, and also stpdying TA propagation with the
 TAs have been heard here elmost every pight since $8 / 15$. Age here is 26 , \& I am an enテineer/newsman/announcer etc. at WPIT-730 in Pittsburgh. All my serious DXine is done in Kittanninc. I do listen in Pgh., but don't really keep serious records there. I am a ham w/an Extra Class ticket, K3WWP/WA3IX0, but inactive at present. I don't have my lozs with me at present so I can't list eny recent DX. It's not much, aryway. I owe several members letters. They will he coming when I can find the time. I am extremely pleased to hear the FCC finally took the NYC boot 1 dgers off the air. I heard one of them here, but I don't count illegal ste tions in m list, although I do note recention of them, and sometimes refort them to the FCC if they annoy me enough. Daytime (10am to Zpm local time) DX is a favorite around here w/some 240 logged in those hours. WPIT ran PoP several nights the week of $7 / 18$. Sorry I wasn't notified in advance avout it to let the membership know. The CE told me about it the evening of $7 / 17$, hi. We did get a couple reports on it. How about some Musincs from some more Pittsburgh DXers? After all, I finally Mused acain. EDR is about the only active member around here any more, I yuess. The rest of us are too busy to sit around \& twirl the dials.
MARC DELORENZO - 565 Oceen Street - Hyannis, Massachusetts - 02601
(Note new address -FA.) Greetings one \& all. After visitin California, I can we 11 understand why Jo-Jo left his home in Tucson: But it is great to be back in the Lend of Salt Marshes, sand dunes, and water paths. In new locetion, I heve constructed a $450^{\prime}$ longwire which runs due $\mathrm{N} / \mathrm{S}$ \& terminates right on the beach. Needless to say, the signals from the $S$ are fantastic. WOBR is now ell alone on 1530 (no more WPNO) \& 810 , which used to belong to WGY, is now dominated by WYRE, Md. Guter Banks Badio, by the way, was on late 9/29-30 w/ coveraje of Hurrican Ginger - noted on past 1 both nights. Iest week BGK \& I dourne, ed up to Karvard, Mass. where I purchased a used HQ-180 in excellent condition. Georce drove the 100 miles in about 80 minutes. Anyway, w/a new IW, a new $R X$, \& recently qcquired Space Magnet, I'm all set. In between Auroral disturbences, TAs have been pretty good. From 9/24-26, regulars like 719737755 $764782 \& 818$ were audible just prior to local SSS \& of course very loud just after. Rome-845 was exceptional during this period around 7:30 EmF w/ijeht ci mx. Then, during the Aurore of $9 / 27$ when ALL signals from Furope were being absorbed, I noted a few cood West Africans: Algeria-548, Morocco-611-935, \& a tentative $\log \mathrm{In}_{\mathrm{G}}$ of CanaryIslands-953 w/YL in SS; brief piano interludes $7: 05-7: 15 \mathrm{EDT}$ They were much louder 9/29 © 7:0807:20 w/c1 mx. Also on 9/29: HCAW2-975 toppin TIRS w/ID "Ondes deI Pecifico" $\Subset 11: 32 \mathrm{pm}$. On yes, back on 9/14, I finality rot an ID out of St. Fierre-1375 © $7: 30 \mathrm{pm}$, country ${ }^{7} 63$. Total heard: 1,196 .

JOHN JOFNS ON - 318 Washincton Street - Hoboken, New Jersey - 07030
A new RX added here, a Hemmarlund SP-600-JX17, military version It is quite a set, very sensitive \& the selectivity when in the 200 -cycle position is really something - sits richt ontop of the crystal. I was up MM $10 / 4$ trying on 640 , had three stations off the BCB coming in © 1602-1610-1620k. I had three comint in 5 k away $\mathrm{IGW} \&$ a domestic, I believe KFI Cal. The other PM I had 665 k the above on 8 , of wire in vertical position the phas control, easy to separate. A11 the above on $8^{\prime}$ of wire in vertical position. I would like to hear from some of you fellows who have tried the SP-600-JX17 in comparison with the Collins UR-390 \& which they think is best. 73 s .

ROYALD 5. SCHNTR - 510 N. 2. 158 Street - North Miami Beach, Florice - 33162 Greetinus! Your josts in '72 inzluje miselin, Bichard Clark, Deve Alpert, Cesar Objio, and we're expecting a few more. So Ear we tre considering an oceen-front hotel in our fair city of North Miami Beach, where LDW retes are under $\$ 10$. More on this later. Stand by for e change of eddress, as I plen to move eway from this power-iine noise. I don't know to where yet, though. A listen to the dial indicates this will definiteliv be a better DXseason. Speekin of DX and dials, I wes lookins around for a newRX \& discovered thet Lefeyette end Allied are dropping their commonications RXes, includina the $\&-2515$, for lack of a market. The trend in RXes seems tobe moving to portables y/s "non-technical" appearence, like Heathkit's GR-78. The trick is to set a cherp $R X$ w/ Goodsensitivity an a decent bancepread, then install one of our mech-enical filters. The resultwill be a good chellenge to en HQ-180 for a fraction of irs cost. Anvone want to buy a Lafayette HE-30? It's a '64 vintage and contains an MF. It's been my only DX RX for seven years, and it's time for me to move up in the DX World. I will take the best offier. Yes, the ERBA Convention was interestinj; we even had a host! My most memorable event was the auction; that wes close! It's just as well, as Santa Monice dropped charges. It was interestin to note VOA-1180 on top of the channel while in Denver a few weeks ago; it even wided out Montana. Sorry to say, I was too busy sizhtseeinc to stop by WWV, even which

$a 11$ and much more, for it s Mam end in 72
DX under the wavine palms - Miami and $U$ in ' 72.
DX under the waving palms - Miami and $U$ in 72 .
ENERYONE will be thrown in the pool this time - Miami \& $U$ in ${ }^{1} 72$. EVERYONE will be thrown in the pool this time
Everyone get in the swim- Miami and $U$ in '72.
DAVID GIEASON - Redio Uno, WUNO - Box Q - Heto Rey, Puerto Rico - 00919 Greetiñs. Isn't it aood to know I om still alive? M DXing hes been limited of late due to work on a new enterprise, Directorio de Radiodifusoras Letino-omericenas, Inc., which is a subsidiary of my IS programming service. More on this later. I em considering the purchase of an SPR 4 to complement the R-390 when I move into the new house we ate at present building. I purposely selected the lot in a section where all utility lines are under round, and houses ere built of reinforced concrete (cuaranteed to deaden the neishbors' pesty TV set before it even leaves his house) and nothinc is more than one story hich. On top of that, the erea is on a hilltop, with no shoppine or commercial areas nearb: Welcome to the NRC, Gary Simpson. To all: log the HC splits while they lest - new radio law in Ecuador puts everyone on even channels. 73.

CESAR OBJIO - Sento Dominco, Dominicen Republic
Hi friends. Just a few lines to make a correction: have just received issue $H 32$ deted $9 / 11$. In the "Index to Volume 38 " the article titled as "Colombian Postal Information" is listed as written by me, this is not the case. The author of this article is Herrik Klamatz, a Swedish citizen who lived some vears in Colombia. I did not know such informetion. This correction was not fiven before as I still heven't received "DX IIMI" dated 7/24. See you all.
J. ALEK BONfB - OI Division - USS Forrestal - FPO - New York - 09501

Items: Sun. $9 / 26$-Local CP, WPMH-1010 Portsmouth, Va. had POF/OC $\varepsilon 11$ afiternoon, ID each heli hour. Ionc-deleved RS (CP is about four years old) may be forthcomind. Format will be old standards; four-tower DA throws main lobe E, minor one W. Fri. 10/1- WMBC-740 williemsbur daytimer stered on AN this AM for Hurricene Ginger. They used resular format of chicken-rock. This is last Musin: from Iorfolk - next one from me as a CIVILIN in Miss. (Consrats, Alex:)




ALGERIA. A new regional station of the Moroccan radio and TV service recently began transmitting from studios in Agadir (home of 935 kHz ); no further details available but they should be heard anytime during the early evening hours if they're on a halfway decent channel. (Editor)

PHILIPPINES. The following Filipino stations are reportedly operating off-channel; some of them might well make it to the West Coast: DXCL on 694, DYHB on 718, DXDV on 1017, DXLM on 1045, DYVM on 1263, and DZCH on 1599. The last station was logged by Wood when he was in Hawaii some years ago if I remember correctly... (ARDXC; Editor)

INDONESIA. The 1334 RRI station, which does not yet exist according to a recent staternent by an official of RRI, is still being heard in Audtralia; an English language program was recently noted at 1130 and the announcement was "This is Radio Republic Indonesia, Djakarta, Metropolitan Program". Probably too low powered to make it to North America but they might get as far as Truk, BOB BUNDY. (ARDXC; Editor)

CLANDESTINES, PIRATES, AND BOOTLEGS. . .
Radio Caroline and sister station Channel 70 are not British stations, in spite of the fact that the postal address is 8 Bristol Gate, Kempton, Brighton, England. Both stations are located in Dublin, Ireland. They broadcast after midnight GMT on frequencies between 1320 and 1350 kHz ; reception reports have been received from all over the Continent, the majority being fromSweden and Norway, followed by Germany and even Poland. (SCDX) With this much power there's quite a good chance for reception in North America... (Editor)

According to a Dutch newspaper report, Radio Veronica and Radio Nordsee will soon merge and engineers are installing new transmitters on the MEBO II. (SCDX)

PLANS AND RUMORS. . .
GREAT BRITAIN. The Independent Broadcasting Authority will get 3 channels MW frequencies now used by the $B B C$ in additional to common wave and other channels. (EBU; SDXK)

... convention report continued.
Fred Tankersley, Enon, Ohio. . . Randy Miltier, San Jose. . . Randy Seaver, San Diego... Linda Seaver, W. San Diego... Bob Pietch, San Rafael, Calif. . . Dave Prather, Woodland, Calif... Johnny T. Arthur, San Jose... Frank B. Kennedy, Saratoga, Calif... Ben Veio and son, San Jose.... thats all!

ROBERT FOXWORTH
GPO BOX 2111
NEW YORK. N.Y
All times in IDXD are in CMT. Receptions:
〔55 Nicaragua. INS (finally) ©e34 $9 / 29$ good signal, weak modulation, man and Il with Latin songs. (Kocsan, NJ )
620 Nicaragus. THM Ded as ladiodifusora Nacional at $07009 / 19$. (Junker, Ohio)
640 Gradeloupe. Lorged $00149 / 25$, very good in French, all alone for 12 minutes when it sank into the channel mix, cuban was absent; man was giving a lengthy reading. ID at 0059. (Kocsan, NJ)

- ORTF Arnonville with records in French \& Eng., PF female ancr, $23559 / 28$ ( RJE )

650 hawait. KORL fair $0900 \mathrm{~L} / 10$ with ID, "solid gold wan", such originality: (hauser

655 EI Salvador. ISSwith s-9 si prals 0330 9/20. (Junker, Ohio)
660 unID. Logged 0830 10/4, LA with Nx ; clear of QPM but QRNed until WNBC $O$ cave on; ID included 2 rising tones on vibraphone. (Hauser, TI)
660 1laska. KPAR, Fairbanks $975-0725$ 9/hi, rock, poor o/u wnBc-talk. (Oldfield) 660 Mexico. XERPM $06559 / 15$, Spenish, rock, fair; no WNBC or KPAR. (oldfield, Alta)
664.5 Guatemala. TGRT, La Fabulosa in vy well u/WNBC splash, quite readable at 0430 9/29. (Edmunds, NJ)
La Fabulosa noted here $9 / 20$ with local-1ike sipnal so9 $+30,0330-0400$ (Junker)
665 umID . At 0635 lon , pop wr and talk seeped Germen, but I woild expect Portupal if anything on this distarbed date. DF was European; very weak. (hauser
690 Venesuela. IMR, R. Barquisimeto hrd o/u Cuban in aurora; Iatín mx and fre quent IDs $10309 / 19$. (Edmunds)
700 Alaska. KBIR, Anchorage poor w/rock 9/12 090n-08LO. AK \#12. (Oldfielé) (sigh)
710 Mexico. One of the more interestin Mexicans audible here in daytime is XEPQ, Músquiz, Coahuila, noted $10 / 2$ at 1911 with CST TC's and ads incl. Almacén Mázquiés $A$. (hauser, texas)
719 mID. 2310 9/26 all in French, Cuhan missing, WGN not yet in, WOR splash. A Winor het, some fade and pronounced co-channel flutter, or SAF. A varlety ux pgm, mostiy MoR, IL ancr at 2316, man singing in French 2320, no ID hrd, was covered by WGN around 2340 when latter appeared and pradually ea ined strength; looping indicated a NE direction. Unless a series of coincidences, this pgo appeared // with 836. Pair signal, high atmos KLo ?? (Kocsan, NJ) Colombia. (note freq-ed) Radio Nacionsl de Colombia, good but undermodula
ted s: mal in Miam. Not mentioned at 0500 CD. Complete with ci ux, gonga and pips. Frequency and DF lead me to suspect Call, which was due to appear on 580 kizz . (Schatz, Fin.)
750 Jamica. JBC, Point Galina hrd with KE wr, ID under WSB $00029 / 19$ for comntry \# 65 hrd . (Edmunde, NJ) ( 0 tting all the hard ones first, oh Russ? -ed)
764 Senegal. Dakar beconing a regular a ain. FWas good on $10 / 4$ at 0559 , French anmts, 0602 chants; clear of TSKL ater 1atter
0630 10/1 with talk in uniD lang. (Hauser, TT)
$\nabla$ enezuela. IVKC Caracas atop channel $\mathrm{w} /$ male ancr, $n \times$ hrd $9 / 190031$. (Edmunds)
P1月 unID 9/24. 2330 to $2400 \mathrm{~s} /$ off; no "other TA yet apparent; pood si mal with good modulation level, all alone on channel, no inti, looping NE; YL talker and encr, no mx , no ID hrd, lene vas strange to me, somevhat on he is usull but unlike I can recoendze by the sound. Reception (Kocsan, NJ) (Poland?-ed) Spain/mil. Who is the TA that aives the Spaniard fits with cl mx around 2320? Noted $9 / 111$ and $9 / 2 L-25-26$. (DeLorenzo, Mass)
R27 unTD $/$ /2? 5532 weak signal, vell modulated, slight het, much noise, $?$ or 3 cps SAM, man with lenpthy talk, vx n53L, speech was not German. French, Port, SS or Jtalian - perhaps sone slavic strain? (Rocsan) (Rulparia? ©d).


830 Dominican Rep. HIJ, Sto. Dgo wes very strong from 0116-0138 9/27. They ID with their call letters. Hard-sell pamg. Local Tcs were GMT - 4 th. (Rugg, PQ) 836 France. Nancy $23319 / 26$ with bad sidebend splash, very pronounced SAH, s-8 with low modulation and appeared $/ / 719$. (Kocsan, NJ)
840 St. Lucia $23209 / 29$ all alone with exc sigmal, aill French, In talk was lengthy, nale singer, no thourly ID, chamber mx at 234u, burjed in channel mix by 2350. (Kocsen, NJ)
e Castries hrd atop channel, way over BJBI with French ancr and mx, in aurora O/18 2320. (Edmunds, NJ)
Rli Gilbert and Ellice I. Tarawe had best het yet $08259 / 13$; viv most soupht Pacific. (Oldfield, Alta.)
Wh5 Italy. Rome was tremendous during o-2l, thru $9 / 26 \mathrm{TA}$ opening with lint cl mx and was best, around 2310-2345. (Delorenzo, Mass)
P70 Hawai1. KAIM poor ORON $9 / 13$ with $I D$ and relifion, No WWL or Cuba. There are fev IDs on RATM when relipious pens are on. Tourh if fades nut at ID.. (Oldfid)
(170 (ilsted here as this is the expected req-ed) The Colombian intendency of "Las Islas de San Andrés y Providencian which qualifies as a senarate DX country, is generally know in Colombia simply as "Las Islas" and the Enclishspeakinf inhabitants are called "fsleños". Obriously the name of the country should be referred to by us as ISIAS rather than SAN ANDRES. Note that mail to the place is addressed: "San Andres, Islas". (Schatz, Fla.) ("his myy be true for mail from Colombla, but the US nostoffices wonld likely be wystifrecedent, vould we not log Gernens as "Deutschiand" for that. is how Germans prefer to their land -ed.)
075 Costa Rica. Radio Columbia, Liberia in well under WCBS slop (whet? ed) O3L5 9/27 in afternath of a "minor peomagnetic storm". (Edmunds)
P90 Dom. Rep. RIPJ Santo Doningo, R. Continental hrd with Iatin mx and anmts with slogan by male ancr after nearly every record in aurora $23409 / 18$, was 10 over s-9. (Edmunds) (been adjusting your fullscale set on your S -mtr again? ed)
AgO Alaska, AFRTS Adak Island 0715-0745 9/14 over WIS but poor. No positive ID but was carrying AFRS pems, soul mx. Also Spanish below, at times. \#13(Oldf'd)
000 Alaska. KFRB Fairbanks $0815-09009 / 27$ poor under CJTI-OC; concert mx. (OIdf'd)
900 Mexico. During a fantastic Mexico opening, had XEW 1ike a local 9/19. We had about, $70 \%$ domestic stn blackout $0300-0700$. XEW is normally hrd poor under CJII and CKBI. (Oldfield, Edmonton Alta)
900 Barbados. This ne finally hrd orith fazz instrs, then ID in aurora $9 / 19$ at 0050-0100. (Edmunds)

* 915 Guatemala. Radio Emperador, TGKL is now here. Uaually runs late, and sometimes AN. (Schatz)
(1) This one, too weak to D , here $03530 / 27$ looping $215^{\circ}$ or so, Pare Taylor hrd ID as TGKL, believed to be in Quetzaltenanpo (Edmunds)
(a TGKL, nominally 910, is here, o/?2 at 0959, IDs as Radin Emidor and Ia Empidor ; $\mathrm{mx}, 1002$ full ID break pluggine 150 th inderendence anniv; jingle for "Cuatro de la madrugada" then ppro risas y sonrisas de la Emperador". (Manser, TX)
EF 919.5 Colombia. Cartagena, Bol.. "Fimisoras Fuentes". The correct callsi an, as piven at s/opf, is Hiaf. Most lops are listing it as HJAF which is incorrect.
(Schatz, Fla)
Interesting - I rememher this controversy from a decade coed. 040 Venezuela. Radio punto Fijo, INN ID atop channel M10 9/19. Latin wx. (Edmunds)
953 Canary Is. (tentative). TA loopinf fust north of Due East assumed to be this. Had IL in Spenish with brief piano interiudes between anmts 2305-2315, mat 2315, then fade to 2330 when care back up wi th easy listening mx. This was during aurora of $9 / 27$ when the orly audible TAs were West Africans. (DeLorenzo)
905 Ecuador. Praio Suceso st veil in minor aurora $03409 / 27$ with LA mx. (Edmunds)
1034 unTDs. O5O2 9/22, looped $50^{\circ}$, bad SB splash from Nhit, fair sigu al with SAF thru 4 VEF $O C$; man speakinf in unID lang; at 0503 piri hrd to say ${ }^{\text {g pood eve- }}$ ning" folo by speech in Png, gradually fading out to be replaced by another

1034 (ctd.) replaced by arother simal of the same level at arout 60 with woman singing; a slowiy diminishing signal until it was all rone by 05 h . Who? (Kocsan, NJ)
1 NiO Colombla. R. Tropicel at 0725 after Who s/osf $9 / 19$. (Junker, 0. )
R. Tropical $9 / 260850 \mathrm{mx}$, IDs, "vamos delante con la música para este nuero dfan. (mauser, Tezas)

* 1059.4 Cuba. CMRG, R. Revolución, Baracoa is the sole cause of the loud he here evenings. A move from announced 1070 kmz . (Schatz, Fla .)
1060 Mexico."La Mora Wacional"hrd here $10 / 4$ at 0452 , soon lost to QRM. only stn listed is R. Gobernacion, sonetimes appearing as inactive. VJ lists new call of XESED. (Hauser)
1070 Venezueli. TVM, Radio Zulla, Marecaibo, Ded 0156 9/27 after lenpthy in-2nd-out reception. (Rugg, Que.)
1075 costa Rica. Faro del Caribe, TTFC in Eng with news, relifion, then a clear ID $050-03059 / 2 \mathrm{R}$. (Edmumds)
1088 Albania. Excint $03119 / 25$, no RI from wBAL, unid lang, Men with news or compentary. (Kocsan, WJ)
1100 Antipua. 2DK, St. John's dominated the freq with s/off and anthem at 0200 n200 9/27. (Rugf, P.R.)
- ZDK loged with relifion, atop channel after WLAB s/off for new country $23359 / 18$. (Edmunds)
(Tidmunds, 1120 it $\mathrm{am}_{\mathrm{m}}$
1120 Venezuela. IVMP Maracalbo atop channel way over YMOX OLIO $0 / 19$, eurora
1145 Mondures. HRQN, L.V. del Pacteyco, Puerts Cortes with mx, nice ID and taped news at $03359 / 28$ under Whifa solash. (Fdminds)
1155 Fl Salvador. YSCF, Ondas orientales, la union in extremely well with taped slow call-letter and sloman TD $1230 \mathrm{o} / 2^{R}$. (Edminds)
* 1170 Colombla. HJOK, Maicao (rronomer my-cow-rfs), (ruaifra, Radio Peninsulan here ex-135n. Must be runninp 5 or in kw. (Schatz) Dom. Rep. MIBE, Radio Mil, Santo Domingo Ded thru wan at onol 9/2? and faded ripht after. I had been hearine this one consistently since 1062 and this is the first TD sotten. That's a beginning. (Rupg)
- Radio Mil in well after WHAM s/off $0705 \mathrm{~s} / 19$. (Junker)

1200 Vendzuela. R. T1empo, Caracas with pRm of local pops on $9 / 22$ at 0025. ID at times seemed to be Radio Punto. Could Objlio check this? (Alster, NJ) int Mairten. PJD2 hrd 2300-2 $3209 / 15$, relig, Fng, asking letters. (Alster to the i French pemg. (Rugg, P.Q.) Costa Rica/Amba. TJRG, Radio Columbia Canal 3 in aton all else 10 over s-9 with lipht Latin mx $02129 / 2^{8}$, then PJAln thok over with orean mx 0330-0355 abrupt carrier cut with no IDs, etc. Loop, formet, s/off all f1t Aruba. (Edmunds)
1350 Havai1. KTOH, Ii hue with some KRLC to OR50 s/off 9/13; poor for them at out s-5 still well enomph to make it to Boston.... (Oldfield) Albania. Tirana 2303-2329 o/ll with man and woman alterrating items in Spanish until s/off with "Tnt.crmationale". (Alster, NJ) Mawail. KCCM Honolulu over KTOE AN O/13 0915-09L5, fair. Still "all Hawaitan music" and Eng. ads. 1ll25 het is only real QRM here. (Oldfield)
 low 10 shove. No wind. Into AFRS snul-wx at mon (taned show) and no local ID at $n^{8} 30$. Fad mod st pnal hut fades of $3 n$ or 40 sec every 10 minutes. My first good tape, altho QSLed in 1060. (Oldfield)
WhD Mexico. Raio Ele zeta, Xela nki 10/4 with ad for Que masa, pussycat?" on canal IX 13, TCs, ID as "La Reina de la Música Ranchera", "Radio Ele Zeta, la mísica de pequen. (Manser)
Ih 60 Mextco. XFYC, C1. Jusrez, Chih. $031^{\wedge}$ pop mx , TDs, TCs in CST, freq't anmts "eracias por estarnos escuchando" 0600 ad in pesos, and dolares,

1460 (ctd) Consejo Nacional de la Publicidad PSA. Finally decided slogan wats R. Ysela (the first name of the owner per FBIS). But at 0555 pave different "La $V 0 z$ de --" slogan and, for the first time, call letters.
the6 Monte Cario. Frequent at 0330 with $0 C$ or $T T$ and s/on 3345 with re Nonte Carlo. Frequent at 033 w th or TT and s/on 3445 with religious Mrante Carlo ofm in Fing and s/on to with a few misical tones and a"here is Monte Carlo" in Fnglish. (Kocsan, NJ)
1470 Mexico, XESM a powerhouse in XF onening $0 / 19$ with no sign of regulars KSEM, KELA and CFFN. (Oldfield)
lhifn Mexico. Something stranse here. At $062 \%$ 10/2 an antomated stn, with Radio Alepria jinples and the same ads after every selection, TCs, finally at 0702 s/off meve call as XENN and freo as 1340, in Monterrey. Trouble is, XETKR is listed on this (ILFO) frea for there. (Glenn Rauser)
lliflux unTD. spur with much hash, occasional Spanish andio from one or more stns. Probably Mexican. 0530 10/4. (Ha/ser)
1487 Costa Rica. TICA, Puntarenas is now here from $11 / 89$ last season and naturally, much easier to senarate. Hrd 0350 9/28. (Fdmunds)
150 Mexico. XMRH foomled KSTP durinp Mexican opening $0 / 19$. Was dashing back and forth on the hoir catchine many IDs. XERH pave comple te calls and slogan. (Oldfield)
Fuatemala. TGRF, Radio Faro Aviática, Guatemala 10/2 0613 Radio Faro ID in passing, marimba mx. Nomilal 15hn. (Hanser)
1538 West Gervany. Colome atop channel despite Geomag. disturtance $03009 / 27$
1554 France. Fair $0500-06009 / 20$, Is folo by French vocal. First TA. (Junker)
1560 Mexico. XEVIP, Mexico DF 9/2? 0306, CBS News ending, ID as VIP Radio, ad for Happy's Pizza at $511-94 \%$, ICM-type MMP mx. Donpt tell anybody but it was an s-unit stronger than XFRF. (Hauser)

* Radio VIP poor to fair, all-Inelish, no Mexican hour hrd on this one, why? Finally, a new Mexican for me. ilad Fec... Te.e, Eneelbert, etc. (Oldfield)
That's all for receptions. Sorry for the numerous typos this week. Tite is being done at work, unfortunately on a hlurry typewriter, no white-out fluid here. Odds and ends, now that a civilized mill is at hend....
*I have a number of loggings of beacons and harmonics between 1600 and the 3000 range, if anyone thinks we should carry such material (we ordinarily have made it a point to cover BCB only in DX News) let us know. Anyone desiring these out of band tips, let your Editor know and I will send a copy of them to you, but don't think we can run them here unless there is sentiment for a chenge. We DO carry longwave BROADCAST items, from time to time. No beacons, though. *Early indications are that this will be the best season I've seen since 1964 1965. It has a very good LA content which reminds me of 1963-64. (Andy Rugg) *Cuban freq info (changes to list) CMKD-1211.3, CMJD-1302.3, CMJS-1331.1 (RFS) *Percy Kesteven had 2YC-660 Labor Day Weekend. I was out of town. We got some TA/s on $9 / 20$, we are still re-running tapes. Will report dates and times. WDR on 1586 came thru, also 1214, 1196 and 881. (Oldfield, Alberta, Caneid. ) * Congrats to Bill Brubaker joining powerhouse WGBS as sports reporter: (Eye spy) *Welcome to new IDXD reporter Carl Junker, Dayton Ohio. Let's have more reports. *Marc DeLorenzo is now using a $\mathrm{H} \mathrm{Q}-180$ and Space Magnet and is pleased with both. He says, "This year has started out just like last-schizophrenic: Good TAs for awhile, then-boom-aurora.
*Ron Schatz has a Panoramic Adapter available for $\$ 15$ (Canadian currency). Write him for details, including the name of the ignoble vendor of the merchandise, hi. Hope this section is readable. Especially the words and letters, hi. See youall.

the care and feeding of the wave antenna or
GOOD BEVERAGES DON'T ALWAYS COME IN CANS :

$$
\begin{aligned}
& \text { - Jerry Starr } \\
& \text { WHOT Radio }
\end{aligned}
$$

In recent years there has been increased interest in the Beverage or "wave" antenna for BCB uxing. There can be no doubt this antenna is a unique Dxing tool that will usually outperform other designs. Being the proud owner of a 1400 foot Beverage l'd like to pass along my observations without getting too technical, such aspects have been previously covered in DXN articles on Beverage theory.

The most obvious difference you will find is the fantastic gain, in my case from 4 to 6 s-units higher than a good loop. With many locals on the air it is not uncommon to measure several volTs at the termination point. This can, however, cause some headaches. I have noticed a great deal of receiver overloading on frequencies adjacent to locals. If you construct a Beverage you can expect some overload images. Although 1 use a Hammarlund $H Q 180 \mathrm{~A}$ receiver with excellent image rejection it seems unable to cope with the brute force of RF energy from locals. Example: My nearest local is WFAR-1470 and using the Beverage I get WFAR on 1460 and 1480. It seems nothing will eliminate this aside from attensation of the signal before feeding the receiver. During rainy weather the problem becomes more severe with ther more distant locals causing images also. une quite nteresting aspect of this high gain is that harmonic $D X$ becomes practical. I can hear 2nd and 3rd harmonics from all 14 locals, many times with an $s-6$. Although I haven't gone looking for any real $D X$ on harmonics, there are many weak carriers which could prove interesting.

Another interesting effect is that the difference in gain between a loop and Beverage seems to become greater the more distant the station. While the difference between the two antennas is about two units on locals differences on distant DX-type stations are as much as six units.

My Beverage is not resistance-terminated at the far end so it is bi-directional, running due North-South. The fabled directional effects are pronounced. Example: As I write this at 0300 with the RF Gain adjusted to show S-9 with the loop peaked on WHO-1040, the Beverage is delivering only $s-5$. Going the other way WBT-1110 is 20 over 9 when the loop provides S-9. Even one local, WTCL-1570, which is at an exact right angle to the wire, is quite a bit weaker on the Beverage. 1 usually hear WYTI-1570 right through WTCL on the Beverage while WTCL is good and strong on the loop.

This coming DX season should yield some interesting results, l'll especially be hoping for some rare deep SA stuff.

On the practical side of Beverage construction, here are a few tips. First, PLAN the antenna. It's quite a temptation to buy a few thousand feet of wire and just string it up, but a few minutes spent planning your erection are well worth it. Be sure you get sufficiently strong wire. Usually the smaller the wire the cheaper. Don't try to save a few dollars with smaller wire, especially if it must hang in long spans. If you have some method of supporting the antenna every ten feet or so wire size is unimportant but that seems a bit impractical. The best choice is copper-clad or Copperweld wire. This wire has a core of steel which has much higher resistance to stretching and breaking than solid copper, and is coated with copper so the RF efficiency is equivilent to solid copper due to the "skin effect". I'm using \#14 Copperweld and have to repair only two breaks after a severe storm. Solid wire is a better choice that stranded.

Supporting the Beverage seems to be the knottiest problem. it's impossible to just hang out a thousand feet of wire unless you got a good deal on suspension bridge cable. You should strive for supports at least every fifty feet. In my case 1 am fortunate in having a large stand of trees to the south of my home and have simply hung the wire from tree to tree with nail insulators, fastening it to every tree that falls on the north-south line. Be sure the wire is fastened securly at every support point. But if you use the tree method, allow sufficient droop in each span to compensate for the trees swaying and bending in a strong wind. If the spans are pulled too tight the wire will likely snap, as 1 found out the hard way.

Although the distance above ground is not critical with the Beverage you should try to get it as high as possible. Using trees, there is no reason why your wire can't be 10 to 15 feet above ground at all points. The reason for this is quite simple. If the wire is 3 or 4 feet off the ground and somebody should walk, run, ride a bicycle, motorbike or snowmobile across your property, the wire is very hard to see and could result in injury, lawsuits, etc. Anyone who has run into a clothes line knows what I mean. If you must hang the wire close to the ground. tear up ribbons of red and white cloth and tie these to the wire every five feet. This will make the wire visible winter and summer and could save a lot of grief later on. The time it takes is well worth it.

If the antenna is strung where you can't see the entire length, it's a good idea to walk it's length periodically to make certain ir hasn't sagged dangerously low or broken and become a trip-wire for some unsuspecting hiker or biker.
One more point is lightning protection. The longer the wire, the more likely it will be struck. If you hang it in trees the chances are even greater. Even if the antenna isn't hit directly, nearby strikes can induce voltages that could wipe out your receiver internals. A lightning arrestor or antenna switch offer little protection with the Beverage, the most positive method of preventing damage and/or fire is complete disconnection from the receiver. I feel my metrod is as safe as any. The downlead is coaxial cable with a PL-259 connector. When not using the Beverage I disconnect the cable, roll it up and hang it on a nook on the first supporting tree. Getting the cable outside makes certain lightning surges won't even get into the house. It only takes a minute to bring the cable into the house if I'm going to DX. Don't go away and forgetfully leave the Beverage connected:

The Beverage can be a real boon to your oxing, even the graveyard frequencies yield some real DX catches and foreign DX takes on a whole new flavor. Not all DXers will have the space to put one up but if you're one that does, my advice is.........DO IT:

## The Florida Beverage

*Jerry Conrad
This article does not intend to go deeply into the theoretical nature of the Beverage Wave antenna, rather it will give the results of the antenna constructed in Haines City, Florida and used from October 23 through December 28, 1970. It should give the reader an insight to the workings of this antenna and, also, what might reasonably be expected under similar conditions.

First, a bit about the construction used: the antenna as originally built was 1000 feet long and between 3 and 4 feet above the ground. It was located on a sand ridge in the middle above the ground. it was located on a sand ridge in the midat of an orange grove. later, anotner $i t$ could be terminated in a drainage ditch connecting two nearby it could be terminated in a drainage ditch connecting two nea immediate area and much deeper in places. This factor may have immediate area and much deeper in places. This factor may have had much to do with the success of the antenna. The ground ductivity on this ridge was extremely poor, and nearly nonexistant in dry weather. The termination in the drainage ditch which was very soggy. During the wet season this ditch contains up to 6 feet of water. The termination impedance used was a 330 ohm carbon resistor. This was chosen as just a trial resistor but it worked. Due to the short time the antenna was used, this was the only termination used. Using a carbon potentiometer of, say, 1000 ohms, variable, might give considerable improvement in the performance of the antenna. Hopefully, the pot will be incorporated into the next version of the antenna.

The actual construction time was only $2-3$ hours. I used 1 "xl" wood 4 feet long hammered into the ground and used line of sight to put the 16 posts in a straight line. The wire was 1000 feet of \#16 rubber insulated stranded wire, fixed to the posts by TV stand-off lead-in insulators. Since most of the force of the weight and tension of the wire was directed straight down, no guying of the posts was neccessary. In fact, they were more rigid after the wire was strung than before. I' used about 20 feet of RG-174/U as lead-in with the shield well grounded. All of these components were chosen on the basis of availability and others may be used as well. I finished it just at local sunset, and the first station I heard on the antenna was KGTN-1530 in Georgetown, Texas with no sign of normally dominant WCKY. This was to be the pattern for the entire time the antenna was used. A station to the west would dominate over stations normally heard A station to the west would dominate over stations normally to the north or south. Fortunately, only a very few stations were located to the east, in the Cocoa-melbourne area, so stations om the west could dominate even without the antenna termination.
Later that same evening, one particular reception condition attracted my attention, the absence of Cubans. Anyone who has ever DXed from Florida knows all too well what these incredible pests do to DXing here. 630 was now dominated by KXOK St. Louis and KHOW Denver with KHOW a bit stronger most of the time. With the main lobe of the antenna almost directly west and about $60^{\circ}$. wide, this would be expected since St. Iouis (KXOK) is about $50^{\circ}$ north of west locally and Denver about $30^{\circ}$ north of west. The Cuban was a weak third most of the time. Before, the Cuban was always dominant and KXOK had only been heard under them a few
times. For the first time, KFI could be heard almost nightly. Some of the more unexpected stations that were heard with regularity were KLEI-1130, Kailua, Hawaii, KWOW-1600, Pomona, Calif., KUMU-1500, Honolulu, and KHOW-630, Denver. These were all heard nightly under all but the most severe DX conditions. None had ever been heard on the loop or the 100 foot longwire before.

Other Hawaiian stations heard were KIKI, KPOI, KPUA and KZOO. KORI, the most common Hawaiian heard on the East Coast was audible once even with WSM on regular schedule. It was always audible on Monday mornings but often with considerable static. The most spectacular catch came on November 2, when 4QD-1550, Emerald, Australia was taped from 0430 to past 0500 local time, even with CBE on after 0458 . The signal was strong, with a severe het from a Cuban on 1549.6 and splatter from ZNS-1540, Nassau, Bahamas VSZ1, Tarawa, G\&E Islands was a regular but always very weak. It was never as strong as I had expected, but was always there with some audio. The most unusual reception occurred November 1, when WNEW-N.Y., KSDO-San Diego, CKWX-Vancouver, and KLEI-Hawaii were all taped with clear IDs on $1+30 \mathrm{kHz}$. within 5 minutes. Of the four, only wnew has ever been heard in Florida with anything but the Beverage Wave.

The directionality of the antenna was obvious from the first. The orlentation of the antenna was $270^{\circ}$, and the two major lobes were about $60^{\circ}$ wide along the axis of the antenna, i.e. east and west. The east lobe was a bit difficult to observe since all stations to the east were within 70 miles or in excess of 5000 miles, in Southern Europe and Northern Africa. The west lobe was a spectacular thing to hear. The several visitors to the antenna all made the same comment, it was as if the location was 600 to 800 miles to the west of Florida. This was particularly true late at night when $l o w$ powered Mexicans dominated even the graveyard channels.

In an attempt to determine the directional characteristics of the antenna, I also erected a 38 foot vertical antenna to give me a relatively nondirectional antenna as a reference. The first thing I noticed was that the Beverage had to be grounded when the vertical was used, for the Beverage antenna radiated such a strong field that it dominated the vertical otherwise. When this was done, the effects of the Beverage were really spectacular. The following two tables were made in the middle of the day. The readings were taken from the Collins $R-390-A$ and the meter was calibrated from 0 to 100 dB with the AGC active (the AGC certainly affected particularly the strong readings). In each case, I have noted the general direction of the station from Haines City. The first table is for a 1000 foot wire with no end termination, the second for a 1250 foot wire terminated into a 330 ohm resistor to an eight foot ground rod. The reason for the increased signals in the second table was the replacement of the first RF tube in the receiver which had weakened with age. However, the increases seem to follow the $A G C$ curve, so, for the sake of argument, I have assumed that both the vertical and the Beverage signals behaved the same within the receiver. If interested, you can look up the exact locations of the stations involved. The thing to notice in the second table is what happens to stations to the east which were somewhat grounded by the termination.
NOTE: Due to space limitations, $H Q$ is incorporating both charts into one.

NOTE: In columns 3, 4 and 5, subheading $A$ represents the information in Conrad's first chart, subhead B, Conrad's second chart. All information in these columns are measurements in dB .

| STATION-FREQ. | VERTICAI |  | BEVERAGE |  | DIFFERENCE |  | DIRECTION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | A | B | A | B |  |
| WILZ-1590 | 14 | 39 | 28 | 56 | 14 | 17 | WSW |
| WTWB-1570 | 52 | 68 | 64 | 77 | 12 | 9 | W |
| WTAI-1560 | 22 | 45 | 34 | 45 | 12 | 0 | E |
| WYOU-1550 | 26 | 47 | 40 | 65 | 14 | 18 | WSW |
| WGNP-1520 | 13 | 35 | 30 | 58 | 17 | 23 | WSW |
| WWBC-1510 | 2 | 28 | 17 | $\begin{array}{r} \mathrm{KPBC} \\ \hline \end{array}$ | $\begin{gathered} 15 \\ \text { inan } \end{gathered}$ | $t$ | $(\underset{W}{E}$ |
| WGUL-1500 | $\frac{1}{2}$ | $\frac{1}{2}$ | 14 | 45 | 13亲 | 44亲 | W |
| WSIR-1490 | 38 | 52 | 46 | 64 | 8 | 12 | SSW |
| WVCF-1480 | 20 | 49 | 21 | 51 | 1 | 2 | NE |
| WCWR-1470 | 16 | 33 | 34 | 62 | 18 | 29 | WSW |
| WBAR-1460 | 29 | 54 | 39 | 61 | 10 | 7 | SW |
| WABR-1440 | 26 | 50 | 29 | 46 | 3 | -4 | NE |
| WLAK-1430 | 43 | 60 | 60 | 72 | 17 | 12 | WSW |
| WZST-1410 | 20 | 49 | 5 | 40 | -15 | -9 | N |
| WPAS-1400 | 22 | 48 | 40 | 63 | 18 | 15 | WNW |
| WA PR-1390 | 14 | 45 | 8 | 41 | -6 | -4 | S |
| WLCY-1380 | 25 | 50 | 46 | 69 | 21 | 19 | WSW |
| WINT-1360 | 45 | 68 | 34 | 69 | -11 | 1 | S |
| WDCF-1350 | 18 | 43 | 32 | 61 | 14 | 18 | WNW |
| WWAB-1330 | 30 | 55 | 50 | 71 | 20 | 16 | WSW |
| WRKT-1300 | 6 | 42 | 30 | $\underset{\mathrm{d}}{\mathrm{WSOL}}$ | $\begin{gathered} 24 \\ \text { minan } \end{gathered}$ | $a t$ | $\stackrel{E}{(W S W)}$ |
| WIPC-1280 | 34 | 63 | 31 | 61 | -3 | -2 | S |
| WORJ-1270 | 22 | 55 | 1 | 55 | -21 | 0 | NE |
| WDAE-1250 | 20 | 42 | 39 | 68 | 19 | 24 | WSW |
| WONN-1230 | 32 | 58 | 51 | 72 | 19 | 14 | WSW |
| WACY-1220 | 26 | 59 | 42 | 60 | 16 | 1 | ENE |
| WAVS-1190 | 22 | 35 | 22 | 38 | 0 | 3 | SE |
| WTMP-1150 | 29 | 43 | 48 | 70 | 19 | 27 | WSW |
| WPUL-1 130 | 37 | 62 | 47 | 62 | 10 | 0 | SW |

In theory, if the termination impedance matches the impedance of the wire, the lobe opposite the direction is pointing from the receiver should disappear completely. This is under ideal conditions, though, and even the effects of this crude termination shows the effects rather well. It also seemed to narrow the main lobe to the west a bit, though that cannot be verified with only this information. All of the stations listed with the exceptions of WAVS and KPBC were located within 90 miles of Haines City, mostly in the metropolitan Orlando, Tampa-St. Petersburg, and Cocoa-Melbourne areas. Varying the terminal impedance with a carbon potentiometer would probably have made a great deal more difference in many cases.

I hope this has whetted enough appetites so that those who have or can obtain the land to erect a beverage will do so. A lot more can be done than was in the short two months the beverage was up in Haines City. I will be glad to answer any questions anyone may have about the antenna I used. I would also like very much to correspond with anyone who decides to build one, to compare results, and to learn of possible improvements for the next one I put up. --- JERRY K. CONRAD, BOX 691, ORIANDO, FLA. 32802

RADIO DIRECTION FINDING: A Practical Approach on the BCB With An Algorithm For Manual or Computer Evaluation.
(C) --de Fish, Ph.Dx

The BCB presents DXers with numerous opportunities to pinpoint distant transmitters by using loop antennas to take local azimuth bearings of such stations when the signal is placed in the loop pattern null. In general, to uniquely pinpoint a distant station requires observations (bearings taken with a loop antenna) from three distinct points on the Earth's surface not lying on a conmon great circle path. However, on the $B C B$, considering propagation conditions and other factors, the number of observations in practice can be reduced to two. For example, if a Midwestern DXer takes a bearing on a station and obtains a reading of 135 degrees (or 315 degrees since the 100 p is assumed ambiguous and thus symetrical in pattem response) and an Fastern DXer takes a bearing on the same station and finds the angle to be 175 degrees (or 355 aegrees), then the signal is more likely to be coming from the Carribean area (determined by the bearings of 135 and 175 degrees) for the other location of the station is in the Indian ocean several hundred miles southwest of Perth, Australia and there appears to be nothing but water in that vicinity. But the deduction is based upon a more significent fact, viz., that one can most likely discount signals from that distance in most (but not all!) cases.

Accuracy of bearing is of the greatest importance and here lies the essential difficulty for the BCB DXer. Bearings taken with most loop antennas are subject to errors and limited in accuracy by null width and the compass used (on the loop) to read the bearing. Accuracy required in the azimuth bearing is most dependent upon the distance between the transmitter and the DXer's receivers and the separation between the DXer locations. As a rule of thumb,bearings must be accurate to within one degree or less to locate with reasonable accuracy stations more distant than 500 miles. Such accuracy is asking a great deal of a loop antenna! Accuracy to within one degree is the best that can be expected from a given collection of DXers using loop antennas whose patterns are not skewed or rotated-i.e., patterns whose nulls appear at right angles to the loop plane and are symuetrical in their response. However, it is more likely that most loops have some null skewing due to numerous causes (these causes have been and continue to be discussed at length by the DXing fraternity) so that accuracy of bearing is not sufficient, in general, to allow a single pair of DXers to accurately pinpoint a distant station. This difficulty can only be overcome by the efforts of more than two DXer working together and then calculating from among all possible pairs of these DXers the distance from each DXer to the distant station. With this concerted effort and the information it gives, an area on the Earth's surface can be isolated in which the station can be correctly assumed therein. The geographical distribution of these DXers is significant (i.e., the distance between any peir of DXers) since the more widely separated they are, the more likely the results will be accurate.

To allow the reading of azimuth bearings with a loop antenna, perhaps the simplest and most convenient way to accomplish this si to add a compass ( $0-360$ degrees) at the base of the vertical mast holding the loop. Driliing a hole near the bottom end of the vertical mast just above the compass face, will allow a pointer to be inserted in the mast for reading the bearing of the compass. The pointer is most conveniently set in the mast somewhat perpendicular to the loop plane. The compass should be made with great care and should be of sufficient diameter ( $12^{\prime \prime}$ minimum) to allow marks to indicate each degree from 0 thru 359 (clockwise) and
the poniter should be very rigid and not "thicker" than the markings used to show degrees on the compass.

A lew suggestions on setting up ("calibrating") such a loop: It is not likely that the pointer is exactly perpendicular to the loop plane and even if it were, null skewing will "rotate" the plane again. Also, to use a magnetic compass to line up $0^{\circ}$ (on the loop compass) with the North Pole (True North) will not suffice. The only effective way to approach the degree of accuracy desired is to calibrate the azimuth bearings of all your local stations and numerous semi-locals (it is assumed that the correct bearings of these stations are known-See Footnote) by rotating the base compass so that when the null is placed on the known station at the known bearing, the pointer indicates the correct angle on the loop compass. Not all stations will "line up", but by knowing bearings of numerous stations Not all stations $B 1$, re-calibration can be made at various frequencies across througho BCB .

Consider now the algorithm that can be used to calculate the distance from each DXer to the distant station. This algorithm is designed to allow only the use of the Sine and Cosine trigonometric functions and is derived only the use of the Sine and Cosine trigonometric functions and is derived
from the fundemental identities of the general spherical triande. (Another irom the fundamental in of whe advantages but involves additional trigonometric approach which offers some advantages but involves adis) Thus, let $F$ be functions can easily be derived Prom Napier's Analogies, inus, let $F$ be DXer and H2 denote the location of the second DXer. The great circle distance between H1 and H2 will be denoted by DX. The great circle bearing (azimath angle) of H 2 as measured at Hl will be denoted by Bl and, similarly, the great circle bearing (azimuth angle) of Hl as measured at H 2 will be denoted by B2. It is assumed that B1, B2 and DX are known quantitiessee Footnote). For the record, azimuth bearings are taken with the following conventions: $0^{\circ}=$ Mrue North, $90^{\circ}=$ East, $180^{\circ}=$ South, $270^{\circ}=$ West and $360^{\circ}$ is equivalent to $0^{\circ}$. Thus, azimuth angles are measured clockwise from True North.

Let $D 7$ denote the bearing (indegrees) of $F$ as measured at H1; D2 denote the bearinf (in degrees) of $F$ as measured at H2; DXI denote the distance (to be calculated) between HI and $F$ and DX2 denste the distance (to be (to be calculated) between H 1 and F and DX 2 denjte
calculated) between H2 and $F$.
$\mathrm{N}\left(0^{\circ}\right)$


GENERAL SPHERICAL TRIANGLES FOR BCB-RDF CALCULATIONS WITH THE ALGORITHM
(DXI and DX2 are the quantities to be calculated)


ALGORITHM FOR DISTANCE
CALCULATION IN BCB DIRECTION FINDING

Angles Al and A 2 of spherical triangle $\mathrm{Hl}, \mathrm{H} 2, \mathrm{~F}$ are calculated from the pairs of bearings ( $\mathrm{Bl}, \mathrm{Dl}$ ) and ( $\mathrm{B} 2, \mathrm{D} 2$ ) respectively. Choose H 1 so that A is the larger of the vertex angles at $H 1$ and $H 2$

Location HL= $\qquad$
Location H2 $=$ $\qquad$
$A 1=$ $\qquad$ degrees $\quad A 2=$ $\qquad$ degrees $D X=$ $\qquad$ miles
$D=D X / 69.052=$ $\qquad$ degrees $\quad G=90-D=$ $\qquad$ degrees
$E=90-\mathrm{Al}=$ $\qquad$ degrees
$F=90-A 2=$ $\qquad$ degrees
$\sin (A 1)=$ $\qquad$ $\sin (A 2)=$ $\qquad$
$\sin (D)=$
$\sin (E)=$ $\qquad$
$\sin (F)=$ $\qquad$ $\sin (G)=$ $\qquad$
$X=(\sin (A 1))(\sin (A 2))(\sin (G))-(\sin (E))(\sin (F))=$ $\qquad$
$Y=\cos ^{-1}(X)=\operatorname{Arccos}(X)=$ $\qquad$ degrees
$T=(\sin (D)) /(\sin (Y))=$ $\qquad$
$W=(T)(\sin (A 1))=$ $\qquad$
$V=(T)(\sin (A 2))=$ $\qquad$
$R=\sin ^{-1}(V)=\operatorname{Arcsin}(V)=$ $\qquad$ degrees
$P=\sin ^{-1}(W)=\operatorname{Arcsin}(W)=$ $\qquad$ degrees
$D X I=(69.052)(R)=$ $\qquad$ statute miles

DX2 $=(69.052)(\mathrm{P})=$ $\qquad$ statute miles

For those acquainted with FFORTRAN IV, the following is a self-explianatory program constituting the algorithm just presented.
$/ / \mathrm{FIC} \cdot \mathrm{NAME}=\mathrm{BCBDXDF}$
WRITE $(3,532)$
LTNES $=0$
$H=3956.665$
$V=3.16159065 / 200.0$
318 HEAD $(1,819$, V5D $=593)$ in, $\mathrm{H} 2, \mathrm{DX}, \mathrm{F}, \mathrm{A1}, \mathrm{AP}$



WRITE $(3,431)$ H1, F, Al , DXI
$\operatorname{WRITE}(3,448) \mathrm{H} 2, \mathrm{~F}, \mathrm{~A} 2, \mathrm{DXE}$
LINES $=$ LINES +1
IF (LINES.GT.17) GO TO 997
GO TO 318
997 LINES $=0$
$\operatorname{WRITE}(3,532)$
GO TO 318
593 STOP 865
532 FCFNuts ('3')
819 PCOAAT $\left(A+, 2 x, A 4,2 x, F 9.2,2 x, A 4, F T .2,2 X_{,}, P T .2\right)$
 $6^{\prime} \mathrm{MHIFAOE}, 3 x, 39.2$ )
 $6^{\prime}$ MIIEACK ${ }^{\prime}, 3 \times, 19.2$ )
121
Forthe reader wishing to "practice" a few calculations, the following table is welf-explainatory !

| Al | A? | IX | D) ${ }^{\text {a }}$ | 嗗过 |
| :---: | :---: | :---: | :---: | :---: |
| 67 | 4 H | 24, 0 | 496.33 | 461.06 |
| 131 | 41 | 244.0 | 1112.48 | 1285.46 |
| 131 | 45 | 244.0 | 2187.11 | 2353.65 |
| 134 | 45 | 244.0 | 4635.36 | 4806.42 |
| 135 | 45 | 244.0 | 6132.75 | 6132.95 |

FOOTNOTE: There are several articles relating to the calculation of great circle bearings and distances between given points on the Farth's
surface. For a compansion paper and complete development of these calculations please reference: (NRC Monographs)

ON THE DERIVATION OF THOSE SPFERICAL TRIGONOMEIRIC RELATIONSHIPS
REQUIRED FOR THE COMPUTATION OF GREAT CIRCLE DISTANCES (GCD) AND GREAT
CIRCLE BEARINGS (GCB) WITH SEVERAL ALGORITHMS WRITTEN IN FFORTRAN IV
FOR EXECUTION ON A DIGITAL COMPUTER --de Fish, Ph.Dx (C)
Complementary articles recommended for reading and study--(NRC Reprints)
HIGH PRECISION DIRECTION FINDTNG ON THE BCB, Parts I \& II
-- G.P. Nelson
IOOP DISTORTION-WHY GET SKEWED -- G.P. Nelson
PATTERN CONTROLLED LOOPS, Parts I \& II --G.P. Nelson

## EDITBR:

p.I. edmunds

D0x 946
wayne. n.I. 07470
(201) $335 \cdot 6397$

Greetings, once again. First off, announcements: Henceforth, John Lombardo, 23 Grove Terr., Irvington, N.J. O7lll, will be compiling all updaters from now on. Anyone who is in the habit of sending groups of updater-only info, (whom we thank for same: Dave Lewis, Kevin Slater, et al.) should send same to John. Items which come in with r/c or regular DDXD info, Illl separate and send on. We'Il also not run the updater 'til next issue for that reason and because I've not had time to do it.

## P/C's

new checks: 3rd Sat. 0500-20, NDDY-1420 (Starr, Sept.)
3rd Eed. 0200-15, kVNO-137C (Sherman, June)
checks hrd: Ist 1M: WEIT-1430, KDLM-1340, WPLB-1380, KVOX-1280, KGILT-790, KBUN-1450; 1st WI: WERA-790; 2nd IKi: KXRA-1490; 4 thint: WTON1240, WCVS-1450, WXCL-1350; 3rd SU: WLET-1420; all Sept.; and 1st FM: WTMY-920, Oct.
new check: (re-list) Lth $1110100-15 \mathrm{w} / \mathrm{mx}$, this may be quarterly. change: and SU: KCCR-124O SD is quarterly $3,6,9,12$.
changes
+850 KGOE-CA CP is on
+950 WXLN -MD
CP is on,
+950 WXINWND CP is on, hrd $9 / 28 \mathrm{w} / \mathrm{OC}, \mathrm{ID}$ 's 1704,1733 (Al Merriman,
+1000 WRYZ-FL ex-ivTS
+1000 WRYZ-FL ex-WJTS
Fairfax, Va.)
+1110 WRPO-MA CP is on
$+$
+1230 KSUN-AZ Is operating temporarily w/ 500/250 Ul until CP for

+ KOTS-NM 1000/250 Ul is ready.
$+121_{0} \mathrm{KWJB}-A Z \mathrm{CP}$ : $1000 / 250$ UI (9/22) modification of existing CP for $\mathrm{I}+1230$ CFGN-NF $C P$ new station
+130 KFGN-NF CP is on
+1450 KBEN-TX CP: 1000/250 UI

| +1490 KBEN-IX CP: $1000 / 250 \mathrm{UI}$ |
| :--- |
| $+10 \mathrm{OH}-\mathrm{OH}$ |
| CP: |

+1190 WOHI-OH CP: 1000

+ 1500 WRDI-NJ ex-iNJH


## call inplications



SPECIAL DX SECTION THIS TIRE: EMERGENCY BROADCASTS FOR HURRICANE GINGER. (includes stations on alert $9 / 29-30 / 71$ )

740 WBBL-NC Hrd on AN both $9 / 29 \& 9 / 30$ (RjE, PT, Boyd)
WBBCWA Hrd on AN o/LWMBL $9 / 30$ ( $R, \$ E, P T$ )
860 WEVA-VA Hrd on $A B 9 / 30$ (RjE, PT)
930 WITN-NC Hrd frequentiy atop channel $9 / 29,30$, as using NDA pattern (Boyd, RjE, PT)
Hrd on AN w/ contimuous Ginger nx 9/30 (PT)
WBTE-NC Same as above (PT)
990 WBTE-NG Same as above (PI)
1080 WWDR-NG Ditto (PT)
1330 WESR-VA On AN W/ mostly nx for INC area $9 / 29,30$ (PT,RJE)
$\begin{array}{ll}1330 & \text { WESR-VA } \\ 1470 & \text { On ANC-NC } \\ \text { On } 9 / 30 \text { for tinger (PT) }\end{array}$
1530 WBR-NC On $9 / 29,30$ for Ginger (PT, Rj E )
1530 WOBR-NC On $9 / 29,30$ for Ginger (PT,
1590 WOE-NC On AN $9 / 30$ for Ginger (PT)

AND, NORE CHAOTGES EAVE JUSI BETI RECEIVED FROM
K\&E, AND :NLIL APPEAR INTH THE NEXT UPDATAR.
TIR ©
AWH -2470 Elat E-1590, both Fla., have been declared bankrupt by their omers. At this time we don't loon if they're off or not, but hovefully, one of our Fla. members can check for us....

## sunsel \& evening

680 WRujust Hrd $e 9 / 28 \mathrm{~s} /$ off 1945 (Page Taylor, Butler, N.J.)

690
730
730 WZAP-VA
780 WLOR-GA
780 WOKB-iNC
860
900
900
iLSI-il Trd $9 / 27$ s/off 1oud $w /$ relig to 1945 s/off 9/27(PT)
COR-íy Left aiter above off to $2000 \mathrm{~s} / 0 \mathrm{ff} \mathrm{w} / \mathrm{male}$ vocal of
MOR-Moodnight" 9/27 (PT)
(ATT-1H Simultaneous s/off 2000 9/28 (?
NGOK-AL S/off w/ detailled annct. 1930 9/28 (PT)
910 STOY-VA S/off W/ detailled annct. $19309 / 28$ (PT)
970 WESOM1A MX WCSH to 1900 s/off $9 / 4$ (PT
1070 WESO-IA MX W/ WCSH to 1900 STIC 1840 (PT) Potent $9 / 28=$ WTIC 1840 (PT)
Hrd strangely atop $\mathrm{W} / \mathrm{s} 9$ sigs
) $w / n x$
$\square$
WDR-NC
THO
TH-NU
H
WINTNJ Hrd strangely atop w/ s9 sigs w/ nx 1553-1507 (10/1)
1270 WHDD-NY Hrd 7/22 $1900 \mathrm{w} / \mathrm{nx}$, WSPR looped (Leo Alster, Hahway, HJ )

WME-OH Hrd $9 / 772100 \mathrm{~W} / \mathrm{BB}$ W/ARBR looped (Alster)
CKEC-NS N N \& wX hrdi 9/17 2020 (Alster)
WBIS-CT Closest unheard \& most wanted unbelievably on top ending a PSA 1913 9/20 (PT)
1490 WPOR-TE Pulled $\alpha w, I D \&$ banic spot from tape where IId only noted bank spot bL, after PT ID'ed loc. of bank from travels, hrd 9/12 $2015 .(\mathrm{RJE})$
1550 WKYE-TN hrd $9 / 30$ Lso w/ nx, wx 1935-45 s/off (Marc Delorenzo, Hya nis, Ma) Hrd $1940 \mathrm{w} /$ ad for local rock show, good 5-10 mins. 975 or 7 (Tom Sundstro
WKBA-VA
Hrd 1930 s/off $9 / 11$ (Alster) Hrd $1930 \mathrm{~s} /$ off w/ loop w/
BE $9 / 5$ or 7 (Sundstrom) ** Again, no date- RjE
Ird 1935 ending nx,wx, then $\pi x$, in thru $20009 / 7$ (sunastrom)
WMOO-AL Hrd C 2000 o/WBSC, CBE w/ s/off $9 / 7$ (TRS = Sundstrom)

ET－OC＝－Tx Oh10－30 $9 / 27$（Starr）
$=\mathrm{XE}-0235-0303 \mathrm{~s} /$ off（RM＇s）w／World Tomorrow＂\＆very

1550 WAB－VA Hrd 1915 s／off $9 / 5$ \＆nites following（TRS）
WRIZ－7I．Hrd 1930 s／off w／CBE Iooped 9／5（TRS）
Ard $9 / 19$ s／off 1958．Unid S／off hid．
（s） $2000 \mathrm{w} / \mathrm{call}$ sounding like WJLD，who？？（TRS）＊＊WHLP－TN？？－RJE－I＇ve no $S R / S S$ maps here，so mebbe not same time．．．
WSSA－GA Hrd 1945 s／off $9 / 19 \mathrm{n} /$ new 5 kw in clr．（TRS）
WYTI－VA Hrd 9／19 $1930 \mathrm{~s} /$ off buried in SSS（TRS）
WTTW－PA Hrd $1930 \mathrm{~s} /$ off $9 / 8$ o／CKLM（TRS）
1580
Wrow－2D Hrd w／local anncts \＆s／off 9／1 1913 （Alster）
KLJV－LA Much－mated stn s／off hrd 9／28 2015 （PT）
WORV－IA $s / o f f$ infout $w /$ above $9 / 28$（PT）
KPCA－AR $\mathrm{S} /$ off $9 / 28$ in／out $w /$ above 2 （PT）
ON：DAYTTME：（since I＇d already included whLW item above，hi）
$1000 \mathrm{WHTH}-\mathrm{OH}$ Finally sot poor log on this $1725-1810 \mathrm{w} /$ chickenrock （＊Oops，almost typed something else there．．．-RJE ）\＆ UPI nx $9 / 27$（Wes Boyd，Youngstown，Ohio）
midnight 10 sunrise
630 WerD－10 poor 2301－？？u／CM－\＆WNAL W／Ginger stuff，think wnet off 0007 9／30（Boyd）
Khad－DX Hrd w／ID \＆CBS nx $u$ ，the mess 2300 9／30（Boyd）$x *$ Sri， Wes，but no chance of anything else hrre．．．－R．jE

690 W2AP－75
730 Hrd $=$ WELD 0720－32 w／Mutual net 9／23（Boyd）（9／18） ruite good in WOR＇s mull 0610－35 w／chem，macho spots（Boyd） W／csew $m x$ all o／WPIT／CHYR／CKAC 0640－51 o／unid cew （WACE？） $9 / 23$（Boyd）＊＊Possibly－butt also mebbe WPIK， WMNA－RJE
Now s／on 0510 in clr as CBH，CJBC on 0600．Hrd 9／27 w／ clew junk（Boyd） Was the TT killing＂Foxy＇s Friend＂0020－0045＋9／23（Boyd） 0241 9／6 in midst of IT W／ID，wX，good sig atop CKCY w／loop（TRS）＊＊What，no WJAR？T－RjE
920 1em－lil
930 WDYT－WT $0500-03 \mathrm{SSB}$ s／on annct \＆relig．pgm．well o／WBEN，WKY， WJAX（Boyd）
MI2H－汭 0600－04 w／SSB \＆nice long annct．，\＆headine nx well atop all 10／4．（Boyd）
UEEV－T3 W／ofw all o／WEOL－TEEN 9／23 0620－35（Boyd）＊＊Is daytime NO －RjE
（TAD－Il．Believe hrd this one w／MoR \＆stories from Hannibal $=$ FKY at times 2340－55 9／21 w／WBEN milled，no MEOLNWPAT（Boyd） ＊Hannibal ？？Who＇s he \＆what＇d he write？－R．jE（or should I put an＂ERC＂after that one，hi．
WNT－FL
960 WP3L－74
990 WatV－V8
1060 unID
$1090 \mathrm{kJN} / \mathrm{kg}$ Dominating freq．w／WPAT off（ $x *$ 件兵＂ （＊double that－RJE）w／MOE 9／20（PT） Hrd ID 0005 10／4 follo nx ，o／u WFIR HI（PT）
Quite jood thru Wrox－mig－ete 0705－18 9／23（Boyd） W／TT，no breaks hrd 0210－0330 $9 / 6 \mathrm{w} /$ TYW off．Looped roughly e－w．（TRS）
（ $9 / 16$－Boyd $)$
On 2335－0115 for local flood warnings w／Drake－type rr e $0230-03309 / 6 \mathrm{w} /$ relig．to 0300 ID then pop mx．Good sig
despite looped－out LA．Surprisingly KNX，KFI，etc．not hrd． despite looped－out LA．Surprisingly KNX，KFI，etc．mot hrd． （TRS）＊＊Didn＇t know they wnet on that late－EjE

## 190 WARE－TM

Well $\mathrm{u} / \mathrm{WXYZ}-\mathrm{KFJZ}$ \＆unID Mor，only 2 ID＇s hrd，faded up Well u／WKYZ－KFJZ \＆unID MoR，on
for both $0135-0155$ 10／4（Boyd）
1260 KCOS－IA ET－TT 0136－0200 $9 / 18$ ，quite strons，mixins w／KCNI r／c （Jerry Starr，also of Youngstown，Ohiyo）
specific s／off annct．10／4（Boyd）
CKLO－OB Finally well $u$／the mess $w /$ Mor headline $n x, ~ s / o f f$ and anthem 0155－0203 10／3（Boyd） S／on $05009 / 27$ mentioning 0000－0500 MM SP（Starre）
listened so lony？？？？－RjE
WHAD－VI 0230－0300＋9／21（Starr） h／another powerful ET－mx－TT 0330－0450＋9／27（Starr）＊＊ WDEN is everywhere＂，right？？－RjE Noted w／ET－OC，ID 0226 9／23，musta been day power，still on 0300 （Starr）
1550 WSHN－MI W／regular ET－mx 0120＋＋to $\mathrm{r} / \mathrm{c}$ time 10／2（PT） h？ $2-R j E$ ）w／another insipid ET said ris time NDA per annct．（＊＊Their new CP－RJE）and ＊＊Thought insipid was only Ohio stations on 1370 ，Wes－RjE
1570 WYTI－VA Killing local VTCI＇s 135 w psa $0600-06159 / 18$（Boyd）
THUS ENDETH another episode in the contimuing saga of DDXD．．．．
3：

THANK YOU FOR YOUR REPOR
OF THE RECEPTION OF WCBS．
OUR TRANSMITTER IS LOCATED
ON HIGH ISLAND，NEW YORK．
THE TRANSMITTER HAS A POWER
THE TRANSM 580 KC ．
Dear Mr．Kelley：Your letter reporting reception of our signals has been forwarded to me．I am sorry but our policy does not permit us to verify reports from pinko com－symps，dips or long－hair freeks．My advice
or long is to take a bath and to you is to take another DX report．

$$
\begin{aligned}
& \begin{array}{r}
\text { end us another DX report. } \\
\text { rojet Truly । }
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \text { WCBS-FM (IOO IMG) TRANSMITTER IS LOCATEO }
\end{aligned}
$$

Strange verifying policy of WCBS．ERC：here＇s another verie signer．


THIS ISSUE: ERIC DIRICCO 540 GALLION AVE. PITTSBURGH, PA. 15226

We1l, here it is. Finally, after all your waiting, DX'tras is finally here. I will be running the $D X^{\prime} t r a s$ : East column and my co-editor, Blake Lawrence, will be running DX'tras:West. Each column will appear once a month. That is, two DX'extras
a month.

DX'tras will be dedicated to helping every DX'er, whether Domestic or International. The column will run three sections. They are:
I. Unidentified Stations
II. Novice Questions
III. Station Formats

The Unidentifieds section will be sub-divided into two groups:
a) Suspected Domestics
b) Suspected International

However, there will be qualifications to run an unidentified catch. For example, who could ID this: ????-1240 Tested 9/17 starting 0000 . It could be anybody. To eliminate such difficulties, we have come up with a qualification system. This will apply to all local \& regional channels and all crowded clear-channe1s.
-ALL unIDs MUST HAVE DATE, TIME AND FREQUENCY PLUS ANY FOUR OF THE FOLLOWING ITEMS:

1) Patial (or suspected) call (2 or more letters)
2) Programming
a. Music Format
b. Gimmicks (Contests, etc.)
C. Other regular Details
3) ID times $\underset{G}{ } I D$ Format
4) Specific Local Ads (Phone \#s, etc.)
5) Loop Bearing (And what area this indicates)
6) QRM (Call letters, please)
7) Sex of announcer
8) Acronyms(i.e.:'Radio One")
9) News Network
10) Names of towns frequently mentioned

That may seem like a lot, and maybe it is, but remember an item need only have four to qualify. These items are the things that can mean the difference between a total unID and a strong possiblity. Also, on frequencies that are uncrowded, 1 ike 540,880 and such, an item need only satisfy 2 of these items. I'll not set definate guidelines as to which clearchannels qualify as uncrowded, but will leave that to your judgement. And unless we get too many "bad" reports regarding that, I probably won't set guidelines. So much for unIDs except to say please indicate whether your unID is a suspected catch of Domestic or International origin.
II. DX'tras will also be running a section on Station Formats. We ask all members to please send the formats of your locals and regulars but try to avoid duplication. I'll use the fol.
rr: Rock
Nx: News
Rel: religious
cw: Country (Western) J: Jazz
MoR: Middle-of-Road r\&B: Rhythm $\xi$ Blues
Tk: Ralk C1: Classical
Ft: Feature Programming (Mainly pertaining to the $C B C$ )
Ft: Feature Programming (Mainly pertaining to the -Naturally, there will be some variance in "labeling"a format. - Naturally some people call MoR another might call rr. But this should give a general reference to the DX'er.
III. Last, but not least, DX'tras will be running a QUESTION CORNER for the novice DX'ers. (Who incidentally may request not having their name mentioned in the column) Definately. Blake and I will not be qualified or able to answer all of the questions, but, with GPN's suggestion, we have decided to do one of the following with these questions:

1) Print them unanswered and hope a kind soul will send the answer
2) Re-route them to "experts" who will send back the answers for publication

- Before going into the information I have for this month, I think one more thing should be clarified, who reports where? Well, we will divide it as such: All states West of the Mississippi R plus Minn, Iowa, Mo \& Ark, will report to B1ake Mawrence. As for Canada, those in Minatoba or West should Lawrence. As report to BL,
YOUR REPORTS)
-With that accomplished, here's what I have for this month. Credits go to me unless noted as such: JFP -John Pinckney-Va.
(Report in a similar way) RH- Robert Hartman-Pa
JS-John Shannon-Pa.

| II. STATION FORMATS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 540 | WARO-Pa | CW | 550 | WGR-NY | MoR |
| 560 | WIS-SC | MoR (JFP) | 710 | KMPC-Cal | rr (JFP) |
|  | WFRB-Md | MoR | 720 | WGN-I11 | MoR |
| 570 | WKBN-0. | cw | 730 | WPIT-Pa | $\mathrm{cw} / \mathrm{rel}(\mathrm{JS}$ ) |
|  | WGMS-DC | cl (JFP) |  | WPIK-Va | CW |
|  | KLAC-Ca1 | CW (JFP) |  | CHIR-Ont | rr |
| 580 | CFRA-Ont | MoR (JFP) |  | CKAC-Que | MoR |
|  | WCHS - WVa | CW (JFP) | 740 | KCBS-Cal | Nx (JFP) |
| 590 | WMBS-Pa | MoR |  | CBL-Ont | Ft:CBC |
|  | WARM-Pa | rr (JFP) |  | KCMC-Tex | CW |
| 600 | WICC-Con | MoR | 750 | WSB-Ga | Mor |
|  | WSOM-0. | Mor |  | WBMD-Md | cw (JFP) |
|  | WCAO-Md | $\operatorname{rr}(\mathrm{JFP})$ | 760 | WJR-Mich | Mor |
|  | KOGO-Cal | MoR (JFP) | 720 | WABC-NY | rr |
|  | WSJS-NC | Mor | 780 | WBBM-I11 |  |
| 610 | WIP-Pa | rr |  | KCRL-NEV | +1 |
|  | WIOD-Fla | tk/nx |  | AAYA-YA | Nx(JFP) |
|  | WHPL-Va | cw | 790 | WAKY-KY | $\mathrm{rx}$ |
| 620 | WCAY - SC | CW (JFP) |  | WNC- Tenn |  |
|  | WSUN-F1a | MoR/rr(JFP) |  | NTAR-Va | NoR |
|  | WHJ B - Pa | rr/tk |  | CHIC-Ont | IT |
|  | WATE-Ten | MoR | 100 | CKLIT-Ont | 1 IT |

FORMATS (Con't):

|  | W6NR-NVa | rr | 810 | WGY-NY | MoR |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 630 | WMAL-DC | MoR (JFP) |  | WEDO-Pa | MoR |
| 640 | $\mathrm{KFI}-\mathrm{CaI}$ | MoR (JFP) | 820 | WBAP-Tex | CW |
|  | \#\#to-o. | rr | 830 | WCCO-Min | MoR |
| 650 | NSM-Tenn | cw | 840 | WHAS-Ky | MoR (JFP) |
| 660 | W:.BC-NY | rr/tk (JFP) | 850 | WKIX-NC | rr(JFP) |
| 670 | WMAO-III | MoR |  | KOA-Col | MoR |
| 680 | NISE-Pa | Mor |  | WJW-0. | MoR |
|  | WPTF-NC | cw (JFP) |  | WJAC-Pa | rr |
| 690 | WNNT-Va | Cw (JFP) | 860 | WAMO-Pa | $r$ ¢ $B$ |
|  | XETRA-MX. | MoR (JFP) |  | KONO-Tex | rr |
|  | WVOK- A1a | rr |  | XEMO-MX . | rel/cw (JFP) |
|  | WELD-WVa | CW | 870 | WWL-La | $\operatorname{rr}(\mathrm{JFP})$ |
|  | CBF-Que | Ft:CBCf* | 880 | WCBS-NY | Nx |
| 700 | WLW-O. | rr | 890 | WLS-I11 | rr |
| 710 | WOR-NY | MoR |  | WHNC -NC | $\mathrm{rr}(\mathrm{JFP})$ |
| 900 | WLMD-Md | $\mathrm{rr} / \mathrm{MoR}$ (JFP) | 1000 | WCFL-I11 | rr |
|  | WNYN-O. | MoR |  | WIOO-Pa | rr |
|  | CHML-Ont | rr | 1010 | WINS-NY | nx |
|  | CJBR-Que | Ft:CBCf |  | CFRB-Ont | MoR |
| 910 | WGBI-Pa | rr (RH) | 1020 | KDKA-Pa | MoR |
|  | WSBA-Pa | rr | 1030 | WBZ-Mass | MoR |
|  | WORD-SC | rr (JFP) | 1040 | WHO-Iowa | CW |
|  | WRNL-Va | MoR/rr (JFP) | 1050 | WQMR-Md | cl (JFP) |
|  | WTOY-Va | rr |  | CHUM-Ont | rr |
|  | CBU--Ont | Ft:CBC | 1060 | KYW-Pa | Nx |
|  | WALV-Pa | rel |  | CJRP-Que | rr (French) |
| 920 | KARK-Ark | rr | 1070 | WIBC-Ind | MoR |
|  | CKCY-Ont | rr |  | WFLI-Ten | rr |
|  | WMMN-WVa | rr |  | CBA-NB | Ft: CBC |
|  | WOKY-Wis | MoR |  | CHOK-Ont | $\mathrm{rr} / \mathrm{Ft}$ : CBC |
| 930 | WFMD-Md | MoR/cw (JFP) | 1080 | WTIC-Conn | MoR |
|  | WSLI-Mis | MoR |  | WEEP-Pa | CVI |
|  | WPAT-NJ | MoR | 1090 | KAAY-Ark | rr |
|  | WBEN-NY | MoR |  | WBAL-Md | MoR (JFP) |
| 940 | WFNC-NC | rr (JFP) | 1100 | WKYC-O. | Mor |
|  | WCPC-Mis | cw | 1110 | KFAB--Neb | cw/MoR(JFP) |
|  | WESA-Pa | rr |  | WBT-NC | MoR |
|  | CBM- Que | Ft: CBC | 1120 | KMOX-M0 | MoR |
| 950 | WWJ-Mich | rr | 1140 | WRVA-Va | MoR |
|  | WPEN-Pa | MoR (JFP) | 1150 | WDEL-De1 | MoR |
|  | WSPA-SC | MoR (JFP) |  | WCUE-O. | rr |
| 960 | WBRC-A1a | MoR |  | WKPA-Pa | CW |
|  | WFIR-Va | MoR | 1160 | WJJD-I11 | cw |
|  | WHYL-Pa | rr (JFP) | 1170 | WWVA - WVa | cw |
| 970 | WWDJ-NY | rr | 1180 | WHAM-NY | MoR/J (JFP) |
|  | WWSW-Pa | MoR | 1190 | WOWO-Ind | rr |
|  | WAVE-Ky | rr | 1200 | WOAI-tex | cw/MoR (JFP) |
|  | CKCH-Que | rr | 1210 | WCAU - Pa | MoR/tk |
| 980 | WRC-DC | MoR (JFP) | 1220 | WGAR-O. | rr |
|  | WTRY-NY | rr | 1240 | WGBB-NY | $\mathrm{rr}(\mathrm{JFP})$ |
| 990 | WAKN-SC | rr (JFP) | 1250 | NTAE-Pa | Mor |
|  | CBW-Man | Ft:CBC | 1260 | WF BM-1nd | Mor |
| 1000 | WVOV-Ala | Tr | 1270 | Wherz-Nich | TT |
| 1280 | CHAM-ONT | IT | 1480 | *ille-Va | TIT |

MORE FORMATS

|  | WHVR-Pa | MoR (JFP) | 1490 | WOHI-0. | MoR |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | CJMS-Que | rr (French) | 1500 | WTOP-DC | Nx |
| 1290 | WFBG-Pa | rr |  | WDEE-Mich | CW |
| 1300 | WFBR-Md | MoR (JFP) | 1510 | WLAC-Ten | CW |
| 1310 | WEEL-Va | rr (JFP) |  | WPSL-Pa | MoR/cw/rr |
|  | CFGM-Ont | cW | 1520 | WKBW-NY | r r |
| 1320 | WJAS-Pa | t2/mx |  | WTTO 0. | rr |
| 1330 | NHOT-O. | Tr | 1530 | WCKY-O. | MoR |
| 1340 | WOOK-DC | RST | 1540 | WPTR-NY | rr |
| 1350 | WSLR-O. | CW |  | WDON-Md | cw (JFP) |
| 1360 | WIXZ-Pa | ri | 1550 | WOKJ-Mis | $r$ ¢ ${ }^{\text {B }}$ |
| 1370 | WSPD-0. | HoR |  | WLOA-Pa | c1 |
|  | WSAY - NY | 11 |  | CBE-Ont | Ft: CBC |
| 1380 | WACB-Pa | MoR/Cw (JFP) | 1560 | WQXR-NY | c1 |
| 1390 | WEAM-Va | cw (JFP) |  | WTRQ-NC | cw (JFP) |
| 1400 | WKWK-WVa | rr | 1570 | WQTW-Pa | rr |
| 1410 | KQV-Pa | rr |  | CHLO-Ont | ir |
|  | WIKI-Va | cw (JFP) | 1580 | WSRF-F1a | rr |
| 1420 | WHK-0 | MoR |  | WPGC-Md | cw (JFP) |
| 1430 | WinJR-NJ | $\because$ \% ${ }^{\text {B }}$ |  | WCCR-I11 | cW |
|  | WVAM-Pa | rr |  | WANB-Pa | rr |
|  | WNAV -Md | rr (JFP) |  | CBJ-Que | Ft: CBC f |
| 1440 | WHHH-0. | tk/cw (JFP) | 1590 | WTBY-Con | rr (JFP) |
|  | WHIS - WVA | MoR |  | WETT-Md | MoR/cl |
| 1450 | WJPA-Pa | MoR/rr |  | WZUM-Pa | rr |
|  | WDAD-Pa | MoR |  | WAKR-O. | rr |
| 1460 | WOKO-NY | CW | 1600 | WWRL - ${ }^{\text {PY }}$ | $r$ ¢ ${ }^{\text {c }}$ |
| 1470 | WJDY-Md | $\operatorname{rr}(\mathrm{JFP})$ |  | WFRC-NC | $\operatorname{rr}(\mathrm{RH})$ |

I never thought this would run so long this month. I don't expect the entire column to usually run this long. My special thanks to John Pinckney, Doc Hardester and of course Blake, whose help made this column possible. Also tixx to you for reading it all, hi.

## 7515

Eric DiRicco
PS: Please address all mail: Eric DiRicco-DX'tras
tnx again

The next issue of DXTRAS will be edited by BLAKE LAWRENCE, PO BOX 803, CANON CITY, CO. 81212

On $9 / 20$ I logred shat I onnsider to be uy best estch in seven

 pas voxy strone－I even nsbaced to recelve It vell on a Hilachi ten transiator vartible．The sicmil vsa later subject to much failing and poverline noise but it it conimued here wald be heard







 Thouscen，Men．专 a v／g froe Craim1190，Weyturn，Besk．T3．

Orvetingll chee agnin．ix in this gen hen been shsolutely pu－ trid the lest noith．That with in bury sted here if school coopled with the worst boilitine In the world to 叹 from bil Living quertern，DX ean be sumed up in ome vord－zilch！Dut I＇11 relste pooe of my DX late this Bumert（from 8ilimood）

 This was of firnt resi try at and a th wes well worth getting up early for 1

 I left For achool ind IFHL \＆KLPD put me over the himp on 8／21．太urmer whs rval good to me tix－ulse．I hope the reat of the membera had a good toi liamert 73 a 6004 DK to all．

I sa aorry to have missed the Secto．Comvertion but I ven on a nonth＇s 11，000 mile auto trip throogh French Censha to Gaspe and Fin Sleu England

 dC DKers os sil chamels are covered here unt11 then．I mon st 111 usint the HQ－ 12gx but it has several veak 6067 tubrs in F．F．\＆I．F．stages．This betel tube th undotelnable ant is no lonecr listed in the BCA Tupe Manani or in Lafryetta or l111ed cetsiogues．I may hive to give 吅 mixins because of this problem．A nev ar ined Hie－180－X is beyond by＂radio budeat＂as I no now retired and co a fixed in－
 eowe in an inrlationary econory，
for you，deme－how about $1 t$ ，boyaf－\＃Ac）

PAUL KIIAOY－2100 Brocks Drive－Suitinna，Maryland－200ab
Hext to nothire in DXIny has been done this Sumer；only a few an
 v／VADC off． $8 / 2-$ Strong unID COs on $1475 \& 1485$ e ar30nn．An umID 86 play or ＂somp opers＂an 650 e $2: 57 \mathrm{~mm}$ ．Wil on verles．A long－plament trip to ERC in 5ep－ terber had to be canseled snd pootponed umtil sonet ine this Spring．So，I＇n lookith forward to this．The Ppose Magnet is foched w a mou und vorics we11，si－ thourh it does not null 15 ke expeeted．Dut It is much better than my old bor loop which hos sinee been dismantind．
＂AB＂SITL／ATICE

1180 \＃\＃i K H How off Sum B Fry AMm
 nid ve＂ll give our TXX cotchea by date，call，mal 「requency，so it affht be of help to other neabers．Remaber，we nre co our veekly sobodole and we need your help？

FRABK NESRIIL－3632 Harth Detrodt Avenue－Apt． 61 －Toledn，Chio－ 43612 It has been scoethias like two years ninec I＇ve inas Mosed．I bave been sinost，excluslvely is FV／FY DKer over the past severnl yosra，fhITe rof Interent in BCB hes been Just about all．My Milan lops have been＂retired＂it in final tally of wy Michigan $10 \mathrm{c} \mathrm{a}^{2 a}$ has been made．Total logged was 2，606，which includes 105 call letter chasngen，if frequenty changes，two changes in state of
 on），five Guban frequency changets，and one gell－and－fraquency chuge．Ny＂aetiva＂ $10 g$ atrecthes over bbout ten years，froa $10 / 15 / 60$ to $10 / 25 / 70$ ，with at lesat ode pew entch in every month during the stretch．Best entches tere $2 u g=950$ syaney （＇64）Veyrouth－936（＇65），the old Ceroline－1500（＇65），k200－1210（＇63），LGW－630 （＇64），Frentoum－1200（＇65），200－1080（＇64）．Beat Cubem and bent 6Y eateh both
 Inte Whal the severe furural date of $3 / 14 / 66$ when I ndded th to the lop（acotly
 andoubtedly mi blat eateh or the h however，beanuse it soontn＇t have been ecc－ ing in nt all After morinet to Toledo，I aterted－wang anew，and got wr lar up to 488，where it＇il been stalled alnee June．I hesk ncef－1110 aince but forgot to merk it down end esn＇t remenber wen I had it．I consider myself a retired mCB 取er，but $v 111$ probably get the ole 10 gup to 500 before I officisily retire it for good．I do not plan to renew my Einc meaberahip，becsuse sy slaost total Inck of Interent does not varrnit membership in two clubs（I don＇t deserve it， renlly）and mary anty more of ay eurrent sequaimtancen are in the other elub＂ \＆not tn the NHC．It＂s doubtful I ean make the Miant Coprention in ${ }^{*} 72$ beonuse projected June trip to California will all ut drain my vacation time．I $9>11$ collect SCs after over eight years and have 2，753 of them！73s，all．（ T he best to you and＂thai other elub＂，Frank－we＇ll miss you，but that＇s NNRC＇s gain，hi）

## DIOM TRUAX－ 5101 Tamarock Drive－Charleston，est Virginia－ 25312 <br> still not noted in $10 / 2$ issue has been lost in he mails．But not real that

 buch to report，so s second try mlatht Buke $1 t$ ．Firet of $n 11 \mathrm{~s}$ re－intro is in or $=$ der for the stert of a nev senson．Rge is 28 ，married w／three $11 t t 1 e$ cons is have Livin bxias ainee 195 b orf s on ．My latest log began vith the move here to W ．Va． on $13 / 1 / 69$ ．Totisis up－to－date In W．Vs．sre a total of 1,095 etutions looged（fom spenk of．This Sumer has been elnoet no netivity dae to poor Cx \＆Inteis nadi－ tion to fonily tinking over the old listemisg poat．August did yielit three neviea


 1Fic／Conred bosk loop．More in pext issue．（Old report not found bere，Dick－pac）

teparg oivt Greetings．I have been rather innotive here lately with caly four feer vili beince mid＋tay＝two in Bept．and two in Oet．，hi．alnd to hear this gesmions be hettor than the perat seversi．Lest sesson，anve for e couple of
 HICY．
 for one faint sijmal sounalne 11 ke HIXZ Pa．just above the nolse lavel． thought I heser those calls glves，but not positive enough to put it in the books． WAIF－1270 Ky －bombed in here on thelr tras froes $1 \mathrm{n} 26-2 \mathrm{em}$ when I tuned out．They


They are a peat bere on that．evenings，even though they hove sone decent mx（1．e．， dio acid roek）．Totats bere＝pany 1，190／669．I pose to be ouep 1，4m／Bco thy the end af the aenaon．Antrea Robins，veleoee to the Ninc．Drop me a 11 ne with your sdareme 4 phone number sat I＇11 contact you the next tine I＇s up in the Mall Gity to see ry perents．I sure wish the BFC would show streat nadressen for the rev menbers．I guess that＇s ebout it for this tise．Still locking for a efv stestion， Arnter I understent Wigh ia ip for silet 73．

JOF KJRETH - 9233 West Staymen Drive - Ellicott City, Maryland - 21043 Bout time for another Musing. I moved back to Maryland in July \& em now announcing for WTTR AM/FM in Westminster. Still no apartment in that town to be hed so I'm commuting. Some DX this Summer: 7/20-WHIm-1170 8:30pm s/off. MM 8/30-Germanic language on 1457, believed to be Rowania - fadeout before lam \& ID. 8/31- WEFF-1430 TT \& ID © 3am. WFBR-1300 noted on, probably AN -6 . Their secretary seys AN-6, off SM $2-6$ gm. (She probably meant Sunday night, Joe, as they 're off MMs -ERC) It was only a latter of time before they went AN. Daytime DX has been interesting with the $S M-1$; first time I've DXed With a directional antenna ss the "Loop" was never attempted. WLTX-540 u/WIMV, WHPL-610 w/WIP looped, seme w/WHaN-1440 o/WGCB \& finally, big 100w WTHU o/WOL1450. These stations never logged before without the $S M-1$, \& they should have been semi-locals! I hope the Convention was what everybody thought it would be and everybody had a safe trip home. All OM traders, please write. 73.

BOB SHAW - 10 Williams Drive - Delaware, Chio - 43015
The large bulletin delivered today has inspired this "old standby" (I think I am - m RX should be) to Muse for this issue. However, the period I will cover is that of a fairly active, DX-wise, four weeks, \& since many of my new logeings were $r$ /cs \& ETs, I have ambitiousiy sent them to DDXD. All times are EIII. SM 8/15-WCND-940 w/WX for Shelbyville \& two other towns, $6: 15 \mathrm{~mm}$. WILA- 1580 s/on-SSB © 6:33 u/WPGC/WAFI-1560 w/promos e 6:35. 8/17-3:07 ID from
WPAY-1400, later discovered to be AN-rr, for WPAY-1400, later discovered to be AN-rr, for U.S. logging \#1,000. 8/18- I think, although the official call missed wy ears, that the "Radio VIP" $-1560, \mathrm{w} / \mathrm{FE}$ announcements of record titles between MoR vocal selections of the Bennett-SinatraMonro ilk, between 1:15-1:45, mjst be XEVIP. KPNC \&Cubs heard there too, w/no sign of Paducah's Pest. Cen anyone tell me that XEVIP either does or does not curreatly sound like this, or broadcast at this time (Veriiy, thou hast said it ERC) 8/24- ID from WAGN-1340 @ 12; interesting because I sweas they said "70w". 9/5- WSAL-1230, finally, w/clear ID \& promo, atop the mess e 11:53pm. MM 9/6-KTLK-1280 rr, way u/CJMs, ID durnag latter's dead air e 3:35am. After 4, um WEAW-1330 noted w/interesting ET; c1 mx \& poetry selections. No, I gon'ty know whose poetry. Furthermore, I don't care. But the mx included some Brahms, so there. 9/9-WPCF $r / c \&$ then there was DT on 1410 immedidtely after but it was cut off e $2: 18 \&$ didn't return. I'm sure WONS waits for WPCF but no way of knowing for sure if it was they, this time. 9/13-XERCN-1110 weak $u / \mathrm{KFAB}$ w/fingles 8 Mexican mx, 1:34. WRVA had oc till $1: 30$ or so \& there were two signals $4 / K R A K$ on the siop-free channel till 1, one SS, one EE. Could one be KCEM ( I got CKKL KIUF also. $9 / 16$ - WSIR off \& I was able to 10 GB WXCL
 Aning. Those are 1350k. 10/4- Kindlu forewarned by Don Erickson, I was able to catch the WAIN-1270 IRCA TEST. It was an hour later than sked, reception was not Hemed tund but as and intiend of a friend is working on my Hamary time, as I may well not spend the Fell at home. 73. (Have fun, hi -ERC) for some

GEORGE KELIEY - 118 White Street - Belmont, Massachusetts - 02179
DX has returned (almost). 9/16-Morocco-701 way o/WLW e 7:25pm w/MoR, new here. Algeria-548\& Morocco-611 also noted strong. Regulars Portugal 719-755-782-1578 \& Spanin-737 all noted strong around 7:30, Spain-638 also good e $7: 36 \mathrm{w} / \mathrm{SAH}$ very noticeable. 9/24-CBNM-740 Nfld. logged w/good signal 11:10pum/ NX; this was on a Realistic TRF portable that did a remarkable job nulling CBL. 9/27-WAWZ-1380 NJ s/off good © 7:30 at which time WBNX took over. WOWW-1380 Com heard for first time weakly e 7:31 mixed w/wBNX on this Auroral eve. 9/29- Canary Is.-953 most likely, on tip from Marc Del. EAJ-50 w/goodsignal © 7:21pm w/cl mx \& opera. No Tberians or any Europeans were heard at this time, only W. Africans; chanting loop bearing seems to indicate C.I. 10/1- Libya-1124 w/great signal \& \& Mor, wIS faded in © 7. i0/4. unID 0 - -1110 12:30-12:56 tuneout, breif TT © $12: 40$ $\mathrm{u} / \mathrm{KFAB}$ \& an LA , looped $\mathrm{SE} / \mathrm{MW}$, which r7les out will $\mathrm{Spain}-584$ very strong w/folk m u/KFAB \& an LA, looped SE/NW, which r7les out WHI Spain-584 very strong W/folk
© $1: 09 \mathrm{~mm}$, local WEI-590 off. Costa Rica-575 heard w/perfect "R. Musical"ID © (con'd on DK Calendar Page)
(George kelley, con'd from last mushem pact several calls listed for this one. BBC-1457 noted w/fair sisnal 1:26; previously heard on 9/16 © 7:48pm w/great signe1. KTJF-1190 Tex. cood a/WONO OC w/Hot line sports कhow e l:30em. Hey Jay Muley, your rearks in the $10 / 2 \mathrm{DX}$ NEWS got me suspended for two weeks at ter Steamship; thenks! Well, I/ve got to go before the clam cakes get cold

## SPECIALS

$\mathrm{kc} / \mathrm{s}$
Mon. Oct. 25 W A M B 1190
$\begin{array}{cllll} & & \mathrm{kc} / \mathrm{s} & \\ \text { Mon. Oct. } 25 & \text { WAMB } & 1190 & \text { Donelson, Tenn. } \\ \text { ? Sun. Oct. } 31 \text { V O A } & 1178 & \text { OKinews }\end{array}$
Watts
A. M.
? Sun. Oct. 31 V OA 1178 oct. 31. or Nov. 1 WYDK 1480 Mon. Nov, 1 W A M B 1190
?Sun. Nov. 14 VOA 1178 Fri. Nov. 26 W Y R E 810 $\begin{array}{llll}\text { Srt. Nov. } 27 & \text { K W Y S } & 920 \\ \text { Sun. Nov. } 28 & \text { K OB E } & 1450\end{array}$ $\begin{array}{lllll}\text { Sun. Nov. } 28 & \text { K C B E } & 1450 \\ \text { Mon. Dec. } 6 & \mathrm{~W} & \mathrm{CGB} & 1050\end{array}$ Mon. Dec. 20 W O B
NOTES: VAMB-1190. They '11 test both Monday $10 / 25$ and Monday 11/1, starting at 1:05 EDI on 10/25, end 1:05 EST on 11/1, with WONO expected to be off. Reports to Mr. Wililam O. Barry, G.M., WAMB, 1617 Lebenon Roed, Nashville, Tenn. 37201. Info from IRCA's Deve Faulkner.
VOA- 1178 Ross Hansch has errenged these two DX-Tests which will run for $\frac{2}{2}$ hour between 3:30 and 4:30, indefinite. We have no details nor sddress, and copied this info from DX Monitor, of IRCA, so evidentivi our mail is still roinc astray here. We believe 1180 is clear of everyhin but XFFR end PRES et this time - WHAM \& KOFI ire off! And thet power is rizht = one million watts, so get 'em, tigers!

WYDK-1480. They were osked to test on a Sunday night-Monday mornint, \& WYDK-1480. They were asked to test on a sumay nider they be testing on October 31 , so this is taken to meon Sunday seid they'd be testing on October 31 , so this is taken to meon sunday ni.jht $10 / 31$, or in reality, Monday morning, Nov. 1 , but this test, and many They vill use country/western music for modulation on this test, and many IDs. Write to Mr. Herry D. Dannargen, Mcr., and Darrell Smith, C. E., W
Route l, Yedkimille, N.C. Bax 51-B, 27055. Most all-nizhters on this Route 1 , Yedkimville, N.C. Bax 51-B, 27055. Most all-niqhters on this
1480 spot use rock-n-roll, so watch for the country music! WES BOYD.

WRAY-1250. This station will be testing for a half hour, 2:30-3:00 a.m. 3cit. We do not know what the modulation will be, whether music or tone. A couple of All-nighers here, to, to make it somewhat difficult in same localities. Send reports to Mr. Jack Mauck, C.E., WRAY, Box 8, Princet on Indifn - 47670. Info from NRC's Tequmscormert.

| HEARD SINCE LAST ISSUE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 850 | KGOE | Thousrnd Opks, Cel. * | 1310 | W S L W | White Sulphur Spgs WVe |
| 940 | VECO | Writburs, Tennessee | 1430 | K C L K | Clarkston, Wesh. |
| 1090 | XEPRS | FX-XEPB | 1470 | K OLI | Coelinge, Cal. (beck on) |
| 1240 | CKBY | 100-Mile House, B.C.* | 1490 | W M P X | EX-WMDN |
| 2300 | KPT L | Ex-KRWL * (*-IRCA) | 1550 | W T B P | Parsons, Tennessee |
|  |  |  | 1580 | W R B J | St. Johns, Michigan |

ERNEST R. COOPFR - 438 East 21. Street - C. Route 56- Brookiyn, N.Y. 11226 Nice $v / 1 \mathrm{w} / \mathrm{CM}$ from WORR-1530. As for me, I collect CMs, but only of strtions I have veriried, and they re filed alons with the verie. same DX , is follows: MM 9/27-TGKI-915 heard s/off (2) 2:03om, assicned to 910, \& use slozpn "R. Enperedor", and heard again on 9/30. Unns noted: WPRW-1460 EI e 1:11, W/womfn ennouncer. WFBR-1300 w/AXR ET © 1:27 W/MOR, WAFC-900 11 2:01-2:13. WRK 1420 oíf, \& WABC-770 ET/OC. WDEN-1500 ET c/w © $3: 07$. Is R. Fuentos-660 XERPM?

