## $\cdots$ DXNEWS

VOLUME 40
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" The articles in DX NEWS are the most informative in any radio club." (Paul Scottini, California)

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NEW NRC MEMBERS THIS WEEK...
*Nelson Dionne, 22 Sumner Rd., Salem, Mass. 01920
*Philip Horman, 37 Sterling Ave., White Plains, N.Y. 10606
*Roland Schemers, 5945 Brynthrop, Utica, Mi. 48087
*W. A. (Bill) Boren, 3512 Antilles Dr., Mesquite, Tx. 75149
Welcome to the NRC; contribute often!
NOTES FROM HQ...
***Does anyone have any old World Radio Handbooks? Don Jensen, NRC member and top DX writer, is trying to complete his collection of WRTVH's; he needs the 1954 issue plus all the issues prior to the 1950-1951 edition. He will pay reasonable prices plus postage. ***The first snag has hit the new Domestic Log project; one of our volunteer workers (in Southern California) in charge of preparation of part of the alphabetical/by frequency tabulation has dropped out of sight without finishing his part of the job or giving us any explanation... This will slow things down by at least a week since someone around HQ is going to have to do it in the midst of getting DX NEWS out, etc. This isn't the first incident of this sort that the Club has had and it probably won't be the last; all we can do is take it philosophically and be thankful for the remarkable reliability of our Editors and Publication Committee that makes DX NEWS possible... ***If you've recently made a large reprint order, have patience it's on the way. Mark Katz reports that he's completely flooded with requests for reprints - more than 2800 pages worth in the last three weeks - and has had to replenish his stocks of many of the more popular articles. He's also in the process of creating a new reprint list covering all of the articles which have appeared here in DX NEWS since the last list appeared; we'll run the new list here when it's completed. A copy of the old list is available from $H Q$ for a SASE of course... ***CREDITS for publication of the last few issues go to: Ray Moore, Hal Robie, Bill Bailey, Dan Kahn, Chuck \& Jackie Rossier, Cary Pall, Big George Kelley, Diane Nelson and GPN... ***No sign of the MF shipment yet; hopefully the currency devaluation hasn't complicated things... They'll go out the same day we get them; a couple more are available if anyone else wants one.

IF YOU DON'T GET A COPY OF THE NEW NRG DOMESTIC LOG, YOU MIGHT AS WELL BE USING THIS...


The new Log won't be perfect but it'll be better than anything else, Washington DC included... Updated to March, 1973, the new NRC Domestic Log gives locations, calls, day and night powers, class of operation, addresses, PSA powers, and Construction Permit info for every station in the U.S. and Canada powers, and Construction transmitters. Available to NRC members for only including the CBC Lers add 754 for First Class mail delivery. (The above page is from the 1929 Radio Station Call Book of the Boston Globe, used until recently by Ephram Itkin of Crudup, Mass.)

Non. March 26 K S Y L 970 Alexandria, Louisiana $1,000 \mathrm{U}-1 \quad$ AM, EST $1: 10-1: 25$ NR C 26 K R N Y 1460 Kearney, Nebraska 26 WBRJ 910 Marietta, Ohio 26 WLS I 900 Pikeville, Kentucky 5,000 D-1 2:00-3:00 $\begin{array}{ll}5,000 & D-3 \\ \text { 5: } & 2: 30-3: 00 \\ 5,000 ~ D-1 & 4: 00-4: 30\end{array}$ $\begin{array}{ll}5,000 \text { D-1 } & 4: 00-4: 30 \\ 1,000 \text { D-1 } & 5: 15-5: 30\end{array}$ 1,000 D-1 5:15-5:30 IRCA Mon. April Mon. April
 $\begin{array}{lllllllll}\text { Mon. 4, } \\ \text { A Mon. soon } & \text { T I J J C } & 1390 & \text { Charlotte, Michigan } & \text { 5,000 D-3 } & \text { All Morn } & \text { IRCA } \\ \text { San Jose, Costa Rica } & 15,000 \text { U-1 } & 2: 00-5: 00 & \text { N R C }\end{array}$
THESE ARE THE VERIE SIGNERS FOR THE $3 / 26 / 73$ TESTS:

| KSYL | Thoms Cates |
| :--- | :--- |
| KRNY | Thoms Fussell, C.E. |
| WBRJ | Thoms O. Hamilton, C.E. |
| WFLN | Thomas Moyer, C.E. |

WISI Jerry Shouse, C.E.
A lot of TOMs there!
EFNEST R. COOPER - 43 E Fast 21 St. - Carrier Foute 56 - Brookiyn, N.Y. 11226 $\mathrm{V} / \mathrm{c}$ in from MM-1090-TEST, and a v/q from R. Nordsee-1367, for reception of last Dctober, on report I sent to their Switzerland address. The $v / q$ shows the ship on which the big antenna is mounted. Looks as though if they encountered high seas and tilted or listed a littie, that they d topple ove er! (Imagine their SIDFband then!) Also nice $v / f$ from wERC-960-TAST. Again, all nX was confined to $\mathrm{MM}, 2 / 26$, a sad morning here, as all three locals who were begged for atand-bys gave us the finger. Naybe there was a mix-up with WINS as they WERE silent MM 2/19, all AM, too. They stayed on today, and WWI-970 rode roughshod over the KSYL $r / C$ dedicated to NKC, but in reading over wy letter to them, I asked for a stand-by for MABCII 26, so let's wait till then to scream, hi. WWRL blasted away, \& I have a funny feeling they 're going to be off next $\mathrm{kM} 3 / 5$. WKBH-1520 must 've been on AXI as another BS-rr was almost as loud, either uns KaNA or WTTO. TTP-950 around 1:45, unID. KFEK with S-7 signal © 2am, w/the jumpe \& I tried with everything I had to bring in KCHY, but I just couldnit do it, so I guess it 11 be never here, as the West was ereat today on the high end, w/KKHI in well on 1550 A $2: 58 \mathrm{~s} /$ off. But, WWRL or no, I got a fer bite from WCPK-1600-TEST anyhow, happily, and report off to him. I also took a $\log$ on hMRE- 1380 on/off during the AM on its AN-rr thing, on top this morn. KFAB-1110 was too strong to day to get arything on that mysterious Venezuelan who s/on @ 3:30 or so. HCCO830 whs off today as was WAPA -680 (second MM in a row) Who was the tester on 1580 around $2: 59$ \& on playing a male-vocal album, Mor? Another old AN that was not beard this morn was HJKC-850 - maybe austerity is coming to Bogota, hi. WDEL, -1150 noted above all @ 3:50 ID. No chance for WKEN (um) nor KLEB here, darn. I vow never to buy anything in Busch's Cradit Jewelers: C UN T.

## "AN" SITUATITON

580 W K TY off Mm , 3-6am EST.
1230 K Y S M Now back on NSP


HaNK hoLbrook - 7211 Chestnut Street - Chevy Chase, Mary land - 20015 since my Musing in the $1 / 31$ bulletin the following stations have been logged and reported (all from Gevy chase) - 12/26-160
 Va. $4: 48-5 \mathrm{pm}$. Seven so far in 1973 -

 the 29th, XREBS-1090 3:05-4:05am. Above, the under ine stations CFIR $680 \mathrm{kNWT}-540$ er gtations ©SLed since iast report - y 10 NGEF-1050 WIDG-940 WVAR-600, R. St. Plerre
 -1375 , wKCY-1300, plus cards from WEDD-1330 \& WOTT-1410. I'd like to make a comment on the NRC Report Forms. I think it is very fine but I d make two changes (1) Put it on lega 1 size paper $8 \frac{1}{2} \times 13$ or 14 allowing more room for program details. I know you can complete same on the back but when you're uaing carbon it's a nuisance and it distracts from the flow of the content. And (2) "I wish to request a brief letter (insert "or cardy here) eonfirming the fact inf inky prefer a good looking $v / q$ over a $v / 9$ any day!). Total all band veries at 8,111 stations of which 2,341 are on BCB w/ 100 BCB countries.

DICK TRJAX - 3003 Gleeson Lane - Jeffersontow, Kentucky - 40299
Once again it's time for the meager catches from the suburbs of Louisville. Only IX of umusual quality will be noted as I am still in the "catchup" isvile of starting the 10 g since moving here last Spring. 12/28- WhoI-11zo N.Y. phase of starting the 10 gor sine moving thought I heard wUST also but no definite s/of $12 / 41-\mathrm{KFUO}-850 \mathrm{Mo}$. s/off e 6:30pm amidst mucho WHAS slop. $1 / 3-\mathrm{KAMD}-910$ Ark. W/ID \& Mirtual NX © 19:30pm. 1/8- KALD-580 Ia. w/ WRGtype mx e 6:24pm, still Ark. W/ID \& heard after pattern change B 6:30 u/WCFS pest. 2/5- WSUI-910 1own $39: 31 p m \mathrm{w} /$ ID \& lecture. $2 / 10-$ while loca 1 NPCer Cary Atking visiting I noted WYMB-1410 S.C. ON FOR SNO EMERGENCY, 1 7:10pm killing WING/WIBI Combo. I'm surprised no one else also had heard the pirate on 1610, WCKK. As I type this $2 / 20$ they are a/off $\mathrm{w} / \mathrm{ssB} 8 \mathrm{~B}$ :05pm. They were heard weakly in W. Va. wary eves; here they are audible most nights and much stronger. Format is $\mathrm{c} / \mathrm{w}$, very 1 ittle talk, but frequent IDs. From loop bearing and time checks last Sumer when it was an hour behind Louisville, I would guess location to be someplace in central Indiana. Presently on same time as Iam, fairly strong and roci-solld weekends during the day although audio quality lenves much to be desired of late. They should be heard by many in the midivest. So much for now, more as quality of catches improve, hopefully.

JOSEPF W. PLCAKM - Box 148 - Chaplin, Saskat cheman
It must be nigh onto Pive years since my name appared in Musings. The shame of it all. Well, I'm back in '73. I am still using my Trio 9R59D purchased some three years ago, and have purchased another recorder this year, making three now. Verie return over the last couple of years has shown a $80.4 \%$ return but 77.38 ,:this year showing a disma $175 \%$ return. Consudering this bird sends nothing but taped reports this is not good. DX of $2 / 19$ showed tentative KNWI-TRST, with some march mx heard (3 2:02 \& agin very weakly © 2:17. Too much TIC \& KHJJ. A surprise in WBIS © 3:18 on $f / \mathrm{c} w /$ Tijuam Brass records, and frequent IDs, up to $3: 30$. R. Paradise showing e $4 \mathrm{am} \mathrm{s} / \mathrm{on}$, what a powerhouse this is going to be to contend with, yuk. ID by Yi on R. Mara caibo 4: 2 onm, a frequent Visitor here. WRIZ, Fla, noted IDing © 4: 2lam as "Your Station for Inspiration" At this time of morning, I usually need a little inspiration, like another pot of coffee or java, WKIX relelgh N.C. noted w/ID © $4: 35 \mathrm{am}$ a 1 so . KLNS Lincon Neb. on W/ET © 5:04. KAOK f/c noted good to poor © 5:15, lost to KVOP f/c © 5:18. That's 73 s to this first and very rusty report in quite some time. (Welcome back, Joe!) deadime is every thursday in brooklin for misings. be sure to dotble space. bs KIND ENOUCH NOT TO INCLNDE MUCH NON-DX STUFF AND OMTT VERIE SIGNERS FROM MUSINGS.

GEDRGE B. SHEMMAN - 104 Pinewood Circle - Rosemount, Minnesota - 55068 A while ago I sent a report to Musings that I had an Allied A-25I5A for sale,but it never appeared in print. Are ads banned in Musings, or didn't you receive it, ERC? (Ads are not banned - I received it, but it came after Line \#30-ERC) Anyway I finally sold it through the local ham store. (They sell radios in butcher shops in Minnesota3? -ERC) Now I have a tallicrafters $\mathrm{SX}-43 \mathrm{AM} / \mathrm{SW} / \mathrm{FM}$ RX for sale $\mathrm{w} /$ speaker \& manual. BFO \& headphone jack don't work, so I'd let it go for $\$ 35$ plus shipping to whomever wants it. It can spist 10 k almost a lways but no good for IA \& TA splits. Very sensitive, though. DX


 Tax. hir u/min oc kith w/iloff found it to be unn KROD as expected, but I heard ckear KCIS Ariz. ID u/KROD, a/
 Flagstafr station (KEDS) \& sure enough, u/KHEY/XETRA $w / \mathrm{Tr}$ © $1: 48$ playing ry when the DJ anmounced " 12 minutes until tomorrow" which is what I' 11 use for an ID, hi. At 8pm that eve, Ro Quince-1220 in Barranquilla was $150 / \mathrm{s}-9$ way at ip. $1 / 26$ brought KCMT $-1310 \mathrm{w} /$ lengthy Neb. NXcast o/QRM, good sigmal. $1 / 29$ was great, starting w/WTTS-1370 Ind. w/possible s/an © 5:30 u/wSPD. SSS featured KIUP-930 Col. wy o/QRM w/SID \& local spot, reported; then KARs-860 N.M. e 7: 10 Opm s /off five minutes early, S-9 plus 20, no QFM! And I thought I'd have to get them on M $\mathrm{f} / \mathrm{c}$, h1. (KARS s/off 7pm-ERC, my typo -ERC) KKIM-1000 N.M. © 7:10 s/off 5 minutes early. 10 pm I stumbled onto $\mathrm{ZJB}-886 \mathrm{R}$. Montserrat $\mathrm{w} / \mathrm{GSQ}$ s/off, country
 announcer uss nice enough to pause half a second for breath, them SSB u/WSPD. Intereating to note this reception occurred during Auroral CX. KHOB-1390 N.M.
 1020 (listed 1010) wI $\mathrm{Fr} \& \mathrm{IS}_{\mathrm{S}}$ announcements, strong \& way $\circ$ /QRM, undoubted ly on day power © 8pm, their "FCC" must be even less effective than ours, hi. R. Clarin



JEFF KOSNETT - 600 North McClung Court - Chicago, Illinois - 60611
Pretty fair DX here during the heatt of the Winter seasca. Unfortumately, though, I haven't been successful in logging ary of the DX TESTs. Here soes: 1/18- WCST-920 Ca. w/"Gild" rr \& plugs for hockey broadcasts © 12:35am, folo e 12:49 by WBRC-960 Ala. w/more past rr. Two newles for me, and the star of some good Southern DX. 1/29-WAPE 69 Fla . © $12: 30 \mathrm{am}$. WFLI-1070 Tenn. w/a test © 2:15. This was a fortumate catch because I ras going for KTGO, in vain, \& Just stumbled on this one. 2/3- WGY-810 N.Y. (3) 3:15-nothing specisi about this, but how come this dominates 810 out here3. I have tried frequently, without success, for KCMO. 2/6- A battle royal for 610 between WSGN \& WDAF - both IDed © 11:15pm or thereabouts - another good Southerner and my first from K.c. 2/7-KxOK-630 Mo. shortly before midnight, logged \& veried, St. Louis \#5. 2/8-CKFH1430 ont. very strong rr © 12:35m. 2/12-SS rr heard an 600 or so just above CMF, who? Just after midnight. wavco-1340 0 . w/Just an ID from a jumble e 1:05. HCNT-930 W. Va. logged \& reported from 1:50-2. WSUN-620 Fla. very powerful w/WIMJ off $\mathrm{w} / \mathrm{MOR} \& F \operatorname{la}$. frost info - logged for report \& $2-2: 30$. Inter that evening, KSD fimily through terrible WIND aplotch (3) 10:15pm. WIND takes up from 550 to 580 , \& was audible on the 940 as well as 560 side of KSD. CXCY-920 ant. w/ID © 11:05pm, logged the following evening for report. wKCI-930 Ky. w/increaible sigmi, iDed
e $11: 15 \mathrm{pm}$. There is fery little bet een WCFL \& WIS here at night, and the 900 s , e $11: 15 \mathrm{pm}$. There is fery ittle bet- een WCFL \& WIS here at night, and the 900 s ,
with no dominants, are worth a try every night. $2 / 14-$ WIAD- 930 IIl. my tnird with no dominants, are worth a try every night. 2/14- WIAD-930 II1. my taird newie on 930 in ax many days, Ded e $10: 58$ way u/uKCT, which doesn't come in like 1 kw should ! With WKY \& WFOL, that's vie on 930 this month. $2 / 15-\mathrm{A}$ search of the 920-930 area got these new pests: WIKCT \& CXCY - I hope they go amy soon, hi. 2/18- Up till 3am, absolutely nothing with worst Cx of the season. 2/21- Another surprise - LKYY-570 Ky. w/absolutely unreal sigmal way o/wIND splatter \& everything else from 1:50 until s/off e 2. I'm trying for a verie but it might be tough. No SSB after s/off, if that means anything. 73 to all and keep the good work comine!
THOLIG DOUBLE SPACE THOSE REPORTS AND USE A.M. \& P.M. IN E.L.T. THE YEAR RONDD. TRY TO INCLUDE ALI YOUR DX BY DATE, TTME, AND FREZUENCY. GOOD READING!


We have another pagriful of $\mathrm{v} / \mathrm{s}$ for you, and we'll have thea in an up coming DX NEWS. Be sure to use
the little letters describing the type of verie received. Thank you.

为

EOlTOR:
f.). EtEnats

251 141
wifit. A.|. $1747!$


Greetings again, folk; we've a fairly good-sized column this time, so we'll move right into it.

## call amolicalians

1050 KLEN-TX req. KIXS
1340 KAOR-CA req. KORV
1430 WEEF-IL req. WVVX
DDXD HOTLINE
(201) $335 \cdot 6397$
"If no answer, I'm not home...

## changes

+800 CJJC-DC
Hes finally mada il here, ex-850 after many jears, reported in IRCA's $D X$ Monitor.
+1220 WLTO-FL FCC rescinded grant for call change to WCML due to objections from some company called "The CM Corp.". Will use WLTO until further notice.
+1490 WKRO-IL CP: $1000 / 250 \mathrm{U}$
+1510 WKAO-FL CP is on. Never did see a formal notice of a grant on this, but FCC sez is on, so....
+1570 KQWC-IA ex-KJFJ

## /C's

FEBRUARY: 2nd MM: WGOH-1370, WANY-1390 (each has only 1 ID. Is at start of check) ; 3rd TU: WFED-810, WNNA-1590, WAFT-1510, WABH-1150, WVOP970 , WHOL-1600, WEAS-900, WGUS-1380; 3rd FM: WAAC-1300; 3rd SA: KAMI-1580; hth MM: WJDY-1470, KTHS-1480, WBFD-1310, WANV-970, WBCB-1490, WARM-590, KLEO-1480; 4th TH: WTCB-990.

CHANGES: 4 th FM: KRWB-1410 0100-0130 is changed to Lth WM.
NO SHOWS / FEB. : WIOS- 1480 on 3 rd TU.

## fulliti a bitilit

730 KSUD-AR
1830-45 w/ local nx, wx 2/12 (RL)
KWRE-M0 1830-45 w/ c\&w request pgm, vy gd 2/14 (RL)
810 WCEC-NC $2 / 20 \mathrm{~s} /$ off 1845 no SSB, referred to WFMA-100. 7 mc thru WGY
860 WAMI-AL $1815-30 \mathrm{w} / \mathrm{sx}$, nx $2 / 26$, off $w / E_{\text {rening Prajer (RL) }}$
900 KFAL-MO $1830-45 \mathrm{w} / \mathrm{C} \mathrm{\&} \mathrm{w} 2 / 5$ (RL)
KHOZ-AR 1845-1900 2/14, not too good here. (RL)
CKTS-PQ 2/21 w/ "Back to the Bible" 2100-30 ID, into "Prophecy", no CHML. (TRS)
1020 KIXI-TX $1900-15$ 2/6 o/WHO (RL)
(050 WNES-KY $1830 \mathrm{~s} /$ off w/ "My 0lde Kentucky Home" 2/5 (RL)
KMIS-MO 1830-44 w/ csw $2 / 10$ s/off w/SSB (RL)
KMYO-AR $1845 \mathrm{~s} / \mathrm{off} 2 / 10$. Has frequent "Cameo" IDs. (RL)
KSIS-MO 1830-46 w/ local nx, wx 2/10, o/KMIS at times (RL)
KFMJ-OK 1845-1900 2/11, poor, but good ID © s/off (RL)
KVPI-LA 1830-1900 $2 / 25 \mathrm{wy}$ ga, all alone, no trace of the above stations in rotten cx. (RL) *** Well, there was an aurora of pretty hefty size that wek..... -RjE
WVOJ-FL
WKMI-MI Doing well w/ Michigan State Spo
St. Ignace, etc. $18002 / 20$ (JMP)
Good w/ s/off $17462 / 21$, SSB used. Will try to pull verie from this ane. (JMP)
330 WLIPGi Fair/poor w/ s/off here 1815 2/23 u/channel mess, poor copy
1380 Wicilai $0 / \mathrm{u} 2 / 222020 \mathrm{w} / \mathrm{rr}$ (RF)

WFLA-FL ID hrd 0305 2/26, fair (MG)
KFWB-CA S/off 0330 2/191!, Annc'd $s / o n$ as 0800 . Is this a regular
KSVC-UT Absolutely beautiful test 0320-0400 when KMBZ back on testSP ?? (PKH)
1580 lieve thanx to the aurora noted earlier this column??-RjE lieve thanx to the aurora noted earlier this column? (RF)
WJVA-IN $0 / \mathrm{u} 2 / 201810 \mathrm{w} / \mathrm{rr}, \mathrm{s} / \mathrm{off} 1815$ (RF)
WSKT-TN $0 / \mathrm{L} 2 / 201814 \mathrm{u} / \mathrm{SSB}$, s/off 1815 (RF)
WSID Unmodulated carrier noted again 2/21 $1758+$ atop freq.,
$\begin{aligned} & \text { unID Unodulated carrier noted } \\ & \text { bearting is ENE/WSW. (RF) }\end{aligned}$
WNEU-WV Atop WAQI null $2 / 211750 \mathrm{ID}$, ads for local businesses then MoR (RF)
WORK-IN 1900-2000 hrd first tiae 2/17 w/csw selections from a few years back. Located in Underwood, Ind. Said would be baek on air from 2200, did not listen. Hrd again $2 / 20$ from 1900 to $2005 \mathrm{~s} / \mathrm{off}$. Said had been on air for past 4 hrs to make up for $2 / 18$ when not on due to a big fight in the XR room. Was request pgm for friends and help, one a Miss Jones. Said would neat be on $2 / 24$, but did not show, however cx rotten. At 8 off gave call, freq., power as 100 watts, no location. With a signal like that doubt it will be hrd apirtes, regardless of size. -RjE

## mitning la surpise

560 WJLS-WW Fighting it out w/ WHBQ 2/25 $0118 \mathrm{w} / \mathrm{c} 8 \mathrm{~cm}$ (RF)
WWNC-NC Fair/poor w/WMCA w/mx, annets., 0230 2/20 (JMP)
600 CFCF-PQ 0/Cuban-WMT-WCAO etc $0055-0103^{\prime 2} 2 / 16$, gone by 0110 (WB)
CFCF-PQ O/Cuban-WM1-WCAO etc $0055-01032 / 16$, gone by $0110($ WB $)$
WPDQ-FL Atop $0054-0103+2 / 23 \mathrm{w} /$ no Cuban or WCAO. WMT poor (WB)
WPDQ-FL Atop $0054-0103+2 / 23 \mathrm{w} /$ no Cubai
WWNR-WV Atop $2 / 250134 \mathrm{w} / \mathrm{MoR}$, ID (RF)
WAPE-FL Here w/day pattern again ard 0200 2/26 (Foxy)
KONO-TA Hrd w/ c\&ew 0046 2/26, fair/poor (NG)
910 WPFB=OH Finelly bits of this 2/26. Up for long ID 0302, then not sure what next. (WB)
KGLC-OR Atop almost nightly here w/ ckw. IDs as for "Miamun" (RF)
WSBA=PA Hrd $w /$ Action Line at 0250; poor $w /$ semi-local WFUF off 2/26 (MG)
CBO -ON 2/19 0418 ID w/ what could have been a test. Instr. mx w/ lang pauses between ( dm ) ** Not sked for RS then -RjE
20 WGNU-IL 2/19, believe wes testing w/ "Tokens" or "Happenings" album and ad for what phone co. says is Belleville Restaurant. hrd 0356. Test in 0340-0400+, gone by 0410. (dm) ** Interesting. Ads in ETs are agin' the FCC rules. -RjE
WMEL-FL esting. Ads in ETs are agin the FCC rules. -Rj
WKVA-PA
Fair/xlnt but fady w/ s/on 0558 2/24. Anncts., 0558, SSB 0559, into PA state nx 0600. (JMP)
${ }_{H} \rightarrow$ TXX ** This either $2 / 19$ or $2 / 26$, Dan forgot to note which-RJE
W/SID \& rr $03022 / 26$, fair (MC)
KIOA-IA
WKAZ-WN Faid \& rr 0302 2/26, fair (MG)
Fair w/rr 0129 2/26. DJ mostly said "Capital City" \& no calls, but finally got ID. (MG)
Seemingly in RS most of AM 2/19, sure hope not...(WB) *** Looks like is NSP, drat -RJE
960 WELI-CT
 was very poor. (WB)
CKWS-ON Atop WFIR null $2 / 210034 \mathrm{w}$ / ad for local theatre (RF)
WERC-AL (RF ple note call changed months ago-KjE) u/unID TT 2/25 $0211 \mathrm{w} / \mathrm{ID}$, then rr . (RF)
70 WWSW-PA
WVDJ-NJ
WYDJ-NJ Hrd w/rr \& WWSW off for a change w/ID 0423 2/26 (dm)
KSYL-LA Tentative here $w / \mathrm{lkHz}$ TT most of time $0110-25$. No IDs hrd, but severgl TT breaks $2 / 26 \mathrm{w} /$ severe WWSW-WWDJ QRM (JMP) ing. Betw. 0348 and 0356 TCs and IDs every minute, freq. clear except for Canadians, (PKH)
U/WONE at proper time for $\mathrm{r} / \mathrm{c}$, but wrong MM. 2/19 0340(dm) **** This check is irregular. Is run whenever KFWB decides to go off, as monitor can't hear KSVC w/KFWB on. Is Usually either 1 st or 2 nd $M M$, per my verie last season or b4. -FjE
CKRM-SA
*) 990 unID $=$ Hrd well enuf for tape 03002
ally weak and KMBZ off. (PKH)
2/19 0500-0530 then off. Big Band instr. $\quad$ mx, lang pauses between songs makes me think record not tracked; 0530 last cut faded down, then 5 sec . dead air off, no ID. Way of WNOX here. (dm)

1000 CKBW-NS

* $++10 \%$ WINA-VA
oted 0500 s on $2 / 26 \mathrm{w} / \alpha C F L$ apparently trying to $\mathrm{s} / \mathrm{on}$, but having audio breakup. (Foxy)
*ems Ms Ms now. Noted W/WIBC off $2 / 19$ still u/KNX (WB)
*** Noted here 2/5, 2/12, 2/19 on RS -RjE
1010 WNWI-IN EST copied vy well 0215-230 2/19. KRLD $\propto$ (o ard 0210. UNID carrier to 0215. WTTC no problem here, hi. (PKH)
1090 WQIK-FL On w. ET 2/19 w/ c\&w IIX, ID 0130, unn. here (dm) This is the tester here $2 / 190255$ ish w/ c\&w that kept cutting in /out. Gave one quick ID here when they evidently patched in a FM-type AN show for about 20 seconds. (Foxy)
WKTE-NC
Testing $0330-0355 t /$ out $2 / 12$, looking unsuccessfully for WEEO test. Surprisingly weak for 10 kw , must have quite a pattern. CKWX battling them. (PKH)
lrd IESN 0427 $2 / 26$ vy poor u/CKOC (Mas) Noted on DX TEST $03452 / 26$, xint here at only 50 miles, $h$
WDCJ-FL Fair/poor $2 / 250700$ s/on w/
WGAR-OH Noted off $0030-03002 / 26$. Mexico, CHSC and unID rr there(WB) Is // CJIC-1050 per annct on CJIC. (RF) ** A favor please/? Stuff like this should be marked for "Changes" section-RjE
$\qquad$ WFBIH-IN $\infty$ ET 0020-0030+ killing freq. o/WDY/WWDC 2/26 (WB)
1270 KFJZ-TX Fair/good w/ID $02302 / 26$, didn't think WXYZ went off 'til
0300 , so pleasantly surprised. (MG) 0300, so pleasantly surprised. (MG)
WCGC-NC Hrd w/ ID out of Ae nx logo $00052 / 20$ way way u/WXYZ w/latter still $+20 / 9$ nulled. Looking for WDVL test which didn't show per CE due to trouble at another stn. he works at ( RjE )
WLIK-TN
unID Noak w/ s/off $000 \mathrm{~L} / \mathrm{WXYZ}$ but enuf for tape 2/20 (rJe) $0035-0048 \mathrm{w} /$ c\&cw. Call in $j x$ sound $s$ like WKEY but no such animel. Think WIBY is rr, Whoozit ?? 2/24 (WB)
WKST-PA Fair/good w/insurance ad 0323 2/26 (MG)
LIAR Poor ID, vy low audio an ET $\mathrm{w} / \mathrm{vy}$ strong carrier $02302 / 19$ WIZE-OH W/ "The WIZE Giant ronsumer Report" (call pronounced) 0118

2/19 per tape replay. Inn, but not heard since '64 (RjE)
WATR-NC 2/26 momentarily surfaced o/usual din 0625 ID then ints $n x$ I think, WHAT not audible. (TRS)
1360 WDRC-CT Mostly o/WKAT $2 / 26$ after 0300 (WB)
WFDR-GA Copied s/on vy wk $06002 / 12$, anncd 1000 watts, but at tris hour musta been 500 watt PSA. (PKH)
30 KOTA-SD TEST not hrd $2 / 12$, freq. a mess but 5 kw ND shoulda made it. (PKH) *** Hrd in the Northwest per IRCA -RjE
WHOK-GA W/Black formatted Brother Esmond show o/uwMeE rr. Possible WAMS $\mathrm{f} / \mathrm{c} \mathrm{u} /$ it as hrd TT, but must check $W / \mathrm{DS}$ to see if they really run it. $04002 / 26$ (JMP) ** WAMS "r/c" not reptd. this season to my knowledge - Kj j
WLKY-FL 0058-0101 2/20, first time hrd in RS in a long time. (WB)

Deadline: Fridays of each week; DX "Hot-Line":201-838-5721 Condx again back to normal -- atrocious! But jet, some DXers still manage, al Ia the following:
unID. Signal from $S E$ on $2 / 26$ at 0007 ; music, with fast in-and-out fade. Weak, auroral evening. (Dangerfield, Pa.)
@ Hrd 2/240225+ W/patchy mod, hard to copy. Had apparent religious mx in EE. At 0231, EE ancr said "10,000 watt Either s/off or f/out o233. Loop broken, so couldn't get Either s/off or (Frcho, Ohio)(Radio Dominica, ex-695. Ed.) bearing. (Frcho, io Rebelde, DF Baracoa is here. Hrd from CUBA. A new Radio Rebelde,
GUATEMALA. TGW, La Joz de Guatemala, Guatemaz City atop CMO nu11 $2 / 220745 \mathrm{w} / \mathrm{ID}$, then SS versions of pop EEE mx. (Frcho) ANMMA. HOS22 Panams This one atop HJJX w/commentaries in SS by YL ancr.; first thought this was HJJX and HJJX was KORI, but TODELAR' ID in background and mentions of "Repablica de Panamk" convinced me otherwise, hi. This 2/26 0930-0955. Radio Mian. (Poterba, Pa.) (Good catch, Jim! Ed.) ST. LUCIA. Radio Soleil is here in FF $0930-1330$. (DSWCI)
655 EL SALVADOR. YSS, R. Nacional San Salvador in the clear 2/24 $0254 \mathrm{w} / \mathrm{ID}$, then mx . (Frcho Ohio)
unID. TA at 2350 on $2 / 20$. Signed on 0000 with an anthem, but unreadable. Have been watching for Spanish Sahara here but RAI is possible, among others. (Dangerfield, Pa. ) (Are these times EST, Ben? If so, possibly, as you suggested, RAI. Do you have tape of an them? Fd.) GUATEMALA. TGRT, La Fabulosa, GuatemaIa, 2/22 0322 right on frequency $w / D_{2}$ sparts com'try 0323, all over WMAQ; nevertheless, I have hrd it more often and with perfect reception on 88.8 mHz . (Hanser, Texas) NICARAGUA. Union Radio YND Managua in the clear $2 / 240218$ w/SS mx, ID 0221. (Frcho, Ohio)
COSTA RICA. TIJCC San Jos ${ }^{\text {WSonoran }}$ ID after uptempo SS mx, no sign of "hadio" in 1D 0522 very strong 2/25. (Myers) MEXICO. XEBL Cullacán, Sinaloa o/u WOR/etc. ending nx 0520 $2 / 25$ and ID "Radiodifusora X-E-B-L". (Myers, Ohio) (Niceli) HONDORAS. HRDN, R. Caribe IDs after and during every selection and promo for station after every song; can't make out khat and promo for station after every song; can't make out what says, "....recuerdalo, Radio Caribe ..." then a freq (7- ${ }^{\text {( }}$ ) $04512 / 25 \cdot$ (Myers, Ohio)(Dan I don't find HPDN
call, '73 WRTH has HRTV1-clarification? Ed.)
COSTA RICA. TIIX R. Columbia probably as others report, $2 / 240415$ fair in SS taik, then mostly out. (Hauser, Texas) CUBA. CMAQ Pinar del Rio now here, ex-730. (Schatz, Fla.)
GUYANA. 8RG Georgetown noted with strong aurora $2 / 250030-1$
 $0130 \mathrm{w} / \mathrm{GE}$ nx and commentaries. Country ${ }^{\text {m }}+2$. (Poterba,
S. VIETNAM. VoA Hue SKED:2200 $-0200 ; 0845-1600$. (DSWCI) S. VIETNAM. VOA Hue SKED:2200-0200; 0845-160.0. 2/26 ID 0916. (Myers, Ohio)
CUBA. Stn previously rptd IDed as CMDI, Hayamo, Oriente(RFS) IRAN. Quazvin has Teheran 1st Pgm:0300-2030 (2 1000 kwol ) (DSWCI thru Kocsan via RjE)
850 GUATEMALA. TGX R. Ciro's still audible most nights on 1700 2/22, 0409 ; 0411 pgm "Ciro's Buenas Noches". (Hauser, Texas) CTIBA. R. Musical Nacional in Oriente prove noted hr. (RFS
SYRIA. Dar'a here $\mathrm{N} / \mathrm{Noice}$ of Palestine $0430-0530,1300-1400$. (DSWCI)

CTBAA. Two different "Reloj Nacionals" here, one ID as ClGL Matanzas; CMGX is now deleted. However, there is still a "R. Musical Nacional" here, location unko(Schatz, FL) (This item taken via phone, if info not exactiy right, pse (This item taken via phone,
VEINEZUELLA. YVKG Car acas new slogan is "R. Punta". ID: "R. Punta, nueva emisora de Caracas." (DSWCI)
unta, 51 ALGERIA. Also 548,533. The Voice of Freedom, anti-portuguese OV't clandestine uses R. Algeria FF XRs Sundays 0015-0100 in PP...A VOz da Liberdade. (DSWCI)
SPAIN. R. San Sebastian EAJ8 bests "R. Ocean" in FF 0600Vieille, Principante 1200-1900. ADDR: B.P. 38, Andorre-1aVieille, Principante d'Andorre. (DSWCI)
1034 PORT GUINEA?? $2 / 210659$ a carrier w/a lot of fading; seems too far $S$ for Portugal, but my $D F w / S M 2$ is not highiy precise! (Hauser, Texas) (Sorry to dampen your spirit, Glenm, but methinks still it musta been Portugal, with pulled DF as you suggested. We'll all watch this frequency carefully for Port Guinea, and ho pe someone comes up w/some audio. Ed.) COLO‘B A. HJCG R. Santa Fe, Bogota noted o/u mess 2/19 ID 0718. (Myers, Ohio)

MOROCCO. AA rusi c at 0130 on $2 / 21$. I would say //818. Has anyone yet lDed the iA s/on at 0330 on this freq. which think is a Yugoslavian? (Dangerfield, Pa.)(Nothing IDed, but Coper II, which relays Ljubljama I is due to s/on 0330. Ed.) SPAN. L.V. de Guipuzcoa EFE23, San Sebastian bests "R. Atlantic 2000" in FF 0600-0800 and 1115-1145. QSL de 38 Rue Labat, 64100 , Bayonne, France. (DSWCI) VENEZUELA. YVOP TOVar hrd Occidente ID o/HJ 0736 2/19 vy weak mostly under the HJ. (lyers, Ohio)
LITHUANIAN SSR. Vilnius in ifke several years ago, peaking at 0420 on 2/17. Inst. mx, fem ancr. (Dangerfield, Pa.) SPATN, unID; pop SS mx, ancments by man, very strong at 0003 on $2 / 19$ all alone. (Dangerfield, Pa.)
GUATEMALA. TGVR La Voz de la Costa Sur, letalhuleu 2/240437 jingle ID. (Hauser, Texas)
CUBA. CMAD R. Artemisa presumed $2 / 220337 \mathrm{w} / \mathrm{vocal} \mathrm{mx}$, DF Cuba (Hauser, Texas)
HONDURAS. R. pariso (or similar) with rr, both EE and SS mx, w/several mentions of R. Pariso Honduras. Excellent strength 2/21 0205. (Breger, Texas) (Welcome back, Michaell Ea.) PORTUGAL. CSB-30 Porto heard clearly thru WWVA at 0450 2/17. Best signal ever with WWVA on. (Dangerfield, Pa.) BraZIL. Radio Globo, Rio de Janiero ZYD65: Amazing signal on auroral evening $2 / 25$. Pany IDs before and after 0030, completely dominating the freq even tho WHAM wis besting in prime time, and WHAM was barely noticeable. (Dangerfield, Pa.) (Belleve yours is first reprted sunset reception of this one. Ed INT'L WATERS. Radio Caroline SKED in EE:2300-1000, 1300-1700, 1900-2200; in Dutch: 1000-1300, 1700-1900, 2200-2300. (DSWCI) VEIFEUELA. YVAE R. Barinas, s/off noted 0400. (DSWCI)
 no sign next week, when WGAR off; hmrm.*-(MJTers, Ohio) in DD on weekdays. Sundays on wi th religion w/"Voice of Sint Maarten." (DSWCI)
$*+1320$
$*+1358 /$ CUBA. A new R Reloj in Pinar del Rio hrd here. (Schatz, Fla.) 49 INT'L WATERS. Radio Caroline Scotland. Claims anchorage 4 miles off Scotland. SKED: 0000-0100, 1400-1800+ Sundays only. o avoid late afternoon QRM. Even rptd 1320 once. Scottish Free Radio Movement, 17 Esk Grove, Bilston, Midiothian, SCOTLAND. (DSWCI)

MEXICO. XECO, MExico, DF "Radio ECO" IDs plentiful with mentions of "Núcleo Radio Mil, Ciudad de México". Ranchero max 2/190603. (Breger Texas)
MARSHALL ISLANDS/CANI ON ISLAND. $2 / 26$ 0918-0958 s/off. American EE DJ, no spots, TCs for GMI +13 or -11 (Listed GMT +12 in WRTH. Ed.) Format of relatively current light $r x$ (Steely Dan, Stevie Wonder Elvis, Carly Simon, Lobo, Elton (Steely Dan, Stevie wonder, etc.) one nearly complete ID' $0930 \mathrm{w} / \mathrm{caIl}$ and "Voice of
 faded almost away, had light instrumetal selection to 1001 faded almost away, had ight instrumemal selection to one of the TCs I heard at 0934 was ntime on Canton, 24 minutes of the TCs I hear before closing" RH Millar has WxLE-Eniwetok, Marshall Is., before closing" RH Millar has WXLE-Eniwetok, Marshall Is.
WHTH 73 has Canton here, and slogan fits WरLE, while the WRTH gives has Canton... it's beyond my humble attempts, but will try again next MM, tho. (Sheedy, Callif. (Dan I think believe the DJ knows where he ls ail che these times, you can't even be sure he really does know where he is, hi hit Ed.)
INI'L WATERS. H . Caroline South (aanc'd 217 metres) Sun. 1200-1800. Free Radio Enterprises, 15,Springfield P1., Roslin, Midiothian, SCOTIAND. (DSWCI)
CUBA. CMJI Florida now $/ / 1030,860$ Cadena Agramonte. (Schatz) MALI. Bamako tent. here in FF ex $-1416,1+32,1434$. (DSWCI) HALII. 4 VCR La Voix du Nord, Cap Haitienne noted $2 / 25$, native $m x$ (merengues), few anmts. (Schatz, Sento Domingo, DR) CONGO. Brazzavilie, La Voix de la Revolution w/ kwo 043 O2300. (DSWCI)

POLAND. Warsay very strong woman ancr and cl mx around 0027 2/26. Hasn't been hrd often lately. (Dangerfield, Pa.) unID. 2/21 0707 talk, fair strength but lang unk, hara to DF; seems a bit late for poland; ideas? (Hauser, Texas) (Perhaps Senegal w/l0 kwo? Ed.)
unID Russian; woman in RR, strong signal at 0503 2/17. First time heard so late. Perhaps this hour tells us something about the location of at least one of the stations being reported on this freq. (Dangerifeld, $\mathrm{Pa}_{\mathrm{a}}$ )
PRC. Urumchi again with usual M/W in RR 2310 2/24 w/very auroral ondx, no high-band TA paths open, 1520/1530 domestic channels barely audible, and this one completely dominated segment 1500-16001 (Tayior, NJ)
e Same as above, simultaneously logged via landoline DX technique. First time ever here. (Poterba, Pa.)
UNITED KINGDOM. Radio BristoI on 2/18: tone at 0646; church bells 0652; storytime or similar 0655; announcements on the hour, then pop mx. (Dangerfield, Pa.)
FRANCE. ORTF Nice $2 / 240+04 \mathrm{FF}$ talk, 0453 poor in FF ; no sign of 1538 and 1586 etc., a good example of GPN's point of of 1538 and 1586 etc., a good example of GPNs point of misleading A-indices-just given on whas storm continuing. (Hauser, Texas)
geomag storm continuing. (Hauser, Texas) blasting in at 0425 , but 0005 was beiow Vilnius. (Dangerfield, Pa。) (0505Z7Ed.) 0425 , but 0005 was below Vilnius. (Dangerfield, Pa, ( 050528 E
SWITZRRLAND. Beromunster: strong signal, in GG 0615 on $2 / 18$ SWITZERLAND. Beromunster: strong signal in GGiob music. Also WIth ski news. A1so good 2323 on $2 / 21$.)
in on $2 / 28$ at 0300 . (Dangerfield, Pa.) In on $2 / 28$ at 0300 . (Dangerfield, Pa.) (Hauser, Texas) PORTUGAL? $2 / 210635$ good carrier, some talk. (Hauser, Texas) (Most likely, Glenn. Unfortunateiy, It's this one that's dominant here, noted signing on these days at Many possibilunID TA with Viennese waltzes, 2/17, at 0500. Many possibil-
ities, of course. (Dangerfield, Pa.) (This matches Portugal ities, of course. (Dangerfield, Pa.) (This

NICARAGUA. YNKS F San Crisobal, Chinandega now here 1600; 2/22 $0220 \mathrm{w} / \mathrm{SS}$ talk and $\mathrm{mx} ; 025510 \mathrm{sec}$ spot; b nom. official proclamations ("Articulo Segundo "epo)' some $250 \mathrm{Hz}$. ; 0344 proved to be $/ 1750$; 0359 off. not tDed until $2 / 240358$ ending relay from Junte Nacionai ; quici then NA and 0400 CC ; $\mathrm{O}+02: 45$ carrier off (Hauser mevas) 1595 unID. Presumed Colombian w/BrB eame in SS (Hauser, Texas TDs before final
**1999.85 DD'TNTCAN REPTBLTC HTFA La Voz de ias Fuerzas Armer Ed.) doing nicely on 3199.7 i Hz . harmonic, noted $2 / 240459 \mathrm{w} / 2$-min slow TC, s/off w/taps, freqs, NA. (Hauser, Texas)
-- NOTES ON THAT PARAGUAYAN...
"What with all of the conflicting info on this one over the past 15 months, Merriman's tape w/Ds sounding like "R. Santa laria", my tape which $I$ thought had en Encarnacion" on it, and which DFG thought had, a "R. Caaguazu" in it, Trower's ID of it as R. Caaguazu, and now RFS' tape of "R. San José pIus some confusion from last year about R. Puerto Presidente Stroessner, I subrit that pending some sort of official correspondence from either a Paraguay an government source or from the station itself, we must consider it unID. Why? Because the confusion leads to other possibilities. 1)a shared-time agreement. 2)a change or even two changes in station slogan during the 15-month period noted above or 3) a change in the actual station by order of the govemment. It is most assuredly Paraguay, but beyond that, we should tread lightly." - Russ Edmunds. (RE: 645-ZP. Ed.)
This week's conttibutors:
Dr. Michael Breger, Austin, Texas; Ben Dangerfield, Wallingford, Pa. R.J. Edmunds, Parsippany, N.J. Richard Frcho, Cleveland, Ohio Glenn Hauser, Von Ormy, Texas
Dan Myers, Toledo, Ohio
Jarres M. Poterba, Yardley, Pa。
Ronald F. Schatz, Miam1, Florida
Dan Sheedy, Encinitas, Callf.
Page Taylor, Butler, $\mathrm{N}_{\mathrm{o}} \mathrm{J}$.
Danish Shortwave Club International

-AN EDTHORIAL PLEA---
Please remember to include calls, slogans and locations in your reports, as cross-referencing here takes a considerable amount of valuable typing time, which is already limited due to personal commitments. And remember to include your name at the end of every item! Frequency-order is not necessary, but double-spacing between items is a mustl and, only one side of the paper, pleasel No hard flems is a must and onsy one side of the paper, pleasel ${ }^{T}$ mot nit-picking, hi. In looking at the above, docsn't anyone DX from the Mountain Time Zone anymore, hi.? Daddy! Momayl anyone DX from the Moantaly


FIGURE \#1

FIGURE \#4



Figure \#2


Figure \#5


FIGURE \#3


FIGURE 26


FIGURE \#7

The N. r.C. Night Pattern book contains some 1,450 different directional patterns. We're sure some questions will arise as to how such patterns are created. It's beyond the scope of this article to much more than scratch the surface of this subject. This is due mostly to the math involved which mas beEn omitteo here.

A basic rule of thumg is the number of towers in an array equals the number of nulls in the final pattern. This can be thisted around quite abit as we will see later, but for the most part it's accurate enough to be very USEFUL.

In our examples we will be dealing with ideal conditions. In reality this is almost impossible due to buildings, power limes, etc. Sooned than ado more COMPLEXITY to an already confusing subject we will deal with ideal conditions.

A single vertical tower in a fixed location fed with a specific poner WILL RADIATE SOUTH OF THIS TOWER. WITH THE ADDITION OF A SECOND TOWER WE CAN NOW Create several basic directional patterns.

Phasing and spacing of this sccond (identical) tower controls the actual pattern. Null depth control and pattern shaping is gy magitude changes between the towers.

Moving tower \#2 to a location 180 degrees north of tower \#1 we develop a figure eight pattern, if both towers have equal, power, and magnitude. The Field from tower \#1 to tower \#2 is 180 degrees out of phase and cancels. ldentical conditions exist going the other direction which allows nulls to form north amd south of the towers. figure \#l is such a pattern.

An adoitional phase shift of 90 degrees on tower \# 2 will create a basic CARDIOID PATTERN. TO THE NORTH THE FIELD FROM TOWER \#2 LEADS THE FIELD FROM tower \#1 oy 180 degrees and will cancel. Moving south of the towers we find the fields ado and create a lobe. Figure \#2 shous a cardioid. The field to the side of the towers creates a fielo some $41 \%$ stronger than nondirectional OPERATION WOULD.
most arrays of more than two towers are only combinations of the simple patterns just explained. Additional towers in a figure 8 pattern will narrow the loges and hiden the nulls. othen toners coulo be used for a dog leg effect mut we'li explain this later. Figure \#3 shows such a figure eight.

We could use four towers for a figure 8 pattern. Here two basic figure 8 patterns are formed by each set of two towers. These interact mutually on EACH OTHER FOR A PATtERN SIMILAR TO THAT IN FIGURE \#4.

Such interaction can be used with cardioid to form patterns with little pomer in very wide mulls. Two cardioids interacting will narrow the lobe and make it more powerful. (figure \#5) Still another cardioid could be adoed to achieve a pattern similar to figure \#b.
additional towers in an array are not almays used to deepen/widen nulls or to create powerful lobes. They can be used to create "cloverleaf" or "dog Leg" patterns for aoditional coverage.

The "dog leg" is created by having a tower offset in respect to the other tomers. This allows the pattern to be twisted as shown in figure \#7. You will note a small stoe loge, and similar small loges in other multiple tower arrays. These are a product of the interaction of the two patterns.

Cloverleaf" pattenns can lodk like a cloverleaf or modified to look like figure \#B. Most likely this is a combination of both cloverleaf ano dog leg. It's really quite hard to say as there are so many possible combinations to achieve any specific pattern.

End fire arrays consist of three/four or more towers and the interaction of several different patterns. figures \#9 and \#10 show how such patterns are createo.
in figure \#g we use three towers to acheive the final pattern. Touers \#1 and \#2 create a figure 8 while towers \#1 and \#3 create a cardioid pattern. The interaction of these two patterns will give the final pattern shown.

ThE Pattera obtained in figure \#10 uses three basic patterns. Two are gasic figure 8 patterns with magnitude changes. This simply means one tower has more power than another and so developes greater feilo in that direction. Such magnitude changes are used on two figure eight patterns.

Our first figure 8 is betwen towers \#1 and \#2 with the magnitude being Greater in tower \#2. Another figure eight is developed between towers \#t and tomer \#3 with the greater magnitude on tower \#l. Finally a cardioio develops eetwen rouers \#1 and \#4. The interaction of these patterns creates the final pattern shoun.

If necessary such multiple patterns can interagt upon themselves. figure \#11 shows a pattern developed with the comeination of tho of the patterns we developeo infigure \#g.

As mentioned earlier it's hell geyond the scope of this article to do much more than scratch the surface. However we hope some questions have been answereo.


## Ronald F. Schatz

harmonic is a multiple of a fundemental frequency; e.8., 1800 $\mathrm{kHz}^{\mathrm{i}}$ is the "3'rd harmonic" of 600 kHz - three times the fundamental. Harmonics are created when the generating aparatus, be it sound or electromagnetic, permits a signal to heterodyne against itself to produce $e$ sum frequency which, in turn, may recombine with the fundamental frequency to form still a higher sum, etc. Long chains of harmonics raj be formed in this manner, depending upon the amount of energy in the generating system:
$\underline{600}+600=\underline{1200}+600=\underline{1800}+600=\underline{2400}+500=3000 \ldots$
Harmonics add to the esthetic quality of voice or music, and they find good use in crystal calibrators, but a harmonic radiated by a broadcasting station is a no no. In such cases the cause may be an overdriven local oscillator in the transmitter, so that there is too much signal for the circuits to handle, or the front end (output circuits) may actually be tuned to a harmonic frequency, thanks to an incompetent station engineer, while other defects are possible in the circuitry.

In North America both the FCC and the DoT have strict regulations regarding the harmonic content of a broadcast signal, so that American and Canadian stations limit their harmonic radiations to American and canadian stations limit their harmonic radiations to transmitter site. In other lands regulations may be lax or nonexistant, such as in Latin America. There the strength of some harmonics may equal, if not surpass, that of the station's fundamental, and legal, operating frequency.

The second-harmonic "broadcast band" ranges from 1050 to 3210 $k H z$. Because of crowded conditions it is obvious that harmonic emissions are almost impossible to note below 1600 kHz , though the DX'er should assume that there are many present nonetheless. Only a decade ago it would have teen possible to hear these low-band harmonics, but those days are gone.

So harmonic DX'ing is necessarily limited to those MW stations normally operating above 800 kHz , if we speak only of second harmonics at this point.

The place to hear harmonic emissions is on the "B" or "2" band of the average communicatiors receiver, or the lowest $S W$ band (s). As this is right smack in the middle of marine operations there is a As this is right smack in the middle of marine operations there is a lot of material present to offer both QRM and

1) The power output of harmonics is seldom more than a few tens of watts, so it takes a good receiver and a good ear to note nst of them. Location helps too, since most of the culprits are in latin America. Harmonic DX from Floride or Texas may be fairly easy, but quite discouraging from Canada. On the other hand, a coastal location will mean more interference from marine and navigational sources.

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2) Become familiar with the "B" band: Note the wide-band "noise" of LORAN centered on 1900 kHz , which kills a lot of harmonic $D X$ in its area. Ship-to-shore AM phone communicetions are most common, in Spanish and French as well as English. These transmissions are of a two-way nature, play no music, and generally
cut the carrier (or give a "busy" signal) between messages. cut the carrier (or give a "busy" signal) between messages.
3) Look out for the 120 -meter tropical band ( $2300-2500 \mathrm{kHz}$ ). Not too many stations are active here, but they will still fool the unwary. Both Guatemala and México are active on 2390 kHz during the evening. Also note 4VSO-2450, outlet of Radio 4VEH.
4) Almost all harmonics will be found on frequencies divisible by 20 kHz - this is a good rule to follow. Note the table:

| $800=1600$ | $1100=2200$ | $1400=2800$ |
| :--- | :--- | :--- |
| $850=1700$ | $1150=2300$ | $1450=2900$ |
| $900=1800$ | $1200=2400$ | $1500=3000$ |
| $950=1900($ IORAN $)$ | $1250=2500($ (WV) | $1550=3100$ |
| $1000=2000$ | $1300=2600$ | $1600=3200$ |
| $1050=2100$ | $1350=2700$ |  |

5) Although a harmonic may originate from a MW transmitter, its signal is treated by the ionosphere indiscriminately according to its frequency. E.g., HTFA-1600 has a harmonic on 3200 kHz . This harmonic is propagated as a short-wave signal.

The fact above is extremely important: Any harmonic, regardless of its origin, is identified with the band it is found in; a harmonic of a medium-wave station is not a medium-wave signal by necessity.

With this in mind the author advocates the reporting of harmoric reception in the club bulletin of the effects are as follows:
a) Such reception confirms the existence of an otherwise unheard station.
b) The reception reveals information previously unknown on the pri gramming, format, and schedule of the station.

But the author opposes the reporting of harmonics as an end in itself, save where the harmonic falls within the broadcast band. A description of the strength and quality of the harmonic signal itself or its propagation has no place in DX NEWS.

In other words, WILI THE INFO NOTED ON THE HARMONIC HELP ANOTHER DX'ER LOG THE STATION ON ITS FUNDAMENTAL FREQUENCY??

The author respectfully dedicates this article to Clenn Hauser, who blissfully started the whole thing.
(Note from HQ: these are essentially the same criteria long in use in DX NEWS and recently restated by the DDXD and IDXD Editors.)


The limits of daytime skywave DX in Europe as measured by Bengt Ericson in Sweden this winter. The only reception beyond 1,100 miles was San Sebastian1025 on December 28th. The maximum daytime skywave range in Europe is very close to the observed maximum noted in North America this year.

## THE HORGESTER SPACE MAGNET

 errite has about 200 turns or litz inside an aluninium faraday shield. The -ser fitted with a vernier dial. It has a 2-turn inductance winding which is connected to the receiver via the Sh $2^{t}$ s own
buit-in transistorised pre-amp. A pint size tunable loop antenna- but with a difference. It responds only to the magnetic field, and
not at all to the electrical field. However
while the gain of the sur is about equal that from a $36^{\circ}$ loop (due to its preamp), its actusi sensitivity is less than halr that of be warranted in a VERY noisy location. Weak signals which are audible on the $36^{\circ}$. Weap are usually lost on the space uagnet under its own 'white noise'. This 'White noise' 18


However, I have found an EXCITING USE FCR THE SH2 whioh Joe Worcester may not have envisaged. I am now using the sh2 mounted about $4 \frac{1}{2} \frac{1}{2}$ below and at right angles to, the windings on $\mathbb{C y}$ y own 36 inch loop. The ska is connected
into the receiver, instead of the $36^{\prime \prime}$ loops own inductance turm, and the into the receiver, instead of the $36^{\prime \prime}$ loops own inductance turn, and the transistor portable will, if placed at right angles under a loop. Both the 36" loop and the SM2 have to be critically tuned to the wanted sta tion, resulting in a multiplication of the $Q$ factor, and it is noticeable that selectivity, and helps pick the signal out from the noise. As the su2' built-in pre-amp is designed to present a near perfect load to the receiver, as well as a high gain, it gives a real boost in signal strength, flat on the BC band. As the original sensitivity is set by the $35^{\prime \prime}$ loop the
inhite noise of the SH2 1s no problem. Now to the details that may be of Tohite noise of the SM2 is no probiem. Now to the details that may be of 6omp interest. The whole assembly is manufactured by Worcester Electronics,
R D I Frankort, New York, 13340 . Tnree models are available. The SM1 is cheapest at $\$ 31$ US; the sur deluxe costs $\$ 36$ US while the sia deluxe is $\$ 45$. All are basically the same with various retinements, i.e, provision for
$g$ for better nullin
(New Zealand Radio Times, January 1973)

20

‥ BEYOND THE JAST NGIGR-NESS OF THE AUROPA BOREALIS RLORTS THE ENIGMATIC NRO ZFPPRND, WEQE CENTER AND CEREBPRL CORTEX OF THE WESTEB HEMISPIVRE'S LAREST GROM OF DEYOTED DX TECHNOLOGICAL FETISHISTS...


NOD EVER PRESNTT IS THE LOKAL NRC TECH OREW, THE VEA LEART OF This Ave-NEPAMNG BROMHAMA. UNDER THE OFGCC SUPGRVISTON OF CAPTAW GLOTZ HMSELF!


 CONOTTONS ... PRE INEANCE.

TECA COITROL POMOC


 dexact whest pashmal.




## CZECH YOUR COUNTRIES!

STEVE BOHAC

Frequently, the matter of Czechoelovekis bes been reised. One auch inoidenes wes the 1938 dimmemberment of that republic under auch inoidones was the 1938 dismemberment of that republia under
the formalities of the Wunleh Agreement, which annexed the Sudetonland rogion of Cxechoslovekia to Oernemy, Teschen to Polend, and
 celled the Cerpatho-Dkralns, whose oupital was Ufhorod (Urhgorod).

On 14 March 1939 sioveltin dealnrid 1 tnalf min indepondent rapub110, quiakly followed by the eonplete annexation of Fohewia and Morayia into the German Reich an a protectorate on 16 Marah 1939.

Diasolution of the Proteatornte of Bohenis-Moravis and the
 consequent rentorition of the Cocchenlowicien netion come in Mey 1945 an a direct renult of the gerwen odtterdimesung. However, the Cerpatho-Gkreine (copital: पuhorod) Was oeded by Casehoslovaicie to the vas.s.it. on 29 3optomber 1945.

A radio anthusiast 0x'ting between Maroh 1939 and May 1945 ank the following quentiont haring logged Prague, doen be
(1) eount it en the country of Ceechoaiovakis, which motualy cessed to axint in those yesra, or
(2) count Pregue as part of the Gevenn Reioh, ov
(3) 1 gase the intantion ontirely, not eounting any country end eite 11 tigeting elroumstonees ?
Or the aspumption that Prague was counted es Grechoslovelis and not as an edjecent terrliory or protectorate of the Relah, how does this Madium Wave DKier eotint miny of the radio stations in Slovakia, on Independent repablie from 14 Mareh 1939 to 9 May 1945 Aloo while on the subjeot of Manifest Destiny or itis Geranan Also while on the subjeot or Manireat Destiny or itva derana oounterpart, how 18 Vianna oounted arter the anschiusa of 13 andnIatrative unit of "Ostmark", si Integral part of Germany it

Moring to pors reosent history. We disporer a unlque set of politiesi to more recent history, ve disuover surnques the Jemps 1962-1968, which romulted in the oreation of new Fedoration of Csachoelovaicla, oonsinting of the Ceech lunds (Bohenis and Morsivis) and Slovakia- Fogislation was panaed on 27 Oatober 1968 by the Ceeeheslovak Fational Assembly, beome effective on 1 January 1969 and prants autonomy to Slovaicia within the frameworic of a noofalint rederal srrangement, recogmining, the eo-axistence of two equal
 tem, both nations, the Creeh lands and slovalcia send elected ropresentatives to a bicameral parliment, the Flouse of the Fegple and the House of Hations. Orfiaially, the Czeoh lande now corpriae the Czech Soelalist Republiot Slovakis, the Slovek Sooisilat Repubile.

This federetion is roughly equiwalent, for s redso hobbyiat, to the situstion of 1922 , In which the Antopomous Soviet Boolallet Republias joined with the R.S.F.8.R. to oreate the thion of Soviet

Socialist Republics. If recognition is given by the DX comunity to these Soviet Socialist Republics as seperate countries, consis tency dictates that these two nations forming Czechoslovakia be accorded equal footing with the republics of the U.S.S.R. It must be pointed out that criterion \# 2 of the NRC Country ilst states: loosely federated countries, which comprise a larger entity, but which have been recognized, oither by the 0 . N. or that entity itself, as countries, such as the republics of the U.S.S.R. or the countries forming the $\mathrm{U} . \mathrm{K}$. .... are included.

Thererore, the rollowing stations represent the new "DX country" of the Slovak Socialist Republic (Slovakia), effective from 1 January 1969, under existing criteria established by various clubs in the DX communty:

SLOVAK SOCIALIST REPUBLIC

| Banská Bystrica | 701 | 100 kw |
| :--- | ---: | ---: |
| Kosice | 701 | 5 |
| Orava | 701 | 2 |
| Bratislava (Kostolany) | 1097 | 2 |
| Bratislava (Kol | 150 |  |
| Koaice | 1232 | 100 |
| Tatry | 1232 | $2 / 5$ |
| Rimaviká Sobota | 1286 | $2 / 4$ |
| Rimavská Sobota | 1764 | 3.5 |
| Zilina | 1594 | 2 |

Other stations formerly listed under Czechoslovakia in WRTVK, RBU, FBIS, plus other sources constitute the Czech Socialist Republic (Bohomia and Moravia). These stations are:

CZECH SOCIALIST REPUBLIC

| UherskG Hradiste | 272 (ग) | 200 lm. |
| :---: | :---: | :---: |
| Prague | 630 | 150 |
| Usti nad Laben | 701 | 2 |
| Prague-Zbraslav | 701 | 30 |
| Prague-kraj | 701 | 2 |
| Brno | 953 | 100 |
| Pilson | 953 | 15 |
| Hradec Králové | 1232 | 5 |
| Prague-MXInik | 1286 | 100 |
| Jinlava | 1484 | 2 |
| Brno | 1264 | 2 |
| Prague-Zbraslat | 1520 | 30 |
| Ceske Budějovice | 1520 | 5 |
| Karlovy Vary | 1520 | 15 |
| Itiberec | 1520 | 2 |
| Ostrava | 1520 | 30 |
| 010moue | 1594 | 2 |

Indications have been made of possible change of statue regarding Prague-701, plus an indication of the existence of an additional station on 899 kHz . Pending the recelpt of more detailed information, stations will remain as ilsted above.

PART II:

## CZECH YOUR COUNTRIES!

## STEVE BOHAC

Attention is called to a thought provoking development, one which ties in with "WHY IS A COONTRY? and specificaliy is the emerging "United Europe" comprised of:
(1) Great Britian
(2) Ireland
(3) Dentarik
(5) France
(6) Itanc
(7) Bolgium
(8) Holland
(9) Luxembourg

The above are pledged by treaty to form a "Buropean Ghion" or "United States of Parope", which by the year 1980, will decree complete oconomic, political and military intergration.

Do political independence dates or politics have much to do with DX'ing? Many stations (countries) remain on the air past their regular schedules on independence dates or during election bailoting, as did the Faroe Islands-584 and Demmark-1061 on the night of 4 October 1972 during balloting on the question of Danish ontry into the European Common Market (2) ; thus affording the DX'er an extra chance to vorify an olusive country. Witness also the well-publicized "DX Calendar" published in club bulletins. Politics and political independence dates have little to do with MW or SW Broadcast DXing ? ?

As of 1 January 1973, the nine governments of the Common Market gave up their sovereign right to make seperate trade agreemet gave up their sovereign right other Communist Bloc countries. It will be extremely interesting, from a DX'ers point of view, to It will be extremely interesting, from a contemplate country lis

While agreeing in principle with the traths set forth by Page Taylor and Russ Edmunds in their article, "WHY IS A COUNTRY?" (DX Nows, 20 October 1972), this article serves to atate a fact not covered in the controversy, other than the fact that Bohemia gave Budweiser beer to the world!

In the overall analysis it is evident that country iists, as have beon devised, are anachronisms and fetishes carried over, in part, from earlier prefix lists which tended to place a heavy emphasis on geographical regions or on, as it may be called, the "zone syndrome. ${ }^{\text {History shows these adulterated country listis to }}$ be grossly inconsistant; bearing little witness to, or completely ignoring the geopolitical facts of life and attempting to perserve dubious entitios from oblivion due to "traditional practices, with the intention of furnishing embellishments for a peculia "country mania."

It is importent to note that geography, politics and economica, more than language and regional customs, or geography by itself, are the major factors involved for the delineation of a country's boundaries.

| COUNTRY | PRINCIPAL LANGUAGES, TRIBES OR ETHNIC/INTERNAL SUBDIVISIONS |
| :---: | :---: |
| 1. Dominion of Canada | Prench, English, Eskimo |
| 2. Higeris | English, Yoruba, Hausa, Ibo |
| 3. Belgium | French, Flemish, Dutch |
| 4. Suitzerland (Swiss Confederation) | Swiss, Swiss-German, French, Itallan, Romansch |
| 5. Ethiopia | Amharic, Somali, Arabic, French English, Afar, Tigrina, Tigre |
| 6. Federal People's Republic of Yugoslavia | Serbia, Croatia, Slovenia, Macedonia, Bosnia-Herzegovia, Montenegro |

Strange it is, indeed, that the majority of radio broadcasting stations, exclusive of non-govermmental, religious, commercial and "happy" stations, which have the propensity to represent a particular country, do not forego political pronouncements in their external broadcasts; but emphasize, some quite emphatically their own country's view of vorld situations; aiming to favorably influence the people of the world toward that country with news, folkiore, musical entertainment and yes, political

Our despondent DX'er friend of the late 1930 's, aged somewhat beyond his years by the ambiguities of casual country counting logs, tapes and verifies, as an example, the Hellenic National Radio Station in Athens; he counts the country of Greece. If he is a persistent DX'er, as wo trust he is, the Greek Armed Forces Sta tion is subsequentiy deleted from his wanted station list. While this may be an affirmation of one's DXIing prowess, it makes little difference in the eyes of the DX community, for the purpose of country counting, which Greek station he did log or verify; both stations are, in actuality, Greecel

Consider the following case. For the purpose of country count ing again, would there be any distinction made between the Radio Monte Carlo-1232 kHz super-power relay on Cyprus and the lesser powered 20 kw . Nicosia on 602 kHz ? Murnurings by U.S. DX'ers have been heard concoming the relative rarity of certain countries, saying that certain now, high-powered relays tend to downgrade a country in terms of rarity. For illustrative purposes, let us say that one of the Scandinavian compries constructed a 1 megawatt Medium Wave or Shortwave station at Thule or Godthab, Greenland to diaseminate information and entertainment to the "neglected" populace of the Arctic, polar bears included. Is this station regarded as rare DX ? Are the comparable VOA-Greenville outlets of 500 kw . considered DX by European radio enthusiasts?

Boaring in mind the fact that several radio club members and officials have expressed a desire to maintain an interest in the some-times olusive chase of DXing and provide an equal chence fore-times newer DX'ers on the radio scene to add stations and countries; where, it is asked, is the "equality" postulate applied to the DXier who really had to "dig"in order to hear and verify uncommon
countries under the handicaps of yesteryear, in which the superpower transmitters did not abound in profuse profundity?

It is a paradox that, in an international hobby, the approaches to DX'ing should be radically different in different continent and countries; so different that even a COMMON LANGUAGE is hard to achieve. How many North American or European DX'ers realize for instance, that when an Australian or New Zealand DX'er talks about some enormous number of stations that he has heard or verified, that this may include the BBC, counted a few hundred times for every frequency he has heard it on; or how many American DX'ers realize that many a European DX'er would count, say, a verification for Radio Vilinus and one for Radio Magadan as being from the SAME RADIO COUNTRY ?" (3)

A suggested solution to the problem of incentives, though not explicitiy advocated by the author, might be for radio clubs and ANARC to revise their respective outlooks on country lists to rerlect the rarity of speciric stations for North American DXiers. This too, may have its idiosyncrasies, but possibly in this manner, country lists could provide challenges and real incentives; then country counts could be regarded as a barometer of meritorious achievement. Perhaps on the other hand, the whole concept of DX'ing, as opposed to simple listening, is on it's way out due to the advent of the super-power station saturating the ionosphere with massive amounts of RF power. Is there a "New Frontier" or a dead end for the DX'ing radio hobbyist?

As has been shown earlier, geopolitical considerations, annexation and independence dates have a great deal to do with the radio hobby. These political and economic manifestations have been and will continue to be catalysts, despite disinciinations to the contrary, for extensions or deletions of existing entities, wars of the airwaves, stepped-up transmitting powers, and the augmentation of facilities (4) and the establishment of new national or international Medium Wave and Shortwave broadcasting stations in quasiremote geographical locations; others not so located; all of which may or may not constitute a new country for the DX'er.

## STATION STATUS

Deutsche Welle relay stations at:
(1) Malta - a 600 kw . Medium Wave and three 250 kw .

Shortwave transmitters under construction.
(2) Portugal - Shortwave relay station at Sines, 250 kw .

Radio Nederland relay stations in:
(1) Netherlands Antilles - Shortwave relay, 300 kw . Medium

Wave relay via TWR, 500 kw .
(2) Malagasy Republic - Shortwave relay station, 300 kw .

Kol Isreal - increase of 737 kHz to a power of $1200 \mathrm{kw.}$, 5 proposed 300 kw . Shortwave transmitters.

Jordan - a new 1500 kw . Medium Wave transmitter under construction in Arman.

Cyprus - Radio Monte Carlo relay station at Cape Greco on $1232 \mathrm{kHz}, 600 \mathrm{kw}$ in 1973.

United Arab Emirates - a new 750 kw . Medium Wave transmitter at Abu Dhabi operational June 1973.

From the opposite point of view, should political considerations be relegated in stature to geographical aspects, confusion and controversy will continually result. Why not eliminate these political dilempas by expatriating the entire country concept, and in it's place, institute the "zone syndrome ?" In this way a number of meaningful geographical subdivisions could then reasonably be made, such as the subdivision of Australia (mainland, plus Tasmania), Yugoslavia, the People's Republic of China, Nigeria, Great Britian, the Netherlands Antilles, Czechoslovakia and Indonesia. In addition, this maxim could be applied to any other country on earth, wherever geographical or ethnic whim dictates, thus affording DX'ers the ultimate in DX Target Areas, since "in the end, a radio country list has only this justification, to provide a common standard for DX'ers and an incentive for them to keep tuning for a new country." (5)

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## ATHBOR'S COFMEYTS:

Acknowledgenent is made of the auperlative IX'Ing abilitios or the establiahed DX lasdera. This article is not nosnt to be11ttle any porion(s) or group: but rather, it is mesut to point out the adveralties end inconalatenolea of eountry 11 sts provir lent in the part, ulth the purpose of olnrifying und perhapa, oorracting the misoorrlages conveyed to DX'ers of tha Nof and sh Brosdeast banda thra the yeseri. It is aincerely hoped thet this dimartstion will atimaliste and bring about a degres of sophism tiastad rationale, uhtoh can be mplind to the implementation of i practical "oomntry"11at for the parties ooncerned.

1400 WJET-PA $0 / \mathrm{u} 2 / 220126 \mathrm{w} / \mathrm{rr}$ (RF)
WINC-VA Think this the one w/tele-telk mixed $\mathrm{w} / \mathrm{rr}$ AN noted $2 / 21$ (WB)
(L2) WBEC-MA Noted $2 / 21$ W/Bruins-Canucks game from WC, a WBZ relay, hrd
WHK -OH Off $2 / 26$, leaving KTCE alone, no WBSM etc. WOC $=$ to KTOE to its s/off (WB)
WRTH-ETJ unID

W/rix, paidet. 0012-16 2/24 o/all. Strange
/u $2 / 230157 \mathrm{w} / \mathrm{nx}$, rr. (HF)
2340-2359 s/off w/EL instrs., \& several spots for a local Washington's B'day Sale. Call sounds like WLAR. Suspect WLSR-TN but dunno (WB)
hol -DC
Finally -- anly 3 years-- 0201-05 2/20 w/ nx-ID-jazz.(WB)
unID TT w/mucho different tones, suspect PoP, mostly ENE/WSW DF here 0130 -0245+ but no DD, KSO-WBNS-WPNX-WOKO-WHEC-WPON all in RS (WB) ** What Date??? -RjE
WRUJ=[a Finally noted AN w/ Soul. TC 0315 2/19 (da) $0 / \mathrm{KOMA}$ which was way o/MKBW $2 / 260310-0335+$. Mor u/mess(WB) Pulled from $\mathrm{w} / \mathrm{KFBK} 2 / 26$ ID 0231. Whatta fight!! (dm)
kDay-ca in/out 2/19 0300-040, must not s/off as in log. (PKH) ** Change it, hi. -RjE
WCLS-UA S/on 0400 2/19, log sez NSP. (PKH) ** S/an is irreg, as is SP -RjE
WKIG-GA Nod test hrd $2 / 19$ (PKH) ** Nor here, WCLS, etc, rui
KLOU-LA $5 /$ Cf 0300 $2 / 25 \mathrm{~s} /$ an $0558 \mathrm{w} / \mathrm{SSB}$ atop freq., emt. 98.3 FM too, no WWRL audible. (TRS)
WOKB-FL $2 / 25$ s/on 0559, heavy signal o/WARU, no SSB (TRS)
WHBT-TN $2 / 250601 \mathrm{~s} / \mathrm{on} \mathrm{w}^{\prime} / \mathrm{Dixie}{ }^{\prime}$ follo by s/on anncts., then into nx Thfs wiped out previous 2, atop to $0615 \mathrm{t} / \mathrm{out}$. (TRS) ${ }^{*}$ Now This wiped out previous 2, atop to 061
WKEN-DE Believe the TT hrd $4 / W C P K$ s/off annct 0230 . Had $400 \& 1000$ Hz and 100 Hz once, no $m \mathrm{x}$. IDs impossibly weak, so called CE and had him make repeating ID which he played 3 times be tween 0302 and 0305 (during the Irme Thomes \& Busch Jewelers spots on WWRL). This did the trick. Back to TT 0307. Sigs. fair at best here, used 500w NDA. Tried 1000 w once ard 0300 but no help here (roxy)
TEST better than WCPK w/TT ( 700 cps ?) and ID $02392 / 26$. (dm)
WJNJ-FL Noted w/very strong ET way o/wWRL, KATZ $2 / 19 \mathrm{w} / \mathrm{instr} \mathrm{mx}$, ID - 0155 (dm)

WLNG-NY On w/ET-TT-OC 2/20 0025-0045+. Still there 0135+ (WB)
WCPK-VA Noted an TEST atop looped WNRL w/vy strang Ds 0224,0227, 0230 (Foxv)
Hrd on TEST' 2/26 0200-0231 mostly o/WWRL w/many IDs incl. phone \#. Big band nx, fairly good despite pest (TRS) Hrd TEST 0200-0220 $2 / 26 \mathrm{w} / \mathrm{jazz-big}$ band mx distinctive from junk on WWRL which mede reception fair-poor (MG) Great on TEST, killing WWRL $2 / 260200+$ (WB)
On TEST w/ fair sig, even w/wWRL, KATZ 0204 ID $2 / 26$ (dm)
KLEB-LA Ey far the strangest of the three $\mathrm{w} / \mathrm{csc}$ o/WWRL, KATZ 0337 ID in TEST. $2 / 26$ (dm).
Fair an test $u / W W R L 2 / 260330+$ (WB)
Hrd anly ® 0347 w/ ckw record, one code ID. "Golden Meadow, Louisiana"and "Radio Club of America" picked out on voice w/ WWRL talking. Code ID penetrated nicely. (Foxy)
$2 / 26$, CW IDs followed by voice IIs hrd 0328,0351,0353,0401. 0351, 53 ones provided best anes for tape even w/ WWRL. Think this one started early, as two TTs on channel 0320+, which leads me to suspect WKEN TEST on, tho' no audible IDs could be heard. TT overlapped WCPK s. off. WIEN unn anyway (TRS) Hrd TEST 0330-0400 $2 / 26$, c \& w wasn't an strong as KCPK mx, but Morse IDs helped fair/poor signal (ik)

No reports of the WUDO-1010 test, even from JMP or TRE. WCML never answered letter for CPC test, and WINS was off $2 / 19$ instead, so no great loss here. So far, my CRC returns (regardiess of answer) this season have beert. 4 for 21 and 3 for 16 in two groups, plus the $0-1$ on WCNL. PT's is running 2 for 20. Only answere save WUDC were no, tho' some did give $\mathrm{f} / \mathrm{c}$ times or skeds. -RjE

## REPORTERS THIS ISSUE:

Michael Good (MG) - Huntington Woods, MI; SW-4A \& AL-4 loop; Panasonic RF-1600 and 45-foot wire.
Tom Sundstrom (TRS) - Willingboro, N.J.; HQ-150 w/ SM-2 ; DX-150A w/Lw. Eob Foxworth (Foxy) - Mineola, N.Y.; HQ-150 w/ $4^{T}$ FET altaz loop; HQ-129X w/ homemade ferrite loop or LW; GPR-90 RXD.
Wes Boyd (WB) - Youngstow, Ohio ; HQ-180, w/ 3' altez spiral loop wound w/ RG-174 coax.
Dan Myers (dm) - Toledo, Ohio ; HQ-180A w/ $3^{\prime}$ bax loop
Paul K. Hart (PKH) - Ft. Worth, TX. ; $5 X-28 \mathrm{~A}$ rebuilt $\mathrm{w} / \mathrm{MFs}, 4^{\prime}$ altaz loop; Richard Frcho (RF) - Cleveland, Ohio ; HQ-180A, SK-2, $100^{\prime}$ LW running E-W. Jim Poterba (JMP) - Yardley, Pa. ; HR-200, SM-1. Relfe Luton (RL) - Elizabeth City; N.C. ; SP-600 w/ 1500 ft . IW E-W. Russ Edmunds (RJE) - WRyne, N.J.; HQ-150 w/ $4^{1}$ FET altaz ioop; Fisher 100 T


A hearty welcome to a man $w /$ one of the best Donestic DX locations in the U.S., Relfe Luton. Relfe also owns one of the most impressive lists of stations hrd from dom there.
This week's Insipidity Award goes to Keuffel \& Esser, who, recently, in respanse to a letter from me asking for one Canadian Change list missing from the previous shipment (they number consecutively, otherwise I'd never know) sent not that, but 22 sheets they'd already sent, along w/a few new ones. Another lutter was sant for the Canadian list again, w/notation that they'd blow it again. And we wonder where our tax dollars go. Between incompetent government contractors and the incredibly inefficient USPS..........

73n, Rf

DEUTSCHER SOLDATEMSEMDER

## DSS. OSI

$\rightarrow$



Radio Bristol, the first of the second generation of Local kadio Stations commenced transmissions on September 4 th, 1970.

Its transmissions on 95.4 NHz are radiated fron the BBC's liendip transmitting site near liells in Somerset. (National Grid fieference ST 563. 488). The site is 1,000 feet a.s.l. and the transmitting aerials are 775 feet up the $1,000 \mathrm{ft}$. mast. Maximum E.R.P. from the 'Gates' transmitter is 5 kW and the transmissions are horizontally polarised. Progranmes are fed to the transmitter via high quality Post office lines.

The transmission area is approximately within a radius of 25 miles from Mendip, but acceptable signals can be received at greater distunces depending on the quality of the receiver, its aerial system and the height of the receiving site.

Radio Bristol will begin broadcasting on rediun 'vave on Septenber 2nd. Initially the Clevedon Transmitting Station will be used. The wavelength is 194.

Radio Bristol has 3 studios, each one designed to be self-operated by the broadcaster or controlled by an operator in an adjacent control cubicle. The control desks are of the latest transistorised design, each desk having up to 11 channels available for prograne use. The studios are normally equipped as follows :-

2 Studer i62 full track $7 \frac{1}{2}$ and $15 \mathrm{~N} / \mathrm{s}$ tape machines
1 Rola Plessey CT80 Cassette machine
2 Thorens T.D. 124 turntables with Lenco 175 ams and 6800 Cartridge 2 ST \& C 4038 Ribbon licicrophones
2 A.K.G. D202 Moving Coil Microphones
1 K.E.F. Concord ifonitorine loudspeaker
A number of Ferrograph Series 7 tape rachines are also available.
When the station is not originating local programes, there is a choice of Radio $l$ by high quality line feed or Radios 2,3 and 4 from re-broadcast receivers.

The Station has a Radio Car equipped with a UHF programe transmitter ( 5 watts on 455.1 sHz ) and a comrounications channel ( 50 watts on 141.66875 MHz ). It has a hydraulically operated 20 ft . mast equipped with an oni-directional aerial system. a flexible two-channel aixer is used to control speech and tape recordings which can be transmitted directly on to hacio iristol's output, or recorded for later use. The receiving site is at a hich point near the studios and the directional receiving aerial can be rotated remotely from the studio control desks. ill the ladic Gar equipment is operated off heavy duty batteries.

The station is equipped for outside broadcasts and recordines of all types, most of the equipment is battery operated. Nagra tape vachines are used for complete protrames and Uacr 4000 L tape anchines for short interviews.

Self-operated studios at Eath, Trowbridge, Bristol Police Headquarters and 4. . Headquarters are available for imediate use and there are facilities for live broadcasts from local Football and Rugby Clubs and Gloucestershire County Criciet Club.


C - J. Poterba
H $=$ R. Eddie
$I=$ E. Cooper
$J=$ R. Sperry 1350 C J L M P. Oardin, TD 1370 WK I K G. E. Clerik III 1380 WSPY B J. Eanley, CE
$\begin{array}{lll}\text { WBEL } & \text { T. Farber, E } \\ \text { WICK } & \text { D. Garrett, } S M\end{array}$
1
DqU
Z
$\mathrm{u} / \mathrm{u}$
W HqM P F. A. Johngon, for R.J. Rreszatek, CE
1410 WB K N H. F. Whllece, CE
$K$ XuO W R Gipson, PD
$\begin{array}{ll}\text { KXUO Re Gipsoa, PD } \\ \text { WPC } & \text { R. KSmes, } A E\end{array}$
WBIE J. Fischier, CB
HDIC J. Mullina
C FIO O H. F. McRe, CB
1450 KYS H . F. Name, CE AFI
1460 WK I P G. W. Brooks, DOB

W. Robin, CE
W. Robinson, CB
S. Aron, cop
WYZE R. L. Leake, CE
$\begin{array}{ll}\text { WYZE R. L. Leake, Cg } \\ \text { WH O M } & \text { C. Freedbury, SuE }\end{array}$
1490
B. Freedbury,
$\begin{array}{ll}\text { KDBM } & \text { B. Oliphant, } \boldsymbol{M} \\ \text { HGAL } & \text { H. Peters, } \mathbf{S M}\end{array}$
1500 X Fir H Seme as XERPM -660
1520 KMgPL E. J. A lexander, CE
$\begin{array}{lllll}1520 & K M g P ~ L & \text { R. J. Alexander, CE A } \\ 1530 & \mathrm{KNDB} & \mathrm{J} & \mathrm{J} \text { H. Butier, PD }\end{array}$
WTHM S. Sheill, GM

| WTHM S. Sheill, GM |
| :--- |
| WRPM (J. W. myior, B |

(Cheri Jcmes
1550 WPTM R. Cox, CB
$\begin{array}{lll}\text { WITH. } & \text { R. Cox, CB } \\ \text { WIR } & \text { D. Cox, CB }\end{array}$
$\begin{array}{lll}\text { WIRY D. Cox, CB } \\ \text { WI } & \text { J. Eppler, CE }\end{array}$
WEXT
WVAB Eppler, CE
C D. Berlehim, SM
1570 C HLO J. L. Moore, P, GM AK
1500 W CRL T. Entty, CB
1580 K P C A M. Hughea, PD
WKIG D. Cobb, GM
WEYY J. Woodrre, P
WS UF W. Wicks, CE
KLIR (Comie Snow, $S$
(H. M. Higgins
tehett
olowaki
d
1480
1570
$X$ BqD M CariosVRodriguez, Cs
$W$ PUV J. A. Columbue, P, CE K
KDAY A. Inird, CE
1590 WGRY K. Eind, E
1600 WCPK C. Rayne, O, P GI

* 830 H I J B Pedro Santana J.

Send in your recent verie signers, \& please do not include those recently listed - repitition does no service to listed: Pleace doubleapere and ilst anyen a type of verie a position of the signer, with our one-1etter abbr.
bighard nokl ailisy - billings, Oklahoma - 74630
Greetings from Red Oxpet Country. inX is still good out here on the prifie, but the static is increasing, $8 s$ another winter ends. According to DX Monitor, $2 / 17$, XELO is now XERCK sgain. Midiay DX 2/17-KCRS-550

 KHON E 7:12pm, "The Nightilife Sound of Night People." WOR-710 o/wHB w/fair sigmal e 10:04pm. 2/11-anTV-900, Ciego de Avila, u/CNVI r/"Ia Voz de cuba" e 3:30am. WKTS-740, Orlando, o/KCES $\mathrm{W} / \mathrm{NX} / \mathrm{WX}$ B 5 Am . 2/12- CNWX-1130 vancouver, w/excellent
 girl Listening in Tupelo, Miss. CFGS-1060, Calgary, fair w/hNoE off w/Mor © 4 Am .
 Lim, poor u/cxoc w/rr e 3:2bem. cJOC-1220 lethbridge, fair o/XEB/WCAR (teating)


 $\mathrm{c} / \mathrm{vo} / \mathrm{KFWB} / \mathrm{WYOO} / \mathrm{kMRZ}$ (terting erzam) WY00-980, Rdchpleld, Minn. Ppor u/CkFM/KFWB v/KI/TT, plus many IDs, after s/on 8 3:20am. KAYQ-1190 KanBas City, good w/K-Q NX © 3:56aw. UnTD-1190 u/KAYQ w/NX © 4, KEX3 UnID-1190, probably KRIS, good w/

 CJOC. $v /$ /qs from CJBC CFRN WCCD WJR for midday AX, WERC \& KIGO for TESTs. DX on Phoneer SX-300T and SM-2. I noticed in the paper the governmert of Argentina will sell most of their radio stations to private companies. My thanks to everyone who has written to me. I will ansuer as soon as possible. Good listening.
PETE ENTLLE - 1039 brica Road - Mill Valley, Californis - gholl
$1 / 16$ - Due to storm \& floods, KMIA off, so log taken on KBNZ-1310 e 7:25-7:45pm. Also noted but not logged due to lack of commercials mas KKgF, Great Pellis, not yet KEIN. (GRN Note: KKGF is U-1 in Night Pattern Book but U-2 in HRC Domestic Log). (That makes U-3, hi -ERC) KJAY-1430 logged anme cay 7:52-
8:08. Veries for both $1 / 16 \mathrm{KBVZ}$ \& KJAY reporta in $1 / 26$. KBUZ seys In 25 years 8:08. Veries for both $1 / 16 \mathrm{KBUZ}$ \& KJAY reports in $1 / 26$. KBUZ says "In 25 years
I bave aot seen a reception report that matches yours in neatness and detail. It is without queation the finest $I$ have ever received." The report $I$ dent wasn't that big a deal, but I think station people appreciate reports they can relate to program loge or bux $118 t s$, so $I$ put the comercials in caps $\&$ in red $\&$ indicate their length ( $60 / 30 / 10$ ). Also, their format is like that on KFOG/WJIB, so I knew all the selections \& artists, \& that helps. I think song titles should be included; most stations don't keep a log, but with three or four titles, the reader can tell if you are on target. The handuritten verie from KJAY said "Thankg for catching KJAY - one of the two great stations in Sacramento." As for mail gervice, IX NBWS $\# 15$ cated $2 / 14 \&$ postmarked at the Boston airport facility 5 pm the mame day, arrived the following day at noon PIT air mail. On $2 / 17$, KAOR/KCMY1340 7:30-7:45pm but I couldn't separate them or get any commercials, \& KASA-1540 solld o/KPOL 8-8: 15 pm s/off but not enough reportable material. And finally on
 that on WPAT-930.
ssgt. E. BRUCE RETNOLDS - BOX 3082 - HQ FEN - APO, San Francisco, Calif. 96267 I don't really have aqything to report, but I had to write in and nominate Dan, yers as the most resourceful DXer of 1972. That bit he used to get KPOS was the best thing I've heard in a long time. One addition to the new WRnk: (dellvered direct from Denmark by Iars Ryden). FRB-Chitose (near sapporo) is atill on the air, 1570 x , 250w. It wan't included in the WRPH. next Fail. Sorry to hear that Foger Hinsor is banging up the hepefuily I will, next fall. Sorry to hear that Hoger Hingor is hanging up the headsets. What ever happened to Jerry conradz Welcome back to John Callerman. Thee care aill, good DX .
ERC , congrats on ERC, congrats on WEN going c/w - It's about time someone there did it?
BOB FOXNORII - CPO Box 2111 - New York, New York - 10001
DX from wy Nassau Co. location contigues good at times, depending on how much time is available for listening. I noticed some Auroral CX on 2/2324 With soope interesting IA sigmals in but nothing really unusual or needed. DX on MM $2 / 19$ seemed very poor $\&$ dolsy for the most part, $\& I$ seemed unable to hear anything good. WFIL was noted off/on w/TT but after talking to TRs. Thalotariv

Found I missed an ID from WIND-560 anm, a station I've never once heard in my 15-year DXIng career. I did note WQIK-1090 ETing around 2:25am. What gave them away was an apparent AN show on $F M$ or perhaps a tape of an earlier program being payed, including a spot for an X-rated movie in Jacksonville \& a quick call menplayed, incluseemed to be on quite a while, usually with records cutting on \& off. I did. note what I took to be camary Is. on 1097 , \& two TAs on 1106 at about the I did note what inat was all, TA-wise. A very frequency-selective TA opening, same time, but that was a 11 , TA-wise. A very frequency-selective 1 perhaps. the point where their skywave overhead return was about equal to their nulled groundwave. In other words, from way $0 / s-9$ to $\mathrm{S}-7$ or so. This allowed WCPK to actually override WHAL here. WKaN was much harder. I got their tone OK, but no voice, so I called Rich Gamberg there \& had him make a repeating ID cart, which he played three times between $3: 02$ \& $3: 05$, while WWRI had the Irma Thomas record, the the Busch Jewelers spot. If you heard the repeated WKKN, Dover Del. at those times, thank your truly, hi. Fich was trying to get rid of a bad ground in the studio wiring, \& was actuaily ETins, and not just running a TEST for us. Finally KLEB was logged w/a gal c/w record, one K-I-E-B in code penetrating very well, then "KLEB, Colden Meadow" apperrs discerpable just after, then the words "Fadio Club of America" heard in a pause in WWFL's NXCast, then another gal record, at 3:47. Tapes sent to all three. The 1010 TESIs were not noted \& I suspect maybe they were canceled because of WINS' being on. (They were aileat 2/19). Finally, a very weak carrier noted on 1385 around $4: 40 \mathrm{am}$, appeared to 100 p exactly $\mathrm{B} / \mathrm{H}$, detectable on EFO only. If this isn't caribbean it could maybe be the neviy-reported Canton Island station on this frequency. This island, at $171^{\circ} 40 \mathrm{~W}, 2050 \mathrm{~S}$, has DUAL country status. Hams operite from there with both the VRI and KB6 prefixes, so if you hear them it may or may not be a new one. The Val, or British government counts the same as Tarawe counts, but the American government would be separate I would think. Since this station is an AFRLS \& not a BFBS, Id think this would be a new one. Chances of audio making it to the E on this one seem very remote. Finaliy, wha is this Mike Collins I heard doing the NX on WICC last Saturday eve, hi hi. 73.

DAN MYRRS - 2650 104 Street - Toledo, Onio - $43611 \quad$ 419-726-4348 Not much in the way of DX to report this time, so a rather abbreviated report. I have been putting in 34 hours a week at HLQR, all nights (There goes quite a bit of DX prime time, hif, as well as classes \& daytime work (I a 180 have to get a little bit of sleep) so that's why not much JX. I don't expect the ho shift finally (I am definite replacement for last guy who left), so I will be getting back to more DXins. I have managed 82 new stations this month, though, mostdy due to MM, then I have been consistant ly getting about ten new ones each time. dy due to MA, when inave been consistant ge ghere (don't feel bad, ERC, I saved All DX is in DDXD \& IXXD, so only the goodies here (don $t$ feel bad, ERC, I saved the best for you:) 2/19-3:5bam unid, inpresume wavu, ruming Tokens (or Mappenings, hi) a lbum straight through; put in commercis I for Big Daday Restaurast, stil no IDs given © 4: I tuned aray \& by $4: 10$ off - phone courpary says Blg paday listed for Belleville, a few miles from Granite city; st. Luis people, help. Also (19 on 990; unID running Big fand type mix from 5-5:30am, then off $w /$ no IDs. I Hstened to $5: 45$ but they never came back, very strong here, way o/wox - help, arybody 3 2/a4- 11:51pm, I logged HRDN-715 Is Cuibe, w/many IDs \& what I believe was promo for new frequency - ran it after every record; mentions R. Ciribe "recuerda 10---" \& Jueves, \& I have it on tape if aryone wants to hear it. 2/26- A good morning for 1600, hi, as three out of four TESTs heard. Strongest was KLEB, then WKEN, then WCPK. Nothing at all on 1010. I missed KSYL, rats. Four r/cs (new ones for me) heard also that morning, \& also KCHY-1530, fighting it o it w / Yax I a lso have to go back \& list $n$ to quy tape, as I may meve Colombian on 1550, or at least 'tuas ss. I forgot one: UnID-1595. Ithink it was probably the Colombinn $W / \mathrm{FKB}$ in SS (3) $11: 30 \mathrm{pm}$ on $2 / 24$, no IDe before their fimal fade (never to return, hi). That's all for now, so 73 s \& best of Dx .
BRTAN VERNGN - A917-75 Thorncliffe Park Drive - Tbronoto Mth 114, Ontario
Not many new ones this time - veries are very slow in coming. I logged $W 0002 / 22$ - local cruc! Note-able catches recent ly include: KGLC-910 e 3 am $2 / 16 \mathrm{w} / \mathrm{NX}$ "Forman George Report." WSUN-620 e 3:24em 2/19 for State \#29. Later, WRIZ-1550 w/TT \& ID © 4:05; WMAN-1400 w/test, ID © 4:43; WFLI-1070 On $2 / 20 \mathrm{w} /$

97 Ky ., wNOX-990 Tenn., WNIA-1230 \& WISI-1400, N.Y., couple of near locals there but they all help the totals, hi. Weil, that's about it right now, so 73 s .

JIM RETD Jr. - 4 Clancy Street - Siansea, Massachusetts - 02777
Yore 虽 in 73. Graz-1394 noted on $1 / 6$ © $12: 36$ fairly strong $w /$ German talk by wown; 12:50, Barcelona-737 poor in SS w/an American easy rT song At 1, uFLI-1070 noted testing on 50 kw rig w/hard rr. Unn W. Germany-1586 very strong 9 1:10am, like a semi-local; 1:22, WERE-1300 ID heard u/WFBR w/ta, ik show \& male announcer \& WAVZ not noted. 1/7-R. Turrialba-1525 noted fair w/upbeat SS vocels. The WGAG TSST was of course wellheard here $\mathrm{w} / 20 \mathrm{ts}$ of old rr hits, pleaty of IDs and plugs for the NNRC. Two other mach-wanted 10 gs were made this morning in WOKJ-1550 w/ID © 1: 13am \& "More me power" \& lots of Soul, heard first w/CBE OC, then alone on top and finally, WLAC=1510 ID w/a long comercial, a song $e 1: 30$, then WMEX TH. There are two stations on 1600 which 1 am finding difficult to ID, around the mianight hour. One of them $8 / o f f$ beginning $812 \mathrm{w} /$ three sung versea of SSB which lasta three or four minutes before flmally going off; the second atation s/off with just a regular SSB w/no vocalists, beginaing (e) 12: ioam. The only thing left is a certain WWFL mixing w/wKN which is noticable. WHR is mighty difficult to receive here, but has been logged, \& I doubt if WUNR is one of the sloffs. Ady help on elther of these two p During the day, WING uss is one of the s/offs. ALy help an either of these two parlag the day, 49 are active; 28 countries, of which 27 are now active on BCB. Best of DXing to all this year \& 73. (I'mintrigued, Jim = which one of the 26 ISN'T active?-ERC)

JM POIERBA - و49 queens Drive - Yardley, Pennsylvania - 19067
Greetings, all. First, to get recent veries out of the way: KIDA KFL CHAM IIPG WEIY WGRY WRO WASA WAN KYOO WTQX CJBC PJAG KCMO WEEO XERF XEVIP WEת WMHI YVIX \& WFTC. On to IX: 2/14-WCRT-930 2:30am, WOTT-1410 5:58pm. $2 / 15$ - WYOB-1520 5:44 в/off. 2/16 PN- WCH-1310 5:31, WARR-1520 5:50. 2/17-KANI-1580 EN 1:058m, tentative KEYZ-1360 1:35am. WHON-1150 5:39pm. 2/17 PM- Two pirates here, the FIrat, WBMJ-1620, is probably Edison High (Edison, N.J.) while the other, WOF-1610, seema to be, according to other bearing I've heard or, in SE Indinna or Kentucky. They run 100w w/c/w, getting out well. 2/18- WPUT-1510 e/off 5:30pa, THrane -1394 very strong, $5: 55 \mathrm{pm} .2 / 19 \mathrm{AM}-$ WPGF-1470 12:25, CMKD-1210 a 11 AM, WHIT-1080 TKST 2em, HOH-590 3, KNKY-1150 1:34. 2,21- BBC-1295 lam, WNNC-570 3, ©N- 1380 3am, HMM- 1360 6pm. WkBB- $13605: 46 \mathrm{pm}, 1538$ strong AN. 2/22- WASC1530 5:01pm, WI7s-1450 8:06pm. 2/23-WLOP-13706:15pm. 2/24-WKVA-920 5:58am, then, in the RM, Urumchi-1525 very good, thanks to Page Taylor's tip (Continent f5), and 8 RG-760 doing nicely all evening atop WJR. (who's that, Im. R. Demarera 1 -ERC) TIFC-1075 6 10pw. 2/25- WAGK-1380 running AN, I believe, and WDCJ$1220 \mathrm{~s} / \mathrm{on} 67$. In a11, DX has been rather good, especially thanks to Urumchi1525. Lots of good TESTs coming up - I just hope that all of them go off the way they should. Thtt's all this time, so 73 s \& C U N14.

JACX UYATT - 33 North Keeble Avenue - Apt. 12 - San Jose, California - 95126
I have been a happy merber for the last two years. Most DX has been on a TRF-RX that has outlived its usefullness. I have a little money now \& woll like to step up to a quality RX. I heve a problem though. I also like to SW . X c can't afford an HQ-180 or SPR-4. I have a friend from whom I can buy an almot new Allied SX-190. It's considerably cheaper in price than an HQ-180 or SPR-4 4 according to Popular Electranics \& QST is a darn good RX. However it doesn't covn er BCB. I would like to know if it is possible to construct a converter that ma cable the $S X-190$ to cover BCB. It can cover all $S W$ BCBs using the proper cryi= tals. I would think a converter could be produced for BCB perhaps utilizing a Drake SPR-4 BCB crystak. I know several hams who would like to BCB DX but who do not uant to invest in another RX. I would appreciate any help you can give me or perhaps refer me to someone who can. Happy DXing! (This was a letter to ERC, but I do not know anything technical, and so I printed it here hoping someone out there will be able and willing to answer the questions Jack asks -ERC)

BOSTCN IS A SUBURB OF CAMBRIDGE AND ALSO OF WATERTCWN. WHY NOT COME TO THIS YEARg N.R.C. CONVENTIGN, IF YOU LIKE TEE SUBURES? HAVE AN ENCTMTMG FIDE CN THAT THING THEY WRETE THAT POP SONG ABOT - YOU KNOW, "DING DING DING WENT THE TROLLEY."

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