



DX MONITOR



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WHOLE NO 406

FEBRUARY 28, 1976

DX CALENDAR DX CALENDAR DX CALENDAR

NRC Fri.	3- 5-76	0201-0245	KOGA- 930	Ogallala, NE	1/2kw
Both Mon.	3- 8-76	0200- ?	TIXE- 625	San Jose, C.R.	1Mw
Both Mon.	3-15-76	0200-0230	WAFI-1560	Middlesboro, KY	1kw
IRCA Mon.	3-22-76	0100-0200	KSEK-1340	Pittsburg, KS	1 1/4
IRCA Thu.	4- 1-76	0530-0630	KBBV-1050	Big Bear Lake, CA	1/2kw
IRCA Mon.	4-12-76	0600-0630	KCVR-1570	Lodi, CA	5kw

"Both" means joint IRCA/NRC

KOGA-930 will be ND for FC 0201-0215, then directional 0215-0245 with tones and music. Went full time 11-21-75 but does not run AN. Reports to Radio KOGA, P.O. Box 509, Ogallala, NE 69153. Arranged by Neil Zank.

TIXE-625 will use their 1,000,000 watt transmitter. ID will be "Radio Millon." Correct reports will be verified and addresses will be given over the air. Other tests have been tentatively scheduled for 3-27, 28, and 29.

WAFI-1560 (daytime only) will have music with IDs every two minutes, and will be ND. Reports to Doug Hammons K402I, Radio WAFI, 812 Dorchester Ave., Middlesboro, KY 40965. Arranged by James Hopkins.

***NEW MEMBERS

D.C. Storms, 3674 Spring Valley Blvd., College Park, GA 30349
 Tim Benko, 2748 179th St., Lansing, IL 60538
 Louis M. Poda, 395 Kling St., Akron, OH 44311
 Dr. William F. Murphy, 82 Marlboro St., Boston, MA 02116
 Jerry Starr, c/o WHOT Radio, 401 N. Blaine, Youngstown, OH 44505
 William R. Hale, 1451-B Faith Dr., Rantoul, IL 61866
 John P. Thiel, RR #1, Mooreton, ND 58061

Address Changes:

EMFN Boersma, P.L., 362-64-7025, Nuclear Power School, NTC, Orlando, FL 32813
 Michael G. Worst, 5604 224th St. S.W., Mountlake Terrace, WA 98043
 Jim Nall, 1218 Innis Ct., Apt. 5, Louisville, KY 40204
 Lee J. Freshwater, 413 N. Simpson Ave., Taylorville, FL 62568
 Gregory V. Henson, 680 Cherry Hill Court East., Apt. 6, Columbus, OH 43228

Renewals:

Richard Evans, Ted Wilson, Ernest R. Cooper, Rob Keeney, Albert S. Lobel, Larry Flegle, Fred McClelland, Jim Nall, Larry Godwin, Mort Meehan, Harold A. Neimanis, Walter Kuenast, George Bertonz, James Hopkins

CPC Results and FLASH TIPS.

From Jay Florian, Round Lake, Illinois:

WCFL-1000 Chicago will switch from its present rock format to easy-listening "beautiful" music on March 22. This is because of the fierce competition between WCFL and WLS for the top spot on the rock charts. Whether or not WLS will monopolize the AM rock market remains to be seen. WLS enemies will most likely switch to FM or to semi-rock-pop WIND. CPC results: KKYN-1090 fair to good on NRC DX with TT, IDs, and C&W music. KAOL-1430 tentative with code IDs every few minutes, heavy WIL and WIRE QRM. WBRW-1170 tentative on DX with TT under WWVA. KVSH-940 apparently not on; only heard was Mexican and WINZ. WFTN-1240 not heard at all on any of the three dates.

WBKC-1560 possibly was not on, might be on March 1 instead. Will not schedule any tests but will be testing after 0100 next several Saturday and Sunday mornings.

Received too late for publication: KTGR-1580 scheduled a test for the NRC on 2-23-76 from 0300 to 0330. Their address is P.O. Box 412, Columbia, MO 65201. Arranged by Neil Zank. (This was sent to my home address and was caught in the post office shuffle when I moved to a northern suburb of Seattle. mgw)

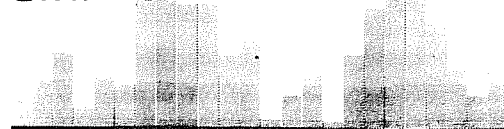
From Bruce Portzer:

WSYB-1380 test tried for but not heard in Seattle. Tried three phone calls but no answer. Was a weak 400 hz TT under KRKO but not apparently them.

KWIP-1580 was heard in Seattle, Modesto, and Swan River, Manitoba, with code IDs superimposed over C&W music and voice IDs. Didn't make it in time for publication. Was on 2-16 from 0330 to 0400.

Ralph Sanserino and John Kolb have designed and built a shortwave preselector that gives at least 20db gain. For more information, write to KS Preselector, 8422 Crane Circle, Huntington Beach, CA 92646.

Geomagnetic Indices



Jan. 21-27	16	18	15	15	10	3	5
Jan. 28-Feb. 3	4	5	7	25	20	16	11

Recovery from unsettled conditions should occur about 13 February.



White Columns

RADIO

WSB

Dial 750 50,000 Watts

The Inside Story

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**eastern dx
roundup**

Editor: Mike Milock,
Box 533
Lorain, OH 44052

DEADLINES: Saturday; Times ELT

- 690 WAPE FL, JACKSONVILLE fair-good 2/2 in QRN w/rock, few spots 1804-1815 o/WVOK/WOR slop. (PRM-NJ)
- 850 WYDE AL, BIRMINGHAM very good 2/2 w/c&w mx, "Sky Watch" traffic, lots of spots 1813-1830 pwr/ptn change. (PRM-NJ)
- WKIX NC, RALEIGH good 2/2 1739-42 w/rock o/unID QRM. Should be easy at SSS. (PRM-NJ)
- 1050 CHUM ON, TORONTO good 2/9 w/WHN off & on, had rock mx, Knot Hill Farm spots 0232-0300. (PRM-NJ)
- 1240 WTWA GA, THOMSON crummy sig fighting typical GY QRM 1/30 but managed to catch calls after local nx 1741, followed by Bee Gees record. (GA-NC)
- 1260 WJOT SC, LAKE CITY all alone w/WJOT Info. Nx 2/2 1702-1706, then Mac Davis song. Where's WWDC? (Last I seen, 'twas still in DC...hi!...mrm)(GA-NC)
- 1330 WFBC SC, GREENVILLE 2/14 2123-2152 w/oldies rock, PSA's, spots...pretty good copy first 15 min or so, then down into the hash, but enuff material for a report. (mrm-OH)
- 1540 WPTR NY, ALBANY up out of the fog 2/13 0140-45 w/Eric Carmen "All By Myself", followed by short "WPTR" SID, then faded and lost to KXEL. (mrm-OH)
- 1580 WSRF FL, FT. LAUDERDALE in w/super strong sig (+30db o/9) from 2019-2104 w/disco mx. "Surf" ID every 15 min or so after blocks of mx. Spots, & PSA for heart month 2045-2047. Good solid copy...thanks to Gregg Allinson's tip in 2/14 EDXR for help on ID. (mrm-OH)

FROM THE "DX CALENDAR"

- 1170 WBRW NJ, SOMERVILLE tentative 2/9 w/TTs u/WWVA 0219-30. (PRM-NJ)
- 1600 WAYC PA, BEDFORD Good 2/9 on DX w/TT, IDs 0304-0330+ w/little QRM. Should be testing often--a new station. (PRM-NJ)

BROUGHT TO YOU BY:

- PRM- Paul Mount/471 Emerson Ave., Teaneck NJ 07666/Ameco R-5 & SM-2
- GA- Gregg Allinson/ 919 N. Kerr Ave., Wilmington NC 28401/ S-38C & longwire

mrm- Mineself/Box 533, Lorain OH 44052/ DX-160 and 35' longwire

Slim pickin's this week! But, as you can see, I did NOT forget how to DX...hi! Logged the 3 new domestics, plus XEWA & 4VEH on 2/13 & 14. New DX-160 doing a beautiful job! See you all next week! Good DX!

**central dx
roundup**

Richard C. Evans
P.O. Box 392
New Buffalo, Mich. 49117

Deadlines: 3/4 3/11 3/18 4/1 4/15 4/29 5/13 6/3

- 970*WFLA*FL*Tampa, 2/13 & 14 0225-34. Xlnt both nights on ET w/continuous tone in the 500 cycle range & short IDs, "WFLA, Tampa, Florida". Dominating the frequency; reg. around here. (SAM)
- 1070 KNX CA Los Angeles, 2/9 0148-0201. Fair to good w/some QSB & regional pest WDIA SP. Sports, Nx, and Nx highlights rptd by John Pittman and into CBS Nx at 0200. (Don't laugh, WCers, it's a biggie around here.) (SAM)
- 1240*WSFC*KY*Somerset, 2/14 0407-15. Fair to very poor on f/c w/500 cycle range tone and IDs every 2-3 min., typical GY QRM. Very happy with this one, called CE and sent rpt. (SAM)

- 1260*KPSO*TX*Falfurrias, 2/9 0322-31. Much wanted, finally hrd on DX test w/fair to unreadable signal. Unbelievable WNE QRM couldn't be completely nulled; march Mx. 1000 cycle tone and frequent IDs; stn called and rpt sent. (SAM)
- 1380*KSWO*OK*Lawton, 2/14 0111-14. Relogged on ET w/500 cycle tone and some OC. Xlnt w/WAOK nulled. CE sounded like he was taking various meter readings, "4...4...4...4..."; only 2nd time hrd.(SAM)
- 1390*KFRA*LA*Franklin, 2/14 0107-10. Another relogging on ET w/1000 cycle tone; Xlnt w/WROA successfully nulled (will miracles never cease, hi); quite frequently heard here. (SAM)
- 1600*KMDO*KS*Fort Scott, 2/14 0421-44. Xlnt to fair on PoP test w/1000 cycle tone which, at times, sounded as if it were being superimposed on 500 cycle tone; o/u KATZ w/frequent breaks in tone & one ID at end of test; new here, rtd.(SAM) (Scott, could there have been another stn testing with tone, causing the superimposed tone effect?-rce)

PER THE LIST:

- 2nd MON: WCAZ-990 IL (SAM)
- 2nd WED: WSHH-1420 MS (SAM) still going at 0140.

A TIP OF THE HAT THIS WEEK TO:

SAM - Scott Mentzer, Route 3,
Tylertown, Mississippi 39667

Just the one report this week, and it was in on Friday. Feast or famine around here, hi. 73.

NANCY HARDY, Editor

2301 PACIFIC AVE.

ABERDEEN, WA 98520

western dx roundup

DEADLINE EACH SATURDAY

REPORTERS FOR THIS ISSUE:

- (EC) Erland Carlson-RR 1 Camp Rd.-Winfield, BC VOH 200
- (DJF) Derek Ford-4B-1385 West 15th Ave.-Vancouver, Eddystone 830/2, Sanserino loop BC, V6H1S2
- (NHP) Nick Hall-Patch-3272 Alder St.-Victoria, BC National HRO, 4' loop 73KLP2
- (BLH) Brett Hanavan-845 1st Ave.-Chula Vista, CA HQ-180C, SPR-4, Sanserino loop, 92011 Dymek DA5, 100' longwire
- *****
- 580 KMJ CA, Fresno 2/11 fair 0050-0106 mixing w/semi-local CKXR, w/MOR, local & NEC News on the hour. (EC-BC)
- 590 KUGN OR, Eugene 2/8 1825-1833 fair & on top w/mucho CKXR-580 slop. MOR mx & local nx at bottom of the hour. Rare here.
- 730 KSVN UT, Ogden 2/8 finally hrd w/ / (EC) C&W, local spots & a K-7 ID 1950-54, o/u CKLG/KULE. (EC-BC)
- 740 KYME ID, Boise very rare here but on top 2/14 1922-1926 w/no QRM but some QRN w/local spots etc. Heard "kime" mention ed. (EC-BC)
- 790 KSPD ID, Boise 2/12 0856-0917 finally got this NIS daytimer o/KJRB & KGHL w/ local nx and spots 0900-0915, NIS otherwise. "K-Speed Nx Radio" & "KSPD Nx Radio 79" IDs. Idaho #31. (EC-BC)
- 800 CHAB SK, Moose Jaw 2/16 0316 w/SID, into rr. Usually a regular on MM's w/PJB & XEROK off. (BLH-CA)
- 830 KIKI HI, Honolulu 2/16 0259 w/rr in WCCO fade. (BLH-CA)
- 890 UNID UnID OC Thurs morn 2/12 0317. Freq was actually about 887 or 888 kHz. Gone from 0325-0355. On exactly 890 at 0356, o/WLS. A CP was granted to Saint George, UT on 890 not long ago. Could it be they? (BLH-CA)
- 900 KGRB CA, West Covina 2/15 w/s/off at 2031 seconds after KBIF s/off. (BLH-CA)
- 910 KJJJ AZ, Phoenix 2/16 0529 w/ID " 24 hrs a day, this is K-J-J-J, Phoenix." Into C&W. Local KDEO off. (BLH-CA)

- 910 KALL UT, Salt Lake City 2/8 1959 just in time to hear the announcer say "stand by while we make a technical adjustment" then they were gone. (EC-BC)
- 940 KBRE UT, Cedar City 2/11 1000 MOR followed by "This is KBRE Cedar City, Radio 94" and "morning edition of KBRE News". Fair in KPRE null, no sign of CJIB.
- 980 KUPI ID, Idaho Falls hrd 2/12 0911 / (NHP) w/nation wide wx followed by ID. QRM from CKNW & CKRM. (EC-BC)
- 990 KRKT OR, Albany briefly in like a local 2/12 1045-1050 w/same strength as KOMO. Many spots and C&W. Not bad for 250w o/420 mi. (EC-BC)
- 1090 KBOZ MT, Bozeman 2/14 1803-1812 1st time hrd fighting w/CHEC & KING w/rr and local spots. (EC-BC)
- 1220 WGAR OH, Cleveland 2/15 2221 w/talk on hockey. An interview I believe. WGAR rare here. Too much XEB. UnID rr way under, probably CKDA. (BLH-CA)
- 1250 KIKC MT, Forsyth 2/14 1910-1915 another new MT station noted w/C&W & local nx. Very brief s/off at 1930--announcer said "Good night", played jingle "KIKC, Forsyth" and that was it. (EC-BC)
- 1280 KPOX CA, Long Beach 2/16 0513-16 mixing w/ 2 or 3 others but hrd definite ID & C&W mx. KIT & KBDF off. KJOY was on. (EC)
- 1310 WRR TX, Dallas 2/16 w/NIS to 0530 then hrd "W-R-R" u/1300 and 1320 slop. (EC-BC)
- 1370 CKOK AB, Westlock 2/6 0944-1010 fair to poor o/u KAST in null of CHPQ. Long sports roundup, wx, into nx on hour; lots of spots for Westlock and Barrhead. Seemed to be independent, not on relay, although O-K Radio slogans. (DJF-BC)
- 1440 WHHY AL, Montgomery 2/16 0440 poor to fair signal w/ID, wx and light rr. Clarity rather mangled by CFCP OC. (NHP-BC)
- 1440 KUHL CA, Santa Maria 2/16 0238 w/wx, into MOR. (BLH-CA)
- 1440 KPUR TX, Amarillo 2/12 0436 w/14-K promos.
- 1460 KROW OR, Dallas 2/4 1001-1016 / (BLH) fair to poor w/horrendous CJVB-1470 slop and one unID (KIL0 or KMWX). Local nx, school lunch menus, ski reports, wx, and spots until 1015, then back to NNIS network nx. (DJF-BC)
- 1460 KIL0 WA, Kirkland w/progressive or free-form rock and "keelow" ID 1026 2/12.
- 1470 WOHO OH, Toledo 2/16 0501 ID and / (EC) "Good morning Toledo, it's 5:01." Had hrd bits of this for previous half hour, finally got ID. Some QRM from XESM. CJVB OC also seemed to be on.
- 1510 KIRV CA, Fresno 2/11 2045 poor / (NHP) becoming fair at s/off in KGA's null. Hrd mention of 500w and "staff and management at KIRV ("curve)". Unexpected--looking for KSOM or KTIM.
- 1540 KZAM WA, Bellevue noted off w/OC / (NHP) 2/16 0320, but only CKDA-1220 spur heard. Noted back on by 0430. (NHP)
- 1580 *KWIP* CA, Merced 2/16 0330 on DX test u/K-DAY and an unID TTer, mentioned NRC, into TT. New. (BLH-CA)

Three of the four reporters to WDXR this week are Canadian members. I just figured why. They can report to me for 8¢, whereas it costs 13¢ for the U.S. members! Don't forget that the deadline for the Anniversary Issue is March 13. Also, shortly thereafter WDXR deadlines will go bi-weekly for the next few issues. So, watch for deadline dates in future columns. 73



John Zondlo
 eastern dx forum 6617 Maryland
 Hammond, IN 46323

Michael Hogan-4811 Euclid Ave.-E. Chicago, IN 46312

DX has been a bit disappointing lately with only 4 stations logged for this month as of 2/18. Cx really have not been the greatest from this location recently. I early morning DX 12 midnight to 5 A.M. 4 nights a week during my breaks at work, since I work the midnight shift, but still some newbies are needed. Flash! Just received a verie from WTIK--they stamped my original report and sent along an April-May ARB Survey (in 24 days), my verie number- 212. Just received the NRC New Member booklet, a fine publication in my estimation, after DX'ing for 7 years, I still learned a few things from the book. Seems worth the price of membership. 73's.

Bruce Goldsen-27 Spruce Hill Road-Georgetown, CT 06829

#7...with this report I find that cx are nothing special, but are certainly very strange. Scott Mentzer sums it up in his forum of 2/7...For the unID freaks - who is on 750 in SS at 2212, when WSB somehow nulled itself for me! The had American mx, but an announcer came on several times in SS (which I don't understand) and introduced songs, never IDed...NA Radio-TV Guide doesn't list any SS stations - except Nicaragua!?, couldn't be...as Michael Hogan says in his 2/7 Forum, let the DXers stick together in both IRCA and NRC. After blowing \$150 on CB equipment, I don't really have the necessary funds to dump in the lap of NRC, and still support IRCA, and two SWL clubs...Keep the Looseleaf format, we acknowledge this column's right to entertain opposing viewpoints...It's been encouraging to see the tremendous response recently to EDXR & CDXR --- I guess the editor's frantic pleas for support do have an effect! If I had some DX, I too would support EDXR...WCPR is a big nothing as far as I'm concerned. I live 45 miles straight-line from NYC and I can barely hear them, and with all kinds of lovely QRM from Slobovia, or wherever. When I called them some time back, they said they'd QSL - but four weeks later, no show. Interesting, they act just like the FCC! In NASWA's Frendx, Bob Foxworth has DX Hotline's Topline Tip with his report of WCPR, and IRCA member Glenn Hauser seems moderately distressed that SWLs consider "AM imitators" like CPR "good" SW material...Don't forget to devote some spare time to the columns, and to the membership committee...write me or Gregg Allinson NOW!! 73 and Good DX from CT, home of the Charter Oak (?)

Wayne Murphy-1411 Phyllis Ave.-Louisville, KY 40215

Hello Again. Cx continue just plain rotten, and I'm beginning to forget what a TA is. Can anybody tell me what a western opening is like? Seriously, some unusual cx have been noted, among them a fair northern opening on 2/7, tho it was highlighted primarily by good reception of a lot of Canadians, etc., I already had. Only thing really out of the ordinary was a tentative on CKDM-730. They had Garner Ted as per list in DXN, from 6:30-7, and gave address at end in Vancouver instead of Pasadena. Got no ID so just another dream, I guess. Otherwise, good cx to the west at sunset 2/13 & 2/14, including reception of WMJL-1500, heard only once before, though not more than 100 miles away, KWRT-1370, KDEW-1470, & KHEN-1590. Pretty normal (and blah) cx besides these few "gems". Plans for this summer include a tour of East and South via the Greyhound "Ameripass" if it's still in effect then, where I plan to visit as many DX'ers as I can in two weeks. I'll try to make the WTFDA confab if it's in Chicago as I've heard it might. Been pretty busy w/the convention and everything, time is beginning to grow short already and it is hard to believe it has been six months since we got the thing. Anyone needing copies of the registration form are invited to write me, as I plan to have some extras run off. Let's all hope the season goes out with a bang instead of a whimper. 73.

Scott Mentzer-Rt. 3-Tylertown, MS 39667

Greetings. Well, not too much to report this time around, other than that the old Test-Gambler has hit a streak of bad luck. I thought I'd try to change things by DXing a bit this morning (Friday 13th!), and ended up with KXIT (too tentative to even consider reporting), WFLA (already have a v/q from them), and some 1430 clown who decided to leave the air without IDing. (Those are the kind that make me seriously think about scheduling an appointment with my Dad, the friendly mental health consultant, hi.) A few fine veries have come in, though: KHOZ (very nice v/1), WOBR, WDXE, (interesting DX tales on both of those), KNIC, and KBIB; for recent catches, see CDXR. I've noted quite a few discrepancies between what's printed in the '76 List, and what I've actually heard. I suspect that many of the monitoring companies are telling their clients, "OK, you're scheduled to test on X day at Y time, but a week before the due-date, we'll drop you a card and let you know the time our guru feels you're least likely to be heard by DXers." According to the CEs at both KAPB and KNBI, the situation is almost this wild as far as their test schedule are concerned. Also, the CE at KHOZ was quite dismayed to learn that they're no longer on the List; with an updated version in mind, they're still using a tone on the 1st Sunday between 0640 and 0655. Finally, does anybody know the odds on receiving a verie from a SS LA, when the report is sent in EE? (I know a few "Mexican Grizzly" pests whose heads I'd like to see mounted on my bedroom wall, hi.) Until next time, 73s and the best of DX from SAM.

Paul R. Mount-471 Emerson Ave.-Teaneck, NJ 07666

Hi all. I've gotten a Space Magnet, and the difference is strange. In the daytime I haven't pulled anything new, but stuff that wasn't too loud on the Panasonic is greatly amplified in combination with the local next to it nulled, such as with WFIL and WHP next to WMCA, or WLNA-1420 Peekskill next to WNJR. Today, 2-12, I had school off, so I worked on logging details of unverified daytimers. Finally was able to pull WLAD-800 from Danbury, but it wasn't so easy. On previous tries WABC slop/cross mod was too much, but this time it was the output that I think Bob Foxworth reported in the past on 797 and 743, plus and minus 27 khz, which killed WLAD somewhat, had to null WABC, which doesn't leave much for Danbury, hi. I hope that gets cleaned up soon. It seems that's more important than reporting a station on 1620 to the FCC. Also, WRKO fades in around 4 in the afternoon. I hope I can report this to Forum without violating the Editorial Policy, since this kind of thing would take up unnecessary space in EDXR. I won't question even here whether WRKO is skywave or ground-wave, since I don't care. At night, I can hear Geoff Fox, a former member, I believe, on WPEN. This isn't so much of an accomplishment, since it's 90 miles away, but he was never listenable as before. But the strange thing about this is that stations I'd never heard before like CHTN were coming in on the SM-2/Ameco duo, but also on my Panasonic portable. I guess I'd only tried for such on Ameco w/LW, which lacked gain on some parts of the dial. Well, more comments and stuff later, so 73 and good DX.

Roger Morby-Ushers Road-Ballston Lake, NY 12019

Greetings! I've been a member of IRCA for 9 months now and I've decided that it's about time I introduced myself. I am 14 years old. I began DXing 2 years ago with a pocket transistor radio. Then I progressed to a 4-band portable. Now I use a 6-band Ross model RE 3033 portable with a 75 foot longwire antenna. My totals are: 32/6/335, i.e., SH, PH, and TSH. I also heard 9 countries. My sister is a language major at college and she helps me ID the foreigners. A recent interesting catch was HJCY 810 on 2/2 at 1800 EST. Due to a blizzard that morning, local WGY 810 was having xr difficulties so I was able to log HJCY w/hourly ID. Recent newies include: WPTF, WRFD and CBI. Helpful tip: to store DX Monitors, punch holes in them and put them in a ring binder. 73's and the best of DX! (Welcome to EDXF, Roger....please report often-jz)

Bob Lazar-413 Ogg West-Madison, WI 53706

Hello everyone out in radio land. The proposal to increase powers on clear channels sounds interesting. From a listener's point of view it would be a great idea. The major non-duplicated I-A clears could be heard with a good signal and little fading throughout most of the country. They are heard throughout the country now, of course, but often they are weak and fade a lot on a normal radio. Allowing these stations to go to higher powers would give the normal radio listener a greater variety of stations. For listeners in areas with only a few or no locals at night, it would help a lot. From a DXer's point of view, though, it is different. Increasing these stations' power would mean more interference, particularly in the way of splatter to adjoining frequencies. However, I think it would be better for DXers for 5 to 10 clears to increase power than for the FCC to continue, as it has been doing, to break down the clear channels (and regional channels also) by adding new stations on these frequencies, many of which would most likely be NSP. I've seen an example of this in the WDXF, where members have complained of new interference on the clear channels 1010, 1020, and 1030 KHz. The same could happen in the east, too. The FCC could assign new 50 kw stations to such frequencies as 640 and 1160 if it wanted to further break down clears. It is impossible to give local coverage to the entire country on AM. The only way to serve the entire USA on AM at night is by skywave. FM is the best for local service at night, and it is the best as far as medium wave DX is concerned. 73.

John Zondlo-6617 Maryland-Hammond, IN 46323

Greetings. Cx here seem to match those of other reporters in this column. In fact, it has been so bad that I've not even DXed every night this week, hi. Recent veries here include WRIB, WBKC, WBSO, WDXN, KROF, KPSO. A suggestion for all EDXF reporters: please read over your reports before you send them. Many report received here lately have contained errors in punctuation, sentence structure, and spelling. Take it easy on the old editor, OK? See y'all in 7.....

Thur., Dec. 25, 1975 Sun Jose Mercury San Jose News
FCC WON'T DICTATE RADIO PROGRAMING CHOICE

WASHINGTON (AP) — If a radio station decides to shift from classical to country music, and some listeners protest, should the Federal Communications Commission intervene?

The FCC said Wednesday it doesn't think so, but in view of a federal court ruling it is undertaking an inquiry into what role, if any, it should play in examining proposed changes in entertainment formats of broadcast stations.

The commission said that for 40 years it has sought to avoid "dubious intrusions into the broadcaster's programing judgments." As a matter of policy it has permitted musical entertainment format changes as the market-place might dictate, it said.

"In the present controversy, we are being called upon to substitute our judgment for that of the applicant on the most subjective grounds imaginable without any clear danger to the public interest," the FCC said in a 7-0 decision.

The decision to take a closer look at its policy was made as a result of a U.S. Court of Appeals ruling here a year ago involving radio station WEFM in Chicago.

In that case, Zenith Radio Corp. applied for approval to sell WEFM to GCC Communications of Chicago Inc., which said it planned to change from class-

ical music to popular or rock and roll.

The FCC rejected a petition opposing the sale and format change filed by Citizens Committee to Save WEFM. The commission said there was no substantial dispute as to the existence of classical music on other stations in the area and no useful purpose would be served in holding a hearing on the question.

But the court last October overturned the decision and said the FCC should have had a hearing to determine if the public interest would be served.

In a separate but related action, the FCC noted the court's ruling in announcing approval of the \$3.6 million sale of AM station WCKY in Cincinnati by the Post-Newsweek Stations, Florida, Inc. to the Truth Publishing Co. Inc., which plans to shift from "beautiful music" to country and western.

It rejected some 1,200 letters from listeners protesting that while there are FM stations with "beautiful music" WCKY is the only AM station and most autos and many homes don't have FM radios.

It said reliance on FM service to replace AM service is fully consistent with recently adopted FCC policy that AM and FM stations constitute one aural service.

DX

Worldwide



BRUCE PORTZER,

Editor

All times GMT/UTC
Deadline Saturdays

7021 Sand Point Way NE, #215 - Seattle, WA 98115 - 206-522-2521

ATLANTIC DX ROUNDUP

- 665 PORTUGAL, Lisboa, Emis Nacional noted in the clear 0403 2/16 w/normal sideband QRM - WMAQ & WNEC - substantially weakened by auroral-like ex. Certainly a strange phenomenon as path from Lisbon passes thru latitudes only slightly further north than the Chicago & NYC paths. (Stanbury, OH)
- 1205 t FRANCE/SERRA LEONE, A-index was 17 on 2/11 but Bordeaux & Freetown were found mixing it up here at 0646, distinctly 2 sigs as hrd good many times before. Didn't stay long enuf to prove either one for I had bigger fish to fry in this unprecedented TA opening weeks beyond the so-called mid-winter anomaly. (Martin, CO)
- 1214 ENGLAND, BBC good carrier but poor audio noted 0621-0627 2/11. (Martin, CO)
- 1403 ? UNID African carrier again 0607-0618 2/11. Still can't extract any audio from this one. (Martin, CO) --- Man & woman talk, sounded like Vernaculars, def not FF, looped east, good carrier, weak audio, 2230 2/15. Any ideas? (Colyard, NJ) (Conakry, Guinea most likely. WRTH gives kind of a hokey sked for them: s/on at 1230 (in the afternoon), s/off at 0830 (in the morning!). bp)
- 1466 MONACO, Monte-Carlo, first time I ever found audio on Monte Carlo here 2/11, taped 3 mins of it at 0631, but can't detect anything there which would go to ID it. Heavy slop from 1470 Mexican covering it up. And the carrier faded before 0700 (Another new country getting away from me.). (Martin, CO)
- 1525 ? UNID, possible RR woman, s/off w/anthem 2355, fair sig w/micho slop, 2340-2355 2/7. (Colyard, NJ) (Sounds like China, see last issue. bp)
- 1546 ? UNID, OG, no audio hrd 0035 2/8. (Colyard, NJ)
- 1586 WEST GERMANY, Langenberg, WDR, taped about 6 mins of mx here, 2 selections, S-9 level until I caught the usual lady ancr in GG about 0645. Isn't it time to revise the prevailing DX theories about the A-Index? Europe getting to Colorado w/A-Index at 17 was thought to be impossible, wasn't it? Next nite 2/12, A-index was 2 and nothing European could be hrd, only Dakar after 0600. (Martin, CO)
- 1602 WEST GERMANY, Munchen, BR, Nachrichten & lite mx, Louis Armstrong at 0023, first time I've been able to pull in thru slop; fair sig, locals down, 0000-0030 2/8, needed and reported. (Colyard, NJ)

PAN AMERICAN DX ROUNDUP

- 540 COLOMBIA, Bogotá, HJKA w/soft MoR mx MM 2/16 0725-0732; "R. Horizonte" ID at 0730. (Pejza, CA)
- 580 PUERTO RICO, San Juan, WKAQ good 0525 2/16 w/EE rr, "WKAQ Mas Musica" jx. 0530-0600 all insts on top of freq w/rock u/. 0601 another "WKAQ Mas Musica" jx, "Love to Love You Baby", then back to E.L. 0606. A bit tough w/local WKAQ-570 nulled. (Mount, NJ)
- 655 EL SALVADOR, San Salvador, YSS, Cl & Opera mx, SS ancr, YSS ID 0355, 0340-0400 2/16. Needed & reported. (Colyard, NJ)
- 670 ? UNID, the Cuban, WMAQ, & KBOI were off simultaneously MM 2/16 0815-0830; the freq was wide open for once & there were at least 2 IAs there, very weak, holding the promise of exceptional DX, but would you believe that KNER slop from their incredibly noisy, jumpy records prevented any decent receptions of these IA sigs, altho KNER is maybe 900 miles away?? No wonder guys in the Bay Area complain about KNER slop. Was unable to null it either so the IAs went unid. KOA gives me less trouble, when nulled, & I'm checking out Tarawa. Or perhaps the extreme weakness of the IAs was part of my problem. (Martin, CO) (I can hardly wait to see what Heald has to say about this. bp)
- 710 MEXICO, Cd. Cuatemoc, XEVB poor-good on top of channel. Hrd SID(?) at 1200 2/9 (ID not clear), then yelled "La Grande!". An ID 1229 was prob XEVB, then "La Grande" again. This is reasonably new according to Ralph Kemper's 1/10 DXW. Not in WRTH '75. (Hall-Patch, BC)
- 725 SURINAM, Paramaribo, SRS, DD pgm "Big Sound Itx Machine", DD & EE rr mx; xr went off air at 0133 in middle of record but was back on later in evening, prob had a xr problem, 0110-0135 2/8. Real good signal. (Colyard, NJ)

730

760

760

775

825

825

860

860

860

885

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910

945

1010

1020

1160

1190

- SPAIN, Port-of-Spain apparently the stn here various times between 2315-0100 2/14. Man in accented TE reading lottery results at 2315 w/good signal. QRM from unid SS o/u. (Solman, PA)
- COLOMBIA, Barranquilla, HJAJ w/tropical mx MM 2/16 0615-0645. ID as "LV de Barranquilla" 0646. KFTB OG & TT QRM'd badly at times. WJR way under. (Pejza)
- Noted 0742 2/16 w/mx & OM saying "Esta es La Voz de Barranquilla, la emisora de ...?" poor-good o/nulled KFTB (I presume). (Hall-Patch, BC) --- was really creaming KFTB 0634-0646 2/16. Good LV de Barranquilla ID amidst song, laughter, & merriment 0645. I wonder if they raised pwr recently. (Portzer)
- GUAYANA, Georgetown, R. Demerara seems to be the only possibility hrd 0002-0007 2/14 w/fair sig. It was read by man in slightly accented TE. Def. not a domestic as mentioned things like "the US government said today..." & had other S. American topics. End of mx 0006, then went into apparent mx pgm but faded u/SS stn. No WJR at this time. (Solman, PA)
- COSTA RICA, San José, "R. Uno" weak some evns, on 2/9 0830-0836 hrd w/US rock & IDs. (Seaver, CA)
- COSTA RICA, San José, TIOS, I doubt if RFS wanted to convey the impression that this is no longer on 825. It is & has been noted several times recently as on 2/11 0300 w/US pops & "Titania" ID by YL o/w. No sign of Panamanian yet. (Seaver, CA) --- Definitely Titania. very strong IDing as "Titania" by SS woman during the beginning of every record, SS & EE rr mx, no other anmts except at 0645 hrd Titania & G.R. mentioned, 0530-0600 2/11. (Colyard, NJ)
- PANAMA, R. Peninsula: ID at 0417 as "Agui R. Peninsula", SS mx & anmts 0415-0445 2/14. Fair sig, Titania not hrd, but other G.R. stns were. (Colyard)
- DOMINICAN REPUBLIC, Santo Domingo, HILR, "R. Clarin" hrd mixing w/YLZ 2/16 0930-0950, ID at 0944. Only 2nd DR here. (Seaver, CA)
- MEXICO, Tijuana, XMO, EE rlgx pgm "Word of God" 0530, ID 0615 as "XMO, the great Christian beacon of the west", fair sig w/some deep fades, 0530-0620 2/13. New one, reported. (Colyard, NJ)
- UNID, prob Panama s/on here 2/16 0952 w/bouncy guitar inst mx (no anthem), some talk; unreadable due to YLZ, Clarin, & noisy ex. (Seaver, CA)
- MONTSERAT, Plymouth, ZJB here 2/2 1026-1035, ID as "ZJB Radio" & AST TC. This serves me as a bell-weather for other Caribbean stns. Does anybody else note a signal enhancement around ionospheric dawn on these stns? This & 1465 & 1265 are usually very low (only hets sometimes) until about 1030 (in winter), then sig improves tremendously for 10-15 mins. (Seaver)
- COLOMBIA, Bogotá, HJCE, LV de Bogotá good at times 2715 0710, 0726 IDs, WLS weak. (Seaver, CA)
- BARBADOS, R. Barbados hrd w/very good sig various times from 2322-0100 2/14-2/15. ID at 2330 was CBC Radio w/ment of AM & FM (98.1 MHz)? outlets. Nat'l bingo game in progress when checked at 0025. QRM from Cuban. ID at 0100 was R. Barbados by YL. (Solman, PA)
- CUBA, Ciego de Avila, CMJV hrd u/Barbados 2330 2/14 w/R. Liberación IS. Atop channel at times covering Barbados. If still 1 kw seems like decent catch. (Solman, PA)
- VENEZUELA, Maiquetia, YVRO fair-good 2/16 w/EE & SS rock. After each record YL ancr said "R. Aeropuerto de la hora", two chimes, then time. A male ancr there at times 0653-0715. Slight WSEA & other QRM. New. (Mount, NJ)
- HONDURAS, Tegucigalpa, R. Panamericana, SS anmts & IA mx, ID 0405 as "Panamericana", fair sig 0400-0425 2/8. (Colyard, NJ)
- MEXICO, but who?? Suddenly appeared 1215 2/6 w/ID soon after..."ehkes-eh-berh(?)-ravah(?)?that's not in the SS alphabet!) R. Peruical (?) ... musicale radio!" Any ideas, those closer to Mexico? (Hall-Patch, BC)
- COLOMBIA, Caught the RCN ID & Maybe R. Internacional was ment'd in the KDKA null 2/18 0733. Two years ago there was nothing u/KDKA between 0700 & 0800, but now the freq is a jumble during this hour w/at least 3 IAs there. (Martin, CO)
- COLOMBIA, R. Aeropuerto is now announcing its location as Barranquilla. Noted at 0330 2/16 dominating the freq. Previously operated as Cienaga Grande & then Soledad. (Stanbury, OH) (According to Webster's Geographical Dictionary, Cienaga is a seaport 40 mi E of Barranquilla, while Soledad is a Barranquilla suburb. bp)
- MEXICO, Mexicali, B.C., XEMBC 2/17 0526 w/R. Variedades ID. Some EE rock cuts. Mexiglen & Vane Jones log list XEMBC as a daytimer. What dibs here? (Hanavan, CA)

- 1265 ST. KITTS, Basseterre, R. Paradise 2/16 09h3 just a carrier here. Rough thru KTA-1260 & KFJZ-1270. Sh at best. (Hanavan,CA)
- 1270 MEXICO, Tijuana, KTAM now has an all soul show 0000-0600 weekdays. Promo is X-SOUL. (Hanavan,CA)
- 1470 MEXICO, Mexico, XESM 1000 2/16. Hrd XERPM style whoops, then clear "R. Cinco" ID on hour after more whoops, "música mexicana" may have been part of the ID. Poor-fair sig jumbled somewhat by CJVB OC. (Hall-Patch,CA)
- 1470 MEXICO, unid SS mixing w/XESH around 0730 2/16. SS mx, not really ranchera, & man & woman talking. ID sounding like XERDM hrd. Bruce Portzer & a Winnipeg DXer are of the opinion this is XEBBC w/RCN programming. (Belanger,MI) (After you called, Darryl, I did some more checking & found on p. 30 of Foreign Log 4 that the RCN Net is now the RPH net. No 1470 stns (not even XEBBC) were listed on the apparently incomplete list of affiliates. Will monitor XEBBC some Sun. nite to see what happens. bp)
- 1525 COSTA RICA, Turrialba, TIRTAW 2/16 1110 presume to be the one in SS. S6. (Hanavan,CA)
- 1540 BAHAMAS, Nassau, ZHSL hrd 2/16 0900-0902 mixing w/ needed XEBS. ID at 0902 as "Bx till Dawn on the R. Bahamas..." New country for me (53). (Seaver,CA) (XEBS changed calls to WTAM about a year ago, Randy.bp)

PACIFIC DX ROUNDUP

- 660 NEW ZEALAND, Wellington, 2YC prob the source of extremely weak choral mx here 2/16 0931. WNEC off & the beastly het which WHAM generates on all 660 stns was nulled. Static heavy. Still hoping that someday I'll find a decent NZ signal here. (Martin,CO)
- 844 ? UNID fair carrier, very faint audio at times, strong QRM from WHAS & Jepko. Checked calibration, def on 844, looped slightly N of W, no Europeans hrd at this time, 0815-0830, slight fade at times, WC stns not very good. Is Tarawa on at this time? (Yes. bp) 2/16. Maybe I'm cracking up after straining to hear those CPC tests, hi. (Colyard,NJ)
- 844 TARAWA, VSZL good here 2/16 1001 w/singing, short annt by OM (mostly unreadable) in EE, same song (very repetitive & distinctive), short anthem (GSQ), Test Tone & off. (Seaver,CA)
- 860 t NEW ZEALAND, Rotorua, 1YZ likely the accented EE 2/16 0931-0955. In & out w/LAS. No ID hrd but discussion type pgm fits. (Seaver,CA)
- 870 JAPAN, Fukuoka, JOGB //830 2/2 1009 w/EE nxcast. WNL OC/TT on & off. Had hoped for KAIM or better, but mx of Jap quints blew it. (Seaver,CA)
- 1000 t NEW ZEALAND, Tauranga, 1ZD prob the accented EE 2/16 0911-0920 w/nx or discussion & then mx. Lost to HJ and noise. (Seaver,CA)
- 1550 AUSTRALIA, Emerald, HQD 2/16 0910 w/talk on cl mx & some cl cuts. Quite clear. Nothing else on freq. A few ments of ABC. S8 at best. (Hanavan,CA)

UNID BEACONS

- 1620 MCW, SBT, stronger than RAB, also hrd MCW K33 on 1637, fair, both around 0500 2/8. (Colyard,NJ)

CONTRIBUTORS

- Darryl Belanger, Box 495, Swan River, Manitoba R0L 1Z0
Thomas Colyard, 530 Oregon Ave., Bricktown, NJ 08723
R-388, Wedge Loop
Richard Eckman, 1611 E Mt Pleasant Ave, Philadelphia, PA 19150
BC-946/453, Sanserino loop
Nick Hall-Patch, 3272 Alder St., Victoria, BC V8X 1P2
National HRO, h' box loop
Brett Hanavan, 845 First Ave., Chula Vista, CA 92011
HQ-180C, SPR-4, Sanserino loop, Dymek DA5, longwire
Gene Martin, 3303 East Evans Ave., Denver, CO 80210
HQ-180, box loop
Paul Mount, 471 Emerson Ave., Teaneck, NJ 07666
Ameco R-5, SM-2
Father Jack Pejza, 212 S. Carpenter Rd., Modesto, CA 95351
SPR-4, Sanserino loop
Bruce Portzer, HQ-180A, SM-2
Randy Seaver, 1154 Via Trieste, Chula Vista, CA 92011
R-390A, HQ-180, longwires
C.H. Stanbury II, Box 218, Crystal Beach, ON L0S 1B0
HQ-200

PRECISION FREQUENCY MEASUREMENT IN THE MEDIUMWAVE AND THE SHORTWAVE BROADCAST BANDS By Charles A. Taylor

PHILOSOPHY Precision Frequency Measurement (PFM) has already proven its value to those who use it extensively. Some typical uses for PFM are identifying new (previously unlogged) broadcast stations, identifying old (previously logged) stations, and recognizing facility changes (new transmitters). If the DXer has a list of PFM's at hand, he can quickly determine if the identity of that station that is heard alone or mixed with others, is that of a station which he has logged before or one that he is seeking. While not a certain identifier of the unidentified, under the proper circumstances it approaches 100% certainty.

TECHNIQUES Having passed briefly on the value of PFM, let us address ourselves to a method used to acquire them. In preparing this article, I limited myself to techniques for PFM that are based on usage of the digital frequency counter as the device that measures the frequency indirectly. Specifically excluded are frequency meters (such as the Lampkin 150 or the military BC-221 or LM) as being impractically expensive or incapable of the required resolution, which is on the order one Hertz (one-thousandth of one kilohertz), or about 0.0001%; or better.

The digital frequency counter (hereafter simply "counter") is a versatile instrument which provides a direct, visual readout of whatever frequency is being measured. Briefly, a counter uses an electronic gate which is opened for predetermined, precise periods of time (for our purposes, one second or ten seconds). The unknown frequency that is to be measured is made to pass through this electronic gate. Electronic counting devices then count each and every cycle of the unknown frequency that passes through the gate during the respective period of time, and the count at the end of that period is then displayed on numerical devices as a count readout which is the same as the unknown frequency. The electronic gate is opened and closed by a time base, termed a "clock". This clock is electronic in its operation and is controlled by a very precise crystal oscillator of 1 MHz, 10 MHz, or some other frequency typically between 3 and 5 MHz.

A counter cannot be connected to the unmodified radio receiver in any configuration that would yield frequency measurements of a resolution required for PFM. Assuming a receiver I-F bandpass of 4 kHz, connection of a counter to the receiver IF would merely yield relatively invariable reading centered on 455 kHz—meaningless for PFM.

Connection of a counter to the receiver local oscillator would yield a readout that would bear a relatively constant and accurate relationship to the signal frequency. The drawback is that in receivers designed for mediumwave and shortwave reception, the local oscillator usually "tracks" the signal frequency with an offset equal to the I-F frequency. A counter connected to the local oscillator would read out (assuming an IF of 455 kHz) a frequency 455 kHz above the signal frequency and so necessitate subtraction of 455 kHz from each and every measurement to derive the signal frequency. A further hindrance is the lack of an indicator in the unmodified receiver that it is tuned accurately so that the I-F frequency could be exactly centered in the I-F passband. This would yield a readout accuracy of only plus-or-minus 2 kHz or worse (after subtraction of 455 kHz from the counter readout), depending on the width or shape of the receiver passband.

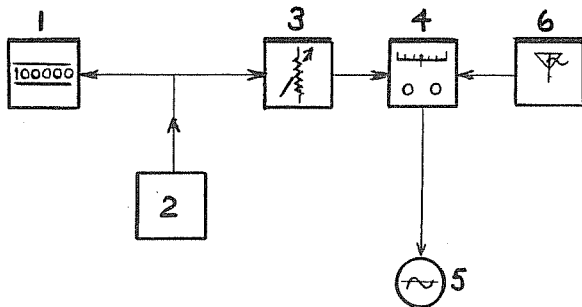
A counter cannot simply be connected to a radio antenna in order to measure specific radio frequencies, for two reasons: first, the typical counter lacks the high sensitivity necessary to measure the feeble radio signals that arrive after a transoceanic voyage; second, the counter is inherently incapable of distinguishing which of many radio frequencies that are applied to its input is to be counted—and it cannot count them all simultaneously.

The above hindrances to the construction of a workable PFM station by direct connection of the counter to the radio receiver, plus the unwillingness of DXers, even though technically competent, to perform the necessary modifications upon their receivers, have



inspired a relative simple solution—the Heterodyne Method.

Heterodyne Method of Frequency Measurement The nearly universal solution to the problem of acquiring PFM's without performing receiver modifications, has been to use the heterodyne frequency measurement system, whose typical components are represented in the following block diagram (the arrows indicate the direction of signal or information flow upon the interconnections between the components):



Blocks, and their descriptions:

1. frequency counter
2. transfer oscillator (abbreviated TO) a variable radio-frequency oscillator, chosen and designed for its frequency stability (a critical quality for PFM applications)
3. variable attenuator a device which attenuates, or reduces, the output of the transfer oscillator in a controllable manner to permit it to be adjusted so that it is approximately equal in strength to that of the unknown signal frequency
4. heterodyne detector a device which detects the difference in frequency between the transfer oscillator and the unknown signal frequency, and which converts this difference to a form usable by the indicating device; while numerous devices will serve as a heterodyne indicator, the single device used by the DXer is a radio receiver
5. indicating device a device which accepts the frequency difference information from the heterodyne detector, and converts it into an audible or visible indication; some indicating devices used are "S"-meters, loudspeakers, oscilloscopes, and strip recorders
6. unknown frequency the signal whose frequency is to be measured, typically as accepted from an antenna

In operation, the counter (block 1) continuously measures the frequency of the transfer oscillator (block 2); the transfer oscillator is made to zero-beat with the unknown signal frequency by observing the combined indications at the output of the heterodyne detector (block 3). Since under conditions of zero-beat, the transfer oscillator assumes a frequency nearly identical to that of the unknown signal frequency, the counter will measure a frequency which is essentially the same as the unknown signal frequency.

Exclusive of the counter, already described, we will describe typical categories of equipment used for each block.

Transfer oscillator Typically, a signal generator or a modified frequency meter is used as a TO. A frequency meter, as modified, is particularly suited for this application for two reasons: first, in consideration of its original purpose as a frequency-measuring device, it is designed for maximized frequency stability; second, it will include a frequency vernier in its complement of controls. Such a control permits the monitor to adjust the frequency of the TO in minute increments—essential for accurate zero-beat (A frequency meter, when used as a TO, is not used directly as a frequency-measuring device; rather, the counter measures its frequency. This eliminates the need for a calibration book and interpolative readout, which is the source of inaccuracy in the use of frequency meters.)

However, ready availability has encouraged the use of signal generators of varying manufacture as a TO. Most signal generators of the continuously variable-

frequency variety are not optimized for this application, but nevertheless are of almost universal utility as-is for use as a TO. Few signal generators include a frequency vernier control for incremental frequency adjustment, but the alert operator will discover that operation of the variable attenuator will have a small effect on the signal generator frequency output.¹ In my experience, even laboratory-grade signal generators of the continuously-variable frequency variety display this unintentional, albeit useful, quirk of behavior.

Another shortcoming associated with signal generators, especially those of consumer-grade quality, is short-term frequency instability which manifests itself as difficulty in maintaining zero-beat with the signal of unknown frequency. This shortcoming becomes progressively more acute at SW frequencies, perhaps rendering the signal generator worthless at these frequencies unless modified. A solution for this problem will be related later in this article.

Fortunately, optimization of a signal generator for use as a TO is not difficult for the DXer of medium competence to accomplish. What is required is the addition of a frequency vernier control (a small, air-variable trimmer capacitor or a voltage-variable-capacitance diode and potentiometer combination) to the frequency-determining elements of the signal generator, and addition of voltage regulation to the signal generator power supply.

Variable attenuator A degree of attenuation is necessary in introducing the TO output into the heterodyne detector, when performing a PFM upon all but the strongest local signals. This is necessary because, in order to achieve a zero-beat of maximum clarity and definition, both the TO output and the unknown signal must be of approximately equal intensity. A serious unbalance of intensity between the two would allow the stronger to "swamp" the weaker, rendering the zero-beat inaudible. Placing an attenuator in the output of the TO is necessary because its maximum output may well be one million times more intense than the signal whose frequency is to be measured.

The variable attenuator which is included as one of the controls of a signal generator, has some limitations which must be taken into account in PFM usage. First, in the typical signal generator, the variable attenuator intervenes between the instrument's internal oscillator and its output jack. If the signal generator were connected directly to the counter input jack, the wide range of adjustment of the variable attenuator could not be used. This is the case, because in adjusting the variable attenuator in order to reduce the signal generator output to an intensity which would be equal to that of a relatively weak signal, it would probably be found that the output would be so reduced as to fall below the sensitivity threshold of the counter, which would then cease to count the signal generator frequency. In order to avoid this difficulty, a logical solution would be to modify the signal generator to permit connection of the counter in the signal path before the variable attenuator, such that the counter would "see" the unattenuated output of the signal generator internal oscillator, unaffected by the variable attenuator.

An alternate solution would be to buy or construct an outboard variable attenuator whose input would be connected to the signal generator output jack, along with the counter input, and whose output would be connected to the heterodyne detector (the signal generator internal attenuator would be set for maximum signal generator output). In both alternatives, manipulation respectively of the signal generator internal variable attenuator or of the outboard variable attenuator would have relatively little effect upon the intensity of the signal applied to the counter input.

Unfortunately, while logically valid, both alternatives have related pitfalls. These will be discussed later.

Heterodyne detector As indicated earlier, the single device used as a heterodyne detector by the DXer, is a radio receiver. The DXer's own receiver is the logical candidate for this function. Part of the versatility of the PFM technique depends on the receiver used by the DXer. In order to measure a signal's

frequency, it must obviously be audible on the receiver that is used as a heterodyne detector, indicating that sensitivity is an important factor. Another important factor is selectivity, in order to separate the signal of interest from other, undesired signals on adjacent frequencies.

Generally, the more elaborate the receiver, the more useful it will be in this function.

The output of block three, the variable attenuator, may be connected to the antenna connection of block four, the heterodyne detector (radio receiver), through a medium-value resistor (1 kilohm), through a small-value capacitor (10 picofarads), or it may be radiated to the receiving antenna by a small radiator antenna (such as a whip antenna of some 3 feet). The alternatives have difficulties of likely encounter, which will be discussed later.

OPERATION To illustrate the operation of a PFM station, and to acquaint the reader with some of the difficulties involved with typical equipment, we will consider the measurement of an unknown frequency.

Assuming that the monitor has tuned the receiver to a signal whose frequency is to be measured, with the receiver BFO off, the TO is tuned to the same frequency. Since, by the process of locating the unknown signal frequency on the dial of the receiver, a coarse frequency measurement has been performed; tuning the TO would be a matter of approaching the signal frequency until an audible heterodyne is noted in the loudspeaker or headset (Unless a strong signal has been tuned in on the receiver, the variable attenuator should be set for a medium-to-low TO output in order to prevent the generation of spurious responses due to overload of the receiver that may be mistaken for the TO frequency itself.).

When the heterodyne is heard, the variable attenuator is adjusted for maximum loudness of the heterodyne (without disturbing the TO frequency). When this condition is achieved, the TO output has been adjusted such that it is of approximately equal strength as the unknown signal. (Alternatively, assuming that the TO frequency has been adjusted such that a subaudible heterodyne (i.e. a carrier beat), or SAH, is generated with the unknown signal, adjust the TO variable attenuator for maximum "swing" of the receiver carrier or S-meter. This condition likewise indicates that the TO output is approximately equal in strength to that of the unknown signal.)

The next step is to adjust the TO frequency to bring it to zero-beat with the unknown radio frequency. Of the entire procedure, this is perhaps the most elusive step to the apprentice monitor. Zero-beat will be located at the midpoint where the heterodyne drops in pitch and begins to rise again, as the TO frequency is adjusted.

Approximate zero-beat will be identified when the frequency of the TO has been so adjusted that an SAH is set up with the unknown frequency, and that by minutely adjusting TO frequency vernier control, the rapidity of the SAH can be varied and controlled. Assuming that approximate zero-beat has been acquired, the TO frequency vernier control should be minutely adjusted such that the SAH, as evidenced by the regular, periodic swing of the receiver S-meter, slows down and stops. This condition should persist for at least 5 seconds, before the TO frequency drifts to an extent that it must be readjusted for exact zero-beat.

Assuming that the SAH frequency has been brought to essentially zero, such that the receiver S-meter remains in a relatively fixed position, the TO frequency will be equal to that of the unknown signal. The frequency read-out of the counter, along with the date of measurement, can then be recorded. It would be wise to make at least three consecutive frequency measurements of this sort, each time readjusting the TO frequency vernier control for an exact zero-beat before making the measurement. The several measurements may then be averaged and any fraction of a Hertz appearing in the average should be rounded off to the nearest Hertz.

CAVEAT While the foregoing procedure may appear on its face to be simple of execution, it may well be difficult until experience refines one's techniques. Some of the pitfalls that may be encountered will be
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pointed out so that the apprentice monitor may avoid a multitude of erroneous measurements.

Beware, in adjusting the TO frequency initially to that of the unknown frequency, that the TO output has not been adjusted to such a level that it generates false, spurious responses in the receiver. If in doubt, the output of the TO should be adjusted to near minimum initially. The approximate frequency of the unknown signal may be estimated by its position on the receiver dial and in relation to the frequencies of known, adjacent signals. The TO may be adjusted to this approximate frequency by alternately observing the TO frequency on the counter and the TO frequency dial calibration. When satisfied that the TO frequency is near the approximate signal frequency, the TO frequency may be "rocked", or swept back and forth across this approximate frequency while simultaneously increasing the TO output until a heterodyne is observed.

Care is necessary in initially adjusting the TO output, as previously emphasized, to avoid generating spurious responses by overloading in the receiver. A simple method that will assist in determination whether or not the heterodyne observed in the preceding steps, is a true response or a spurious one, is to carefully "rock" the receiver across the combined two signals. If the heterodyne frequency between the pair changes, the response is almost certainly a spurious one. If, however, the heterodyne frequency remains constant, the response is more likely to be a true one.

A true response may be mimicked by a beat between the TO frequency and another strong MW or SW signal. In this instance, the heterodyne frequency between the apparent TO signal and the unknown may remain constant when the receiver is rocked across the combination, but the modulation of the signal with which the TO signal is combining, may appear to ride in on the TO signal. A true response can also be mimicked by heterodyning a harmonic of the TO against the unknown. While this is not strictly speaking a true response (since a TO harmonic is classifiably a spurious radiation), it has its uses. A harmonic of the TO frequency would be recognized when the counter and the dial of the TO display a frequency which is one-half, one-third, one-fourth, et al., of the approximate unknown frequency.

To gain valuable experience, it would be of advantage for the apprentice monitor to measure the frequency of stations whose frequencies are known positively. Also, measurement of such frequencies over a period of time, besides providing experience, will allow the apprentice monitor to observe frequency fluctuations of these familiar frequencies and to acquaint himself with the limitations of his own equipment.

LIMITATIONS AND DIFFICULTIES Some brief references have been made to limitations and difficulties that relate to the TO and its operation. We will now address our attention to some other equipment limitations and attendant difficulties of likely encounter.

Counter and TO direct radiation In attempting to perform PFM on any but the strongest MW and SW signals, it may be found that the signals of unknown frequency are "swamped" by the TO output—even though the variable attenuator has been adjusted for minimal TO output. This is a manifestation of direct radiation from the TO or counter, situation in which radio-frequency energy is being radiated from the TO or counter power line cords, interconnecting cables, chassis, or chassis openings, to the receiver antenna.

Two solutions immediately present themselves. First, efforts toward perfecting the shielding and filtering of TO and counter chassis and leads; additional bypassing of power line cords, using ceramic disc or mica capacitors of moderate capacitance (about 1000 pF) plus series inductances of several microhenries, inserted in each lead of the power cords (this filtering being accomplished within the TO and counter enclosures); and use of coaxial cable interconnections between the TO and the counter, will serve to reduce the "floor" of direct radiation. Second, it would be helpful to locate the monitor station at some minimal distance from the receiving antenna, using a coaxial feedline to interconnect the two.

The first solution has been found to be of limited effectivity in the author's own situation. It was

found that the greater portion of the direct radiation emanated from the readout aperture of the author's counter (a Heath IB-1101). Use of a shield fashioned from copper screen and fastened within the readout aperture and bonded to the counter chassis, may be effective. The author's desire to avoid modification of the counter ruled out this alternative however, so no experience can be related. However, even the Hewlett-Packard 5245L frequency counter has been observed to radiate radio-frequency energy via the readout aperture, so it is thought that such a solution may only be partly effective. (Likewise, laboratory grade signal generators have been found to be "leaky" of radio-frequency energy.)

The second solution will probably be effective in limiting the level of stray radiation that reaches the receiver, assuming a separation of several meters between the monitor station and the receiving antenna. In the author's own experience, this solution was completely effective with a separation of three meters between the monitor station and receiving antenna. The difficulty with this solution is that it does not relate to the minimal distance likely to be encountered between the monitor station and a loop antenna. A Space Magnet may be relatively insensitive to stray radiation, as it is designed to respond only to the magnetic component of a passing radio wave while ignoring the electrostatic field—mode by which the stray radiation is probably radiated.

(to be continued.)

Champaign Urbana News-Gazette, Jan 4 1976 via Glenn Hauser

'Radio Freak' Putting Some Magic Back On Airwaves

By RON WELLS

Special To The News-Gazette

ERRIE ORGAN PRELUDE
... "Who knows what evil lurks in the hearts of men? The Shadow knows."

"... A fiery horse with the speed of light. A cloud of dust and a hearty, 'Hi yo, Silver!' The Lone Ranger rides again!"

"Henry! Henry Aldrich!"
"Coming, mother!"

Once Americans gathered in their living rooms and thrilled to these and other shows of the theater of the mind—radio.

Remember "Gang Busters," "Lum and Abner," "Little Orphan Annie," "Ma Perkins," "Our Gal Sunday," "The Loves of Helen Trent," "Fibber McGee and Molly," "Jack Armstrong: The All-American Boy," "The Great Gildersleeves," and countless others?

Television literally drove radio dramas and comedies off the airwaves. Many of radio's top personalities deserted it for television.

Today, radio is coming back. Many stations across the country are replaying some of the great series from radio's golden age.

The CBS Radio Network introduced "The CBS Radio Mystery Theater" two years ago which offers excursions into the macabre as a refreshing alternative to "prime time" television. It is aired locally seven nights a week at 11:07 p.m. on WDWS.

And this last summer four new radio series popped up on more than 60 radio stations' daytime formats under the banner of "Radio Playhouse."

"Radio Playhouse," which combines the talents of 100 persons, is the brain child of Dick Cox, a "longtime radio freak." Cox has long felt that radio was just as effective an advertising medium as television—and far easier on a sponsor's budget.

"It all started at a lunch with an executive of Bristol-Meyers who was looking for a show to sponsor and his bemoaning television's rising advertising costs," said Cox, who now heads DCA Productions but used to be a media time buyer. "I told him to put Bristol-Meyers' and money into a radio show and outlined an idea I had which evolved into 'Radio Playhouse.'"

"Radio Playhouse" consists of four 15-minute shows which are aired Monday through Friday on independent stations around the country.

"The same episodes are heard everywhere in the states on the same day so fans who travel around the country won't miss a program no matter where they are," Cox said in an interview.

The four shows are "The Faces of Love," the story of how a young woman confronts life and love in these days of confusing freedoms; "Author's Studio," serialized dramatizations of famous novels and plays; "The Little Things in Life," a comedic view of life's little frustrations; and "To Have and to Hold," the story of three generations of a family caught in the conflict between traditional and new morality. Heady and topical stuff compared to vintage radio dramas.

"There have been experiments in half-hour radio shows," said Cox, "but they didn't work. We knew ours had to be an hour long so listeners could find it."

"Radio Playhouse" went on the air Aug. 4, 1975, after Cox had spent two years developing and polishing its format, and assembling all of the creative people necessary to keep the four shows rolling.

"We couldn't pick up where things left off in the 1950s because audiences today pick up things more quickly," Cox said. "They're more

sophisticated. They assimilate information quicker, especially advertising, so we maintain a fast pace with overvoices and actors interrupting each other.

"We can do all this because television does it," he said.

"We can also put in a great deal of music because people are used to this from television and they're able to get into the story better."

According to Fox, "Radio Playhouse" is aimed at young women, and by the mail he has been receiving it is gathering fans.

Still, he says it will be a few more months before anything positive is known because "it takes six months for a serial to catch on and for listeners to feel sympathy for the characters."

Cox feels that the most difficult thing about "Radio Playhouse" is getting radio stations to buy it.

"It's tough to break into a radio station's format," he said. "It's a show geared to women that has to be sold to the men running the stations."

"The stations who have bought it are pretty gutsy. Many program directors feel they'll lose their audience for the rest of the day if they interrupt their format," said Cox. "But the mail says different."

Some of the stations carrying "Radio Playhouse" are WLYN and WNBP in Boston, WKRI in Providence, WJZZ in Philadelphia, WJOB and WEAW in Chicago, KOA in Denver, KPRC in Houston, KRLA in Los Angeles, WKAT in Miami, WSMG in New Orleans, WOR in New York City, WVAB in Norfolk, WJAP and WBVP in Pittsburgh, KMPX in San Francisco, KXRX in San Jose, and WDCL in Tampa.

Spotlight On...

Yes folks, there really is an Eric Rittenhouse, and here I am showing up as the editor of the new Western "Spotlight On ..." column.

It's been quite awhile since my first DXF, so a brief reintroduction may be in order: I'm 19, a freshman at UC-Berkeley, and a tentative psychology or journalism major. I've been DXing since '72, seriously since '73, and have just begun my third year in IRCA.

The old state and province of the month columns were regular features for several years, but after 1971 they gradually faded into oblivion. The western part of the country has been badly neglected with only five s/p's (MT, ND, SD, WA, NV) featured since 1971. Most western s/p's have not been featured in 5-7 years and five (CO, NM, OK, TX, MN) have never been dealt with at all. I will generally do the previously unfeatured s/p's first, but will throw in some others too, since many of the unfeatured ones are fairly easy to log from anywhere.

Sometimes an individual column will feature two states or provinces. If I find that some of the more sparsely populated western states do not have enough widely heard stations to fill a full-sized column, I will combine adjacent s/p's in the same feature. This approach will get more s/p's done sooner and will also help to even the workload.

Almost everyone should be able to provide something of interest to the column, be it information that will help some distant DXer to log one of your locals or tips on logging a distant rare station from your area. Whatever you report, try to be sure of your facts. If you aren't certain of something you can still report it, but mention that your information is only tentative.

Reporting procedures and format are the same as outlined by JCK in his introductory Eastern "Spotlight On ..." column in the 12/27 DXM. Please remember to double space between all items and single space within. Typed reports would be appreciated, but legibly handwritten ones are OK too.

The first column will be a two-stater featuring New Mexico and Arizona. KOB makes NM a fairly easy catch for much of the country, but please report info on the less easy to log stations also. AZ was last featured in 9/71 and should be interesting as it is pretty tough from most of the eastern part of the country and doesn't have an easy to hear station like KOB. The second column will also be a double featuring Utah and Colorado. The deadlines are as follows:

Arizona-New Mexico	May 1
Colorado-Utah	June 15

Word on what follows Colorado/Utah will appear in the next column. Until I find that I've lost something in the mail, send reports to me at my Berkeley address:

Eric C. Rittenhouse
Griffiths Hall #106
2650 Haste Street
Berkeley, CA 94720

If the mailman messes things up I may have to switch back to the MP address, but for now, send things here.

Any suggestions, questions, etc. are welcome. Please remember to report often, and until next time, 73 and good DX de ECR ...

Eric

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AD-VISOR 247 N. FIRST STREET, APT. 27
EL CAJON, CA USA 92021

PHONE: (714) 440-2544; HRS.
EDITOR: ALBERT S. LOBEL 1800 - 2115 PLT.

DEADLINES: FRIDAY 1800 PLT.

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REASON: the name Ad-visor does not appear on my mailbox and my manager will not allow me to put it on. You're taking a big chance on my not receiving your ad. Postal regs. state that the name must appear on an apartment type box for mail to be delivered. **MY THANKS!**

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Index to Vol. 12 DXM (as compiled by Fred McClelland) for 25¢ and a legal size sase.
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One very well used copy of the IRCA Foreign Log Vol. 3 for \$1.45 postage paid. HURRY, IT MAY NOT LAST -- 1st to write get's it!
ALBERT S. LOBEL, 'Ye EDITOR!

page 282 February 28, 1976

THE INTERNATIONAL RADIO CLUB OF AMERICA, INC.

A non-profit club devoted to listening to distant radio stations on the broadcast band (510-1630 khz.) IRCA is a member of ANARC, The Association of North American Radio Clubs.

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Realistic Patrolman - 9, nine band portable rx. Used only six months. Excellent condition except for the tip of telescoping antenna being broken off (no effect on reception). A great buy if you're interested in public service bands, also good on FM, SW, & AM (not as good as a TRF, though). Covers AM, FM, SW 1.6-22 MHz, 30-50 MHz, 144-174 MHz, 108-135 MHz, 450-470 MHz. Has headphone jack, BFO, squelch, fine tuning, external antenna jack. Am selling because I have no use for it. \$95, postpaid.
ROBERT A LAZAR, 413 OGG WEST, MADISON WI 53706

Three packages of Robbins 2" diameter tape reels. Six reels per package. Ideal for sending taped reception reports. \$1.00 per package, postpaid.
ROBERT A. LAZAR, 413 OGG WEST, MADISON WI 53706.

RCA WC-508B transistor/diode tester, mint condition. \$15, postpaid.
DOUG KOWALSKI, 2035 S. 58th ST., WEST ALLIS WI 53219.

Eico 460 5" oscilloscope (works, but have never been able to balance vert. amplifiers). \$40, postpaid.
DOUG KOWALSKI, 2035 S. 58th ST., WEST ALLIS WI 53219.

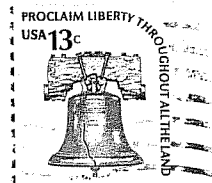
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Top 100 songs of the year list for 1955-1973 (Rock & Roll). Official list by stations WLS, KOL, WOAI, KOMA, KHJ, OR ?
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IRCA
P. O. BOX 21462
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U.S.A.



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Dave Williams 2
Box 615, Hwy. 101
Astoria, OR 97103