

July 16, 1994 - Volume 31 - Number 33 - Edition 1025 - ISSN 0899 - 9732

NEW MEMBERS: Jeffery Galbaugh Cincinnati OH, Robert Swinn Freedom CA.
Renewals: Bruce Conti Nashua NH, Howard Kemp Laconia NH, Patrick Martin Seaside OR, Paul LaFreniere Grand Marais MN, Richard Eckman Hampton VA, Frank Aden Jr Boise ID, Tom Bryant Nashville TN, Glenn Hauser Enid OK, Ted Wedzilowicz Elizabeth NJ, Jason Dolan Seattle WA, Dewaine Anderson Roseburg OR, George Kesteven Calgary Canada, Mike Stonebridge Fox Creek Canada, David Wurl Marshfield WI, Jerry Redding McLean VA. Thank You...

IN THIS ISSUE: Broadcasting Information..2, DX Worldwide West..6, Western DX Roundup..10, Central DX Roundup..13, Eastern DX Roundup..16, Western DX Forum..17, Eastern DX Forum..19, Verification Signers..22, Wanted..22, Notes from Mexico..23, IRCA Electronic Mail List..25, GCD Great Circle Distance & Bearing Program from Art Peterson..26, Database & Logging Utility..27, Geomagnetic Indices..29, RA6790/GM Receiver: A Brief Review..30, Drake R8: Increased Dynamic Range, Mod 2..37..

TIS AUDIO TAPE: As a special project, I am going to compile an audio tape of TIS messages from all over the US and Canada. I can accept either reel to reel or cassette tapes, and the announcement should be readable (not faint DX, although clear DX is OK). Please include call (if known), location, frequency, date and time with each submittal. The length of the final product will depend on how many submissions I get... but I am hoping for at least two sides of a C60 and copies of the final product will be available for a nominal charge. My deadline now is November 1, 1994. Send tapes to: Phil Bytheway 9705 Mary NW Seattle WA 98117...More...As of today I have only TWO tapes...so this could be a dud project. However, we shall see what happens by November 1. It occurred to me that this might have worked out slightly better if I had started off DURING the DX season rather than during the summer months.

RADIOCOM94: This event has been cancelled due to lack of interest from all segments of the hobby. It is being replanned for 1996 in Irvine CA. This will give everyone plenty of time to make their plans to attend in August 1996. We have also learned that the POPCOM94 Convention has also been dropped for 1994. This info from the ASWLC bulletin....Pub..

NEW MEXICAN LOG: The new log is here and available from the IRCA Bookstore 9705 Mary NW Seattle WA 98117. Send for the Bookstore flyer..

THE 1994 IRCA CONVENTION: August 26-27-28, 1994 Aberdeen-Hoquiam is all most here. Please sign up with Nancy. By the time you read this notice it will be late to get the IRCA convention rate.....

DRAKE R8: INCREASED DYNAMIC RANGE, MOD 2; This article starts on page 37 in this issue and will continue in the next issue of the DXM. I do not like to break up articles but sometime it happens.....

THIS DXM IS LATE: I waited a couple of days for a couple of columns to show and they did not, also this is a good size DXM and I am lazy and it is hot weather wise 95+ for the last month or so. BCB DX is at a standstill. The tropical band has been open in the early morning....

BROADCASTING INFORMATION



Editor:
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DEADLINES: 2nd & 4th Saturdays.

Compiled: 06/07/94

Much of this information was compiled from M Street Journal, DXM, and various other sources.

CONSTRUCTION PERMIT ACTIVITY:

MA. Leicester	WVNE-760	inc. to 25000-D, ND, 8600-CH
MN. Nashauk	WKRQ-650	inc. to 650-N
VA. Leesburg	WAGE-1200	dec. day pwr to 5000 w.

FACILITY & PARAMETER APPLICATIONS:

AZ. Tucson	KTUC-1400	inc. to 1000/1000
CA. Bakersfield	KZPM-1100	4200/800 DA-2 (CP)
NC. Fairfiew	WHIY-880	dec. to 1000-D (CP)

FACILITY & PARAMETER GRANTS:

HI. Honolulu	KLHT-1040	inc. to 7500/7500
NJ. Bridgewater	WBRW-1170	dec. to 229-D, ND

CALL LETTER CHANGES:

CO. Rifle	KKGD-810	requests KRGS
GA. Rossville	WLWX-980	becomes WCVT
HI. Waipahu	KDFO-940	becomes KJPN "Japan"
IA. Red Oak	ROAK-1080	requests KCSI
MI. Detroit	WWW-1130	becomes WDFN "Detroit's Fan"
MN. Brooklyn Park	KBCW-1470	becomes WLOL
NC. Charlotte	WAQS-610	becomes WRFX "The Fox"
TN. Gallatin	WAMT-1130	becomes WYXE
TX. Lubbock	KJEX-580	becomes KRFE
UT. Ogden	KJOE-1490	becomes KYFO

FORMAT CHANGES:

AL. Pepperell	WTLH-910	was silent, now SMN Real country
CA. Berkeley	KVTO-1400	was KBLX, urban AC//FM, now Asian (ed note: I rptd. this as KETO in last column by accident, a 'mishear' on my part)
Fowler	KRGO-1220	was rancho, now SS oldies
Palm Springs	KESO-920	was KDES, nx/talk, now AP-nx
San Bernardino	RMEN-1290	was sports, now oldies "Killer Oldies" sim. KRGI-FM mornings, keeps play-by-play
South Lake Tahoe	KOWL-1490	was AC, now nx/talk/sports
FL. Fernandina Beach	WOAI-1570	was silent, now full service country
Ocala	WTMC-1290	was AC, talk, now silent
GA. Dublin	WELT-1330	was talk, oldies, now talk
Rossville	WCVT-980	was WLWX, nx, now SMN urban gold
Savannah	WEAS-900	was s. gospel, now sports
HI. Honolulu	KULA-1460	was AS, now silent
Waipahu	KJFN-940	was KDEO, country, now Japanese
ID. Orofino	KLER-1300	was AC, adds Major AC
IL. Anna	WRAJ-1440	was gospel, now JSN country
Macomb	WLRB-1510	was country, now PRN talk
IN. Elkhart	WTRC-1340	was AC, talk, evolves to all-talk

FORMAT CHANGES (CONT.):

IA. Waterloo	KXEL-1540	was AS, adds WWL trucker's show
	KWLO-1330	was AC, talk, now oldies
KY. Mumfordsville	WLOC-1150	was s. gospel, now silent
MD. Elkton	WSER-1550	was AC, adds Major talk
MI. Grand Rapids	WBEL-1340	was WLAV, silent, now ASN sports
Newberry	WNBY-1450	was JSN oldies//FM, now JSN EZL
MS. Hattiesburg	WHSY-1230	was talk, now silent
MO. Joplin	KFSB-1310	was AC, now JSN The Team sports
NV. Paradise	KNUU-970	was nx, talk, adds AP-nx
NY. Albany	WROW-590	was talk//WPTR, now AP-nx
Buffalo	WWKB-1520	was Stern/talk/sports, adds WWL trucker's show
NC. Charlotte	WIST-1480	was WCNV, silent, now SMN stds.
Goldsboro	WFMC-730	was country, adds WWL talk
Williamston	WIAM-900	was rel, talk, adds PRN talk
OH. Chardon	WATJ-1560	was nx, talk, now AS
OR. Portland	KKEY-1150	was talk, adds PRN talk
SC. Columbia	WCTG-840	was gospel country, now religion
Georgetown	WGTM-1400	was AC//FM, adds JSN AC//FM
TN. Kingsport	WKIN-1320	was country, now AP-nx
TX. Lubbock	KRFE-580	was KJBX, silent, now SMN AS
UT. Ogden	KYFO-1490	was KJOE, c. XTian//FM, now BEN rel//FM
Salt Lake City	KSL-1160	was nx, talk, adds WWL Trucker's show
VA. Norfolk	WZAM-1110	was silent, now Xtian country
WI. Oshkosh	WXOL-690	was oldies, now talk, to be rel. soon
Poynette	WIEU-1240	was AS, now classic country, will use SMN Real country overnight
Superior	WDSM-710	was country, to be talk, sports in June, (WWL, Major, ASN)
WY. Cheyenne	KRAE-1480	was oldies, adds JSN oldies

Gary Jackson of Sacramento, CA. adds the following tip:

CA. Folsom KQIQ-1030 has been heard testing of late, hopes for July on-air date

Dale Park of Honolulu, HI. passes on the following info:

HI. Honolulu KHVH-830 was oldies, morning talk, KIKI, now nx/talk
KIKI-990 was nx, talk, sports, KHVH, now oldies

Dale also confirms earlier info in the column concerning KJPN-940 HI. and KULA-1460 HI..

Ye editor passes on the following tip:

CA. San Francisco KKHI-1550 projected 5/30 call change to KPIX didn't occur, per call to station 6/3 they will officially change over 6/16, KKHI-FM is now KPIX-FM, but still classical//AM for now.

Thanks, Dale, Gary and myself. DX is currently in the June swoon, hopefully it'll pick up within a few weeks. 73's.

DEADLINES: 2nd & 4th Saturdays.

Compiled: 06/25/94

Much of this information was compiled from M Street Journal, DXM, and various other sources.

CONSTRUCTION PERMIT ACTIVITY:

PA. Philadelphia WPGR-1540 adds 500 w. night power

FACILITY & PARAMETER APPLICATIONS:

IN. Terre Haute	WBOW-640	increase to 500-D
MI. Mount Pleasant	WCEN-1150	delete night service
NC. Forest City	WWOL-780	increase to 10000-D
WI. Hudson	WMIN-740	increase to 950-D

FACILITY & PARAMETER GRANTS:

FL. Pompano Beach	WRBD-1470	increase to 50000-D, DA-1
TN. Lafayette	WEEN-1460	decrease to 860/119, ND

CALL LETTER CHANGES:

AL. Birmingham	WCBO-1260	becomes WJDC
Hartselle	WHRT-860	becomes WYAM
AZ. Flagstaff	KVNA-690	becomes KCLS
	KCLS-600	becomes KVNA
CA. Berkeley	KELX-1400	becomes KVTO
Frazier Park	KNOB-1050	becomes KKGO
Palm Springs	KDES-920	becomes KESQ
GA. Macon	WKXK-1280	becomes WIBB
MI. Grand Rapids	WLAV-1340	becomes WBBL
MN. Brainerd	KVBR-1340	becomes KVBR (?????)
(ed note: this is as rptd. by M Street, can anyone give clarification?)		
MS. Cleveland	WDTL-1410	becomes WOHT
OH. Cincinnati	WSAI-1360	becomes WAOZ "Aahs"
	WKCY-1530	becomes WSAI
	WLWA-550	becomes WKCY
Niles	WNRB-1540	becomes WFNE
PR. Morovis	WMTI-1580	becomes WGFE
TX. El Paso	KINT-1150	becomes KSVE
VA. Rocky Mount	WNLB-1290	becomes WFTN

FORMAT CHANGES:

AL. Andalusia	WKYD-920	was stds., talk, now silent
Birmingham	WDJC-1260	was WCBO, business, now Xtian country
Fort Payne	WFPA-1400	was oldies, C&W, now country//WKEA-FM
Oneonta	WCRL-1570	was country//FM, now JSN oldies
AZ. Bullhead City	KFLG-1000	was country//FM, adds EFM talk
Flagstaff	KAFK-930	was country//FM, talk, adds clas. C&W days
CA. Apple Valley	KWRN-1550	was KAPL, oldies, now regional Mexican "Radio Mexico"
Frazier Park	KKGO-1050	was KNOB, silent, now class. //KKGO-FM
Oceanside	KGMS-1320	was AS, now CHR//KKLQ-FM, to be KKLQ-AM
San Francisco	KPIX-1550	was KKHI, still class.//FM, to be nx/talk by 'end of the month' (June)
CO. Dillon	RHTH-1130	was talk//KNUS, now JSN country "Target"
CT. Norwich	WICH-1310	was soft AC, adds WWI talk
FL. Jacksonville	WJAX-1120	was EZL//WKRTZ FM, to be CSN child. (Aug)
Miami	WZNZ-1460	was nx, sports, to add AP nx (Aug)
Orlando	WINZ-940	was nx, sports, to add Ap nx (Aug)
Pinellas Park	WWNZ-740	was nx, sports, to add AP nx (Aug)
Pinellas Park	WHNZ-570	was nx, sports, to add AP nx (Aug)
GA. Macon	WIBB-1280	was WKXK, sports, now SMN Urban gold
Savannah	WCHY-1290	was country//FM, to be AP nx/sports (Aug)
MS. Winona	WONA-1570	was country//FM, adds JSN C&W //FM
NJ. Plainfield	WERA-1590	was oldies, now AC
NM. Alamogordo	KPSA-1230	was country, adds JSN country
Santa Fe	KVSF-1260	was talk, adds Major talk
NY. Albany	WPTR-1540	was talk, sports, adds IRN truck show
Endicott	WNRV-1430	was AC, now hot AC "Star"
Huntington	WGSN-740	was nx, stds, now gold-based AC
NC. Charlotte	WIST-1480	was WCNV, silent, now SMN stds.
Eden	WCLW-1130	was oldies, adds JSN oldies
PA. Titusville	WTIV-1230	was AC, now SMN country
Wilkes-Barre	WYCK-1340	was EZL//WICK, now silent, to re-turn when new xmtr site is approved

SC. Loris	WLSC-1240	was country, adds WVI country
TN. Etowah	WCPH-1220	was silent, now southern gospel
TX. Fort Worth	KTNO-1540	was Tejano, now SS religion
Sonora	KHOS-980	was country//FM, adds SMN C&W //FM
Texarkana	KCMC-740	was country, now SEN sports
VA. Rocky Mount	WFYN-1290	was WNLB, gospel, C&W, now JSN oldies
WA. Chelan	KOZI-1230	was JSN soft AC//FM, now JSN AC//FM
Walla Walla	KUJ-1420	was oldies//FM, now talk, sports (WVI, SEN, WOR)
WI. Madison	WIBA-1310	was nx, AC, adds AP nx
	WTYD-1480	was talk, adds Major talk
Rockford	WNTA-1150	was nx, talk, adds Major talk

Ye editor passes on the KPIX-1550 tip added in the "Format Changes" section. All that per call to station, and monitoring. Also, my local KKSJ-1370 is now running their full 5 kw. night pattern as they should've been, no longer 1 kw. as they had been running since coming on last April. This per local ad in paper!

1 week till the 4th of July, may your DX be as hot as fireworks! 73's.

DEADLINES: 2nd & 4th Saturdays.

Compiled: 07/05/94

Much of this information was compiled from M Street Journal, DXM, and various other sources.

CONSTRUCTION PERMIT ACTIVITY:

NY. Trumansburg WPIE-1160 increases to 5000/310 DA-2

FACILITY & PARAMETER APPLICATIONS:

CO. Boulder KBLD-1190 110-N

CALL LETTER CHANGES*

CA. Apple Valley	KAPL-1550	becomes KWRN
San Francisco	KKHI-1550	becomes KPIX
CO. Boulder	KBCO-1190	becomes KBLD (word is they may want to change back to KBCO!)
FL. Jacksonville	WPDQ-690	becomes WOKV
	WOKV-600	becomes WPDQ
Panama City Beach	WPCF-1290	becomes WDLF
MN. Richfield	KRXX-980	becomes KEGE
MO. St. Louis	KXOK-630	becomes KJSL
NH. Laconia	WLNH-1350	becomes WEZS
NC. Charlotte	WCNV-1480	becomes WIST
Franklin	WAJA-1480	becomes WPFJ
Raeford	WHIL-1400	becomes WMFA

FORMAT CHANGES:

AZ. Tucson	KTUC-1400	was talk, adds WVI Imus
CA. Monterey	KIDD-630	was new AC//FM, now silent
Santa Rosa	KMXN-1150	was contemp. Xtian, now brokered SS, religion
CO. Boulder	KBLD-1190	was KBCO, remains alt. //FM, rumor they may want to be KBCO again!
FL. Naples	WNOG-1270	was nx, talk, adds AP nx
Panama City Beach	WDLF-1290	was WPCF, gospel, now tourist info
GA. Dalton	WLSQ-1430	was talk, adds IBN talk
Dublin	WMLT-1330	was talk, adds IBN talk
ID. Soda Springs	KBRV-790	was JSN AC//FM, now JSN C&W //FM
IL. Aurora	WBG-1280	was nx, talk, adds IBN talk
Chicago	WJPC-950	was rap, now urban/hip hop //FM
IN. Decatur	WADM-1450	was silent, now AC//WNRV
MD. Morningside	WPGC-1580	was business, adds IBN talk

MI. Grayling	WGRY-1230 was country//FM, now JSN AC, to return to C&W//FM after FM facilities upgraded
MN. Hastings	KDWA-1460 was country, now DJS oldies
MO. Clinton	KDKD-1280 was nx, talk, now MGS contemp. Xtian
Hannibal	KHMO-1070 was nx, talk, adds AP nx
Marshfield	KMRF-1510 was silent, now gospel
MT. East Missoula	KLCY-930 was soft AC, adds talk
NM. Albuquerque	KRZY-1450 was country//FM, now Imus, sports "The Sports Animal"
NY. Babylon	WNYG-1440 was country, now SS
Ithaca	WHCU-870 was nx, talk, sports, adds AP nx
Owego	WEBO-1330 was classic country, now AS
NC. Franklin	WPJF-1480 was WAJA, country, now con. Xtian
Raeford	WMFA-1400 was WHIL, silent, now black gospel
OH. Cleveland	WERE-1300 was nx, talk, adds IBN talk
Columbus	WOOL-1230 was nx, talk, adds IBN talk
OK. Chickasha	KWCO-1560 was hot AC//FM, now PRN talk
TN. Bolivar	WBOL-1560 was silent, now southern gospel
Franklin	WIZO-1380 was oldies, adds WWI oldies
TX. Humble	KGOL-1180 was religion, now brokered ethnic

Jim Hilliker confirms the earlier info on KIDD-630 Monterey, CA..
Thanks, Jim!

Ye editor passes on the following info:

CA. San Francisco KPIX-1550 had originally planned to be nx/
talk, signed on instead 7/4 with
soft jazz/AC format //FM, using
the slogan "95.7, The Express".

Not a real long column this time, FCC is kinda slow over the Fourth
of July, I guess. 7 weeks till the convention, hope all that can
make it do! 73's.



DX Worldwide - West

PAT MARTIN PO BOX 843 SEASIDE, OR 97138

Time: UTC

Phone (503) 861-3185

DEADLINES: 8/1,8/22,9/5

A great turnout this month. Several DXpeditions, even though conditions were not the best. There is a mystery on 1557 KHZ that several people have been hearing. First it was thought to be the Philippines that Chuck Boehnke has been hearing, but checking the Sunrise and Sunset times for the Philippines, now that doesn't seem to be the case. The language doesn't seem to be English though. I just received an updated list of New Zealand stations from Paul Ormandy and 2ZH on 1557 KHZ doesn't list an Ethnic programming, so that is out. I wonder if one of the Pacific Island stations have moved from eg. 1584,1593 KHZ to 1557. According to DX Australia, 2UW-1107 has moved to FM now. On with reports. I hope everyone has a great Summer, and many can make it to the Aberdeen/Hoquiam, WA IRCA convention.

PAN-AMERICAN DX ROUNDUP

940 MEXICO, Mexico City-XEQ "La Q Mexicana" from 0645 to 0730, 5/17
Often over QRM from KFRE, good Latin mx after 8PM HST KJPN s/off
(CB-HI)

- 1210 MEXICO, Colima-XEBCO "Radio Occidente" from 1105-1130 5/22, Good Rancheras and Cumbias. Tired soundin ancr trying to be cheerful doing TCs. Good signal, no QRM. (CB-HI)
- 1500 MEXICO, Mexico City-XEAI-atop another SS w/"Radio A-I", ID at 0315 5/29 (LG-MT)

TRANS-PACIFIC DX ROUNDUP

- 529 ALASKA, Level Island-SQM-Old regular, best on 340 degree wire 6/14 good with forecast for area. (NHP-BC*)
- 540 t WESTERN SAMOA, Apia-2AP-seemed to dominate co-channel CBK On several occasions. Polynesian choral around 0800 6/13 and traditional Polynesian singing around 0950 6/13. (JB-BC)
t Also noted Good signal dominating channel 0757 6/13 w/Island choral mx No talk across hour of course, so no ID, but was best on 270 degree wire. Not nearly as noticable 6/14. (NHP-BC*) (2AP here seems to ID very little, the many times heard here. 747 seems to ID much more often. PM)
- 558 t FIJI, Suva-VRH 1153 6/14 Best on 270 degree wire with Island mx, poor and no talk or IDs. No other Fijian stations were noted the AMs on 6/13 and 6/14, which was unusual, especially at their local Sunset. (NHP-BC*)
- 576 AUSTRALIA, Sydney-2RN-1231 5/15, Woman singing w/guitar mx //792 fair to poor. (NHP-BC*)
+Also noted //792, Levels briefly good 1140 6/14. (JB-BC)
- 621 TUVALU, weak in KIPA splash with woman in Island laguage at 0645 6/20 (PM-OR)
- 630 PHILIPPINES, Quezon City-DZMM-1045 to 1100 6/5, man and woman in political talk of some sort, then switched to subject of Timor and mentioned Gov. was unhappy with the position taken by Indonesia on the Issue. Sounded militant about it. Good level thru NZ QRM in Filipino and EE. (CB-HI)
NEW ZEALAND, Napier-2YZ from 1100-1125 6/5, National Radio pgm //SW 6100 with stories of D Day-Fair level, sometimes on top.(CB)
- 675 AUSTRALIA, Corowa-2CO 1155 6/13 woman talking //702 fair signal (NHP-BC*)
NEW ZEALAND, Christchurch-3YA 1227 5/5. Gordon Lightfoot Song fair signal //756 (NHP-BC*)
- 684 AUSTRALIA, Kempsey-2KP-1224 5/15 Man interviewing woman, poor signal, but seemed //702 (NHP-BC*)
- 702 AUSTRALIA, Sydney-2BL-Here all evening w/fair signals, inc. to excellent signal around 1200, 6/13-NSW News, WX for Sydney, and areas, etc. Also logged 6/14. (JB-BC)
+Also throughout evening 6/3 from 0820, until fadeout at 1330, Also noted 6/5. Good level at times. (JB-WA*)
- 738 TAHITI, Papeete-FRO-FF Talk by two men in passing 1232 6/5. (JB-WA*)
+Also noted 0700 6/13 w/two men in FF, signal never better than fair over the next 6 hours. (JB-BC)
t +Also probably the one in FF with two men talking 1142-6/7. Some day I hope to ID this. (LG-MT)
- 747 WESTERN SAMOA, Apia-2AP-fair signal with woman in EE playing old EE pop mx at 0645 6/22. 540 KHZ always stronger. (PM-OR)
- 774 AUSTRALIA, Melbourne-3LO-Radio Australia News until 1210 6/5, then ballads. (JB-WA*)
+Also noted with phone in talk show, good level at dawn enhancement at 1141 6/14. (JB-BC)
- JAPAN, Akita-JOUB-At S9 levels in JJ during brief East Asian opening at 1110 6/3, Also noted 6/5. (JB-WA*)
- 792 AUSTRALIA, Brisbane-4RN-(Listed, is this call correct?) (Yes, PM) EE Aussie DJ playing ballads, Good levels around 1220 to 1240 6/5, no ID. (JB-WA*)
- 828 JAPAN, Osaka-JOBB noted in JJ from 110 tune-in throughout the 45 minute East Asian opening 6/3. Levels were never strong. (JB-WA*)
- 837 AUSTRALIA, Rockhampton-4RK-1211 6/14 Poor to good w "Australia Tonight" program, one of the best Aussies this AM. (NHP-BC*)
+Excellent level at dawn enhancement 1148-1205 w/talk show and nx 6/14. (JB-BC)

- 846 KIRIBATI, //to SWBC outlet 9825. Noted at 0705 6/13 with fair signals. Presumed news Island lang. by female ancr. Also logged briefly in // on 6/14. (JB-BC)
 +Also noted 0706 6/13 Lady in Island language, poor to fair signal //9825 which was weaker. (NHP-BC*)
- 855 AUSTRALIA, Maryborough/Eidsvoid-4QB/4QO-fair with Pop mx and YL ancr at 1111 on 6/22. (PM-OR)
- 1017 t TONGA, at 0711 6/13 with female speaking, Also hrd 6/14. This signal not as strong as it was in 89,90,91 seasons. (JB-BC)
 (None of the signals from the Pacific are not nearly as strong as they were a few yrs ago. CX are not as good. Hopefully they will improve in time.PM)
- 1116 UNID, with Big Band mx 6/9 1124-1129. Poss. Australia? (LG-MT)
 (Sounds like it might to NZ instead.PM)
- 1143 AUSTRALIA, Newcastle-2HD-This one probable at good levels. At 1247-1301 6/3. Slogan "Playing the best mx in the Highlands and the Coal Fields." Soft Rock,lots spots. (JB-WA*) (Good catch, John. This used to be fairly regular in 1979-81, but is very rare anymore. PM)
- 1161 AUSTRALIA, Maryborough-4MB-probable, Aussie EE audio and max. dawn 1220 6/14. (JB-BC)
- 1332 AUSTRALIA, Bundaberg-4BU mostly likely, Briefly with Aussie audio at max dawn 1225 6/14 (JB-BC) (This one is directional this way and gets out good around LSR. PM)
- 1475 MALAYSIA, Borneo-RTVM was present at very low level with lang. pops at 1120 6/13. Audio also noted 1111 at 1125 6/14 (JB-BC)
 +Also noted strong het here during East Asian opening. I presume it was RTVM-Malaysia, being off freq. 1130 6/3 (JB-WA*)
- 1476 UNID, with non top mx (incl. Carole King) 1157-1202 6/4. No break on the hr. 4ZR? (LG-MT) (Also could have been the station at the Auckland Airport running 5 KW in NZ. PM)
- 1548 AUSTRALIA, Emerald-4QD prob. the one 5/28 1159-1215. No pips or other IS on the hr, but ABC Newscast began then and at 1210 woman IDed as ABC Radio, Local SR here was 1148,there were deep fades. Reported. (LG-MT)
 +Also hrd 1230 6/14 w/exc. signal. Ballads and talk (JB-BC)
 +Also noted EE DJ and Ballads TC at 1000 6/5. Slogan was "ABC Radio, the sounds of Queensland" (JB-BC*)
- 1557 UNID, Logged between 0830 tune-in and 1330 post-dawn band fade out at Grayland. EE rock/ballads from the 1970s. Female announcer in unknown non-polynesian language running program. Continuous mx later in the evening, No spots?? (JB-WA*)
UNID, This was first noted on 6/3 Expedition. Found at good level on 6/13 at 0710. Host was a man in language, could be Tagalog(?) but time seemed to early for the Philippines. By 0715, level had dropped to poor and continued until band fadeout 1300.(JB-BC)
UNID, First hrd as a het 6/14 at 0640 and with audio at 0657. These times rule out a Philippine station. Prior to 0900, the local DJ was very active. After about 0900, records are played with var. amounts of dead air.... (JB-BC)
UNID, 6/14 between records with no breaks of any kind, even at top of hour. Records one evening were all USA and British Rock from the 70s. Two other evenings records were all 50s USA Rock. Ideas anyone???? (JB-BC)
UNID, Something new or something seems to have increased power here, apparently DU. First time heard near Tofino 1253 5/15. With Dionne Warwick song fair to good. NO IDs but assumed to be 2RE. Noted at home with Tina Turner's "Whats Love Got To Do With It" 1205 6/6. Poor signal, was the only overseas audio noted that AM. Then noted fading in just after 0700 at Sombrio Beach 6/13 with Island style mx, 6/14 pop mx. Only top band audio at this time. No IDs when ancrs came on, lang. seemed only EE, By local dawn, station was broadcasting only mx with dead air between songs, 50s pops 6/13, and non-descript rock 6/14. (NHP-BC) (This is beginning to sound more and more like and new island station, or one that has changed frequencies. Fiji has moved around lately, now on 1152 and other channels, plus there has been a couple CPs for the Pacific area in recent

- times. So far though, I cannot find anything new listed for 1557 KHZ. Will keep looking. Anyone else??? (PM)
- 1566 SOUTH KOREA, Cheju-HLAZ- Here in CC with rel. program S/9+ levels 1115-1150 6/3. (JB-WA*)
- 1615 NEW ZEALAND, Ohura-OR not noted 6/13 or 6/14, not even a carrier. Is it still on? (NHP-BC*)
NEW ZEALAND, Ohura-OR not in all of this season, and was a regular in May and June the past 2 years. Wonder if they changed freq.? (LG-MT)
- 531 AUSTRALIA, West Kempsey-2MC -noted throughout the evening at low levels. Came up nicely at dawn enhancement (1150-1230), ID,TC with pips and into nx 1200 6/13. Also logged on 6/14 (JB-BC)
 +Also logged 1200 6/13 2MC ID after various ads, poor to fair signals. This one can usually be relied on at the coast.(NHP-BC*)

VERIFICATIONS

- 540 WESTERN SAMOA, Apia-2AP-has beautiful new QSL card, showing 3 street scenes on Apia in color. Full details on back of card. Rec. in 114d-v/s W.J. Tibben-Dir. Address-Samoa Broadcasting Service-P.O. Box 1868-Apia, Western Samoa. (PM-OR)

THANKS TO THESE REPORTERS

- CB-HI CHUCK BOEHNKE-POST OFFICE BOX 488-KEAAU, HI 96749-0488
 Icom R71A, Dipole antenna
- JB-BC JOHN BRYANT
 JRC-NRD 525, mod. with 4-1000' Beverages 220-340 degrees at Sombrio Beach,B.C., Canada.
- JB-WA* JOHN BRYANT
 JRC-NRD-525, Drake R7A, DXing with Guy Atkins at Grayland State Park,WA. Beverages 240,270,300 degrees.
- LG-MT LARRY GODWIN-2390 CLYDES DALE LANE-MISSOULA,MT 59801
 Hammarlund HQ-150, Sanserino air-core Box Loop
- NHP-BC NICK HALL-PATCH-1538 AMPHION STREET-VICTORIA,BC V8R 4Z6
 DXing at home with homebrew rx,ICF-2010,3foot loop, and random wire.
- NHP-BC* NICK HALL-PATCH
 DXing at Sombrio Beach w/homebrew rx,ICF-2010, Beverages 1-2000 at 270 degrees, 1-1300 at 225 degrees, 1-1000 at 305 degrees, and 1-800 at 340 degrees.
- NHP-BC% NICK HALL-PATCH
 DXing at Tofino,B.C. Using homebrew rx, ICF-2010, random wires and 1200' Beverage at 220 degrees.
- PM-OR YOUR EDITOR
 DXing with Drake R8, Hammarlund SP-600, with 2000' NNW beverage, 1500' East Beverage, and Term. 200' SW DU Wire-Ground system.

VERIFICATION OF RECEPTION
 (QSL) form
 VOICE OF AMERICA
 WASHINGTON, D.C. 20547
 USA

We are pleased to confirm your reception.

Date: 22 April 1994

UTC Time: 0410-0414

Frequency: 1,530 kHz

St: Sao Tome

John H. ...
 Station at the Voice of America's Edward R. Murrow Transmitting Station near Greenville, North Carolina. This facility has 23 transmitters with a combined power of 7,300 kilowatts.

Mark Connelly

30 William Road

Billerica, MA.

01821-6079

9

One month to
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CONVENTION!

WESTERN DX ROUNDUP

Nancy Hardy
2301 Pacific Avenue
Aberdeen, WA 98520-4527

 **PRODIGY**
FMFT21B

Electronic Mail: 73201.2263@CompuServe.com, or Prodigy FMFT21B. E-Mail deadline:
6pm Mondays.

WDXR DEADLINES: Mon. Aug. 1, Mon. Aug. 22, Sat. Sept. 3. Please use Eastern
Time.

REPORTERS FOR THIS ISSUE:

- (LG) Larry Godwin-2390 Clydes Dale Lane-Missoula, MT 59801
Hammarlund HQ-150, Sanserino air-core box loop & KIWA loop
- (GJ) Gary Jackson-7735 Center Parkway-Sacramento, CA 95823
- (GL) Gary Larson-2806 Lincoln-Burbank, CA 91504
Superadio II
- (PM) Patrick Martin-P.O. Box 843-Seaside, OR 97138
Drake RB, SP-600, 1500' E. Beverage, 2000' N. Beverage, ground
system
- (CM) Curtis McMenamin-2917 Georgia St.-Vallejo, CA 94591
(CM-CA1) DX'ing from Sierra City, CA with Sangean ATS 803 &
Select-A-Tenna
- (MS) Mike Sanburn-P.O. Box 1256-Bellflower, CA 90707
GE Superadio II
- (PT) Pete Taylor-2614 Jackson St.-San Francisco, CA 94115
- (RW) Robert Wien-1309 Dentwood Dr.-San Jose, CA 95118
GE Superadio, GE long-range portable, SM-2

OF SPECIAL INTEREST

- 630 (KXDC) CA, Monterey per local newspaper article & local monitoring, is
silent. Don't know when they went off the air. (RW-CA)
- 920 KESQ CA, Palm Springs 6/20 0900-0915 good at pattern change on top
with ID into AP news, slowly faded out, back up with AP sports
with Jack Briggs at 0913, then finally gone in KLOC null. Bad
KNEW-910 Splash. Call change, ex-KDES. (RW-CA)
- 970 KDWG MT, Billings (ex-KCTR) 6/25 0752 gave call ID. At 0800 ID's as
KCTR-FM "The Cat." (LG-MT)
- 1050 KKGO CA, Frazier Park 6/9 using FM call, ex-KNOB. Per call on 6/9 to
station, they confirmed they simulcast classical 105.1. Was once
country. On 6/8 heard partial call with classical music. (GL-CA)
+6/27 0852-0905 weak at first with AP news, ad for Lucky, ID, into
classical music, then blasted in at 0900, probably power change,
good in KOFY null. Call change, ex-KNOB, ex-silent. (RW-CA)
- 1400 KVTO CA, Berkeley these are the correct calls, not KBTO as I reported
in last WDXR column. I misheard the calls as a "B" sounds a lot
like a "V"! Calls mean "Voice of The Orient." (RW-CA)
+Started 5/16 and is mostly Korean. It is not associated in any
way with KBLA. (PT-CA)
- 1550 KWRN CA, Apple Valley 6/27 0843 good briefly over KXEX/KUAT/XEBM with
ad for "la programacion," ID "Aqui en Radio Mexico, Apple Valley,
California." Had called station earlier last week to confirm
call change, ex-KAPL. (RW-CA)
- KPIX CA, San Francisco 6/28 0259 ex-KKHI, usual good signal at s/off,
still classical, but has changed calls, changed late last week.
ID at s/off 0300 "This is KPIX, and KPIX-FM, San Francisco."
Should change to newstalk about July 1. Was giving ID's on Fri.
6/3 as KKHI and KPIX-FM. Still silent nightly 0300-0830+. (RW)
- 530 TIS CA, Martinez 6/27 0314 weak under San Jose Airport/Oakland
Coliseum TIS's with mention of city of Martinez, farmer's market,
call 911, etc. New. (RW-CA)

560 KSFO CA, San Francisco 5/23 0435 coming in strong, nothing else heard on frequency. (CM-CA1)

570 CKWL BC, Williams Lake 6/22 0410 topping KVI with C&W music. (PM-OR)

610 KFRC CA, San Francisco 5/22 0330 in strong with normal oldies, hard to null them out. (CM-CA1)

620 CJCI BC, Prince George 5/30 all alone on this loop bearing with C&W. At 0800 carried "Broadcast News" then locally-produced "Night Shift" program at 0803. I phoned station to confirm. (LG-MT)

720 (KDWN) NV, Las Vegas 5/30 0500-0700 noted off this 2 hour span, maybe this a weekly SP? 6/6 0304 totally off. May be back to old SP hours, no longer NSP. (RW-CA)

830 CKKY AB, Wainright 6/21 0743 ID as "All new country, Key-83." Gave ad for Wainright Stampede. (LG-MT)

850 CFVR BC, Abbotsford 6/23 snuck through KOA with call ID at 0729, then played oldies. (LG-MT)

870 WWL LA, New Orleans 6/6 0320 way on top of everything on freq. with ID "The road gang, on WWL." Rarely heard this strong nowadays on this crowded frequency! (RW-CA)

930 KTKN AK, Ketchikan 6/22 0340 fair on top with cluster of spots, one for "The great KTKN Giveaway" contest, trip to Seattle, etc. Surprised of signal in June! (PM-OR)

CJCA AB, Edmonton 6/22 0346 good on top of KTKN with Gospel music, "The best in Gospel music, on 930, CJCA" ID. (PM-OR)

990 (KATD) CA, Pittsburg 6/6 0740 totally off, KQSB in strong, KRKT in null. (RW-CA)

1020 CKVH AB, High Prairie 6/22 0405 fair with ID on top "All hit country, CKVH." (PM-OR)

1060 KBGN ID, Caldwell 5/28 2250-2302 had Spanish religious program "Ecos Latinos," with no ID on the hour. I phoned station to confirm. (LG-MT)

1100 WWWE OH, Cleveland 5/1 0010 totally dominant off east Beverage, 3-W-E ID's, talk, Cleveland weather. Good most of the night. (PM-OR)

1130 KRDU CA, Dinuba 5/22 0446 in fair with religious talk program. (CM-CA1)

1140 (KHTK) CA, Sacramento 6/12 0715 apparently totally off, KGEM/CFXL mix. (RW-CA)

KXNO NV, N. Las Vegas 5/2 0150 "Casino Radio," "Give us ... minutes, we'll give you..." "AM 11-40" ID's. (PM-OR)

1150 KSEN MT, Shelby 6/24 0730 s/on (no SSB). Said studios and offices are in Cutbank and Conrad. Ment. affiliated KZIN-FM. (LG-MT)

1170 KLOK CA, San Jose 5/22 0450 fair with Spanish music & ID as KLOK. (CM-CA1)

1230 KORT ID, Grangeville s/on 0757 5/31, Ment. affiliated with ABC and C&W format. (LG-MT)

KXLO MT, Lewistown s/on with SSB at 0745 6/21. Man said was "Central Montana information radio." (LG-MT)

KLCB MT, Libby 6/19 2300 on top with ID "Playing America's music in beautiful Kootenai country, we're KLCB, Libby." (LG-MT)

KVOC WY, Casper 6/6 2300 with legal ID. (LG-MT)

1240 KCVL WA, Colville 6/23 0800 with ID. Call sounded more like KQVL, but city location annct. cinched ID. (LG-MT)

1250 KIKC MT, Forsyth s/off annct. 6/25 2303, and anncr. advised listeners to switch to FM. But stayed on the air with C&W and no signal drop after that. (LG-MT)

KKDZ WA, Seattle 5/27 2305 with "KidStar Radio News," followed by "KidStar Sports." Later a girl said "KidStar 1250, radio just for kids." (LG-MT)

1260 KPOW WY, Powell 5/27 & 5/30 0759 s/on with male chorus SSB. (LG-MT)

1320 KOLT NE, Scottsbluff 6/7 2305 weak with call ID. (LG-MT)

KCNR UT, Salt Lake City 5/23 0440 in fair with newstalk. (CM-CA1)

1340 KATA CA, Arcata 5/23 0445 in poor with ID "KATA," then faded out. (CM-CA1)

1350 KSRO CA, Santa Rosa 5/22 0455 dominating frequency here, normal newstalk. (CM-CA1)

1360 KGME AZ, Glendale 5/23 0700 ex-KNNS, KLFF, KRUX for me. Trading dominance back & forth with KPOP. Had phone-in sports show and promo for Indy 500. Nice jingle at top of the hour "KGME Glendale-Phoenix." Still carries NBC Radio News. (MS-CA)

1370 KKSJ CA, San Jose 5/23 0600 ex-KEEN heard well over KWRM at right

- angle. Music by Nat King Cole and The Carpenters. Slogan "AM stereo 1370." (MS-CA)
- (KKSJ)+6/20 0320-0330 off for a few minutes, probably technical problems, back on RS at 0330. KWRM in strong at time. (RW-CA)
- 1400 KKZZ CA, Santa Paula 6/6 0338 good in KVTO null with ID "KKZZ, the best in AM stereo." (RW-CA)
- 1410 KOOQ NE, North Platte 5/26 2300 quite strong, evidently still on day power with ID. Man said "On the go, KOOQ, North Platte." (LG-MT)
- KWYO WY, Sheridan 6/1 2300 on top with C&W then ID jingle. (LG-MT)
- 1460 KKPR NE, Kearney 5/1 0300-0430 on top of frequency. Several checks, adult standards // 910 KKSJ, ID and promo for Nebraska sports at 0400, into CMN news. Listed as 56 watts at night! (PM-OR)
- 1500 (KSJX) CA, San Jose 6/19 0530, 6/20 0316 totally off these times, KSTP in weak both times. (RW-CA)
- 1530 WSAI OH, Cincinnati after call change. Oldies, then ID at 2300 5/27. Man said "This was WCKY, Cincinnati, now 1530 WSAI news." WSAI was on 1360. (LG-MT) (Bill says this sounds suspiciously like they were still legally WCKY and "buried" the real ID in that announcement!--NH)
- 1550 KAPL CA, Apple Valley 5/28 1400 noted still using these call letters but Spanish format now. (MS-CA) (RW says they changed calls to KWRN in late June; see "Of Special Interest."--NH)
- 1560 (KNZR) CA, Bakersfield 5/30 0845 noted totally off on very rare SP. (RW)
- 1590 KLIV CA, San Jose 5/23 0430 dominating frequency here with normal newstalk. Rarely can get them in Vallejo. (CM-CA)
- 1631.4 "TI" AZ, Kingman 5/27 0700 "TI" in Morse code, medfer beacon strong. (GJ-CA)
- 1637.5 CA, San Rafael 6/10 0620 medfer beacon, sends 110 dashes per minute. Weak with Morse code. Steve McGreevy! (GJ-CA)
- 1637.9 "RR" CA, San Rafael 6/10 0633 medfer beacon weak with Morse code "RR." Same person as 1637.5 kHz. (GJ-CA)
- 1640.3 "R" CA, San Jose 6/11 0610 weak medfer beacon with Morse code "R." (GJ-CA)
- 1650.6 "G4" CA, Palo Alto 5/27 0705 medfer beacon with Morse code G4." (GJ-CA)
- 1654.7 CA, Sunnyvale 6/28 0702 medfer beacon weak, Jim Erickson. (GJ-CA)
- 1687.4 "SD" CA, Descanso 6/8 0630 medfer beacon with Morse code "SD" strong. Frank Cathell. (GJ-CA)

UNIDS

- 530 6/27 0325 unID TIS very weak & garbled in null of San Jose Airport/Oakland Coliseum/Martinez. Mention of "for more information, contact the California Wind ???..." Is this the Kern County TIS or the Altamont Pass TIS? Any help on this? (RW-CA)
- 1030 5/31 0400 station testing with tones, no ID. Assume new station KQIQ in Folsom, CA. (GJ-CA)
- 1151 6/2 2237-2250 syndicated talk show here, just above 1150. Seems to loop ESE or WNW. (LG-MT)
- 1240 6/9 0800 ID sounded like "KOBJ, Albert Falls." (LG-MT) (KLVJ Mountain Home?--NH)
- 1490 6/26 2250-2258 Spanish-speaker with 3 clear ID's as "Radio Alegria." Anncr. mentioned town that sounded like Cowville, and call that might have been KAEP. (LG-MT)
- 1600 5/1 0325 Black Gospel station mixing with mess. WXVI? (PM-OR)
- 1610 5/27 0700 mention of Chief Joseph Dam. (GJ-CA) (This would be the TIS in Bridgeport, WA.--NH)

Patrick Martin sends along a note that KKBK-1230 is the AM of KMUZ 94.7, not 106.7 as I commented in the last WDXR. ABERDEEN-HOQUIAM '94!

CONVENTION NEWS

The 1994 IRCA convention in Aberdeen-Hoquiam, WA is just a few weeks away, Aug. 26-27-28. If you have items for the auction but aren't attending, please send them to my address by Aug. 23. Bill and I have planned the usual convention activities (business meeting, auction, contest, station tours, etc), and some not-so-usual activities (paper mill tour, shopping trip, Historical Seaport visit, and a "surprise" event). There should be at least one activity to interest everyone. Transportation will be provided by Bill's "DXERS" car and my "2 DXERS" van. See you in ABERDEEN-HOQUIAM '94!



Central DX Roundup

Editor: John C. Johnson

979 Neptune Boulevard Billings, Montana 59105-2129

Internet E-mail: JohnJ53816@AOL.COM

CompuServe: 7444,3075

Prodigy: MPNN49A

FOR THE RECORD

REPORT ALL TIMES AS EASTERN.

DEADLINE: 7/30, 8/18, 9/3.

RIDING GAIN

- [SA-MB] **Shawn Axelrod**, 30 Becontree Bay, Winnipeg, Manitoba R2N 2X9
Icom IC-R70 w/PLAM board & 4kHz filter, 4-foot box loop, Quantum loop, 100' wire.
- [EB-MO] **Eric Bueneman**, N0UIH, 631 Coachway Lane, Hazelwood, MO 63042-1347
Realistic DX-200, Realistic TM-152 with Worcester Space Magnet-2.
- [TN-WI] **Tim Noonan**, 4609 Crescent Road, Apt. 5, Madison, WI 53711-4672
Drake SW-4A, "Radio West" loop.
- [TJR-IL] **Thomas J. Reiser**, 9506 South Winchester, Apt. 205, Chicago, IL 60643-1109
Sony ICF-2003 with built-in antenna.
- [TJR-IL1] DXing on location in Manteno, IL
- [TJR-IL2] DXing on location in Champaign, IL
- [JcJ-MT] Your editor using an Icom IC-R71A with a Radio West loop.

SPECIAL INTEREST

- 630 KJSL **MO**, St. Louis. **EX-KXOK**. 6/17 now on the air. Christian talk format, slogans "The Salt And Light of St. Louis" and "Talk Radio Hell Hates." Noted broacasting in stereo. Address is 1215 Fern Ridge Parkway #220, St. Louis, MO 63141. [EB-MO]
- 970 KDWG **MT**, Billings. **EX-KCTR**. 5/31 finally heard a "KDWG Billings" ID. They sneak the KDWG ID in during a spot cluster between :45 and :58. Not sure exactly when this call change was made during May. As of 7/3 station is still //KCTR-FM with "Cat Country" C&W format. Lots of "KCTR" and "Cat Country" mentions. There is a competing FMer here that calls it's self "The Dawg." They were //KDWG 95.5 until 95.5 was sold (That is now KBMJ). This could turn into a nasty cat and dog fight here. 970 history: KOOK>KBIT>KCTR>KDWG. [JcJ-MT]
- 1470 WL0L **MN**, Brooklyn Park. **EX-KBCW**. 6/18 fair. 2245 with St. Paul Sprints vs Sioux Falls Canaries baseball. Also noticed with NOS music. Now //KLBB-1400 "Club 14 KLBB" slogan. ID on the hour as "AM 1400 KLBB St. Paul, Minneapolis. AM 14-70 WL0L." New for me. [SA-MB]
- 1510 KCTE **MO**, Independence. **EX-KJLA**. 6/18 fair. 2225 with sports talk program. "The sports authority, KCTE AM The Team. Covering sports like nobody can. Kansas City's Team." New for mel [SA-MB]

DOWN THE DIAL

- 540 CBK **SK**, Regina. 6/23 fair. 0038 with classical music. [TJR-IL]
- 550 KSD **MO**, St. Louis. 5/27 poor. 2143 with CNN News. [TJR-IL1]
+6/6 poor with WIND splash. 0859 w/D-Day 50th Anniversary coversge. [TJR-IL]
- 580 CKAP **ON**, Kapuskasing. 6/23 fair. 0041 with promo for a call for help show. Mentions of northern ON. [TJR-IL]
- WILL** **IL**, Urbana. 6/6 poor. 0142 with talk about politics in Hungary. [TJR-IL]
- 640 WBOW **IN**, Terre Haute. 6/9 fair. (no time noted) Talk program. [TJR-IL2]
- 660 WFAN **NY**, New York. 6/23 fair. 0048 with sports talk, mentioned NY's basketball loss. [TJR-IL]
- 690 CBF **PQ**, Montreal. 6/26 good. 0023 with classical music. [TJR-IL1]

CDXR Continued...

- 690 **WXOL** WI, Oshkosh. 6/26 noticed WXOL is on Sundays only from 6 a.m. to noon (local) with religious programs. No more oldies/talk format. [TN-WI]
- 730 **CKAC** PQ, Montreal. 6/26 poor. 0020 with FF talk and FF oldies. [TJR-IL1]
- 740 **WVLN** IL, Olney. 6/9 poor. 1006 with CNN News into a trading post type show. [TJR-IL2]
- 770 **WABC** NY, New York. 6/26 good. 0028 with open line phone calls. Gave area #s. [TJR-IL1]
- WEW** MO, St. Louis. 6/9 fair. 0950 with standards and traffic check for St. Louis. New logging for me. [TJR-IL2]
- 830 **WCCO** MN, Minneapolis. 6/26 fair. 0048 with a music challenge game show. [TJR-IL1]
- 870 **WWL** LA, New Orleans. 5/27 fair. 2148 with "Crescent City Connection" discussion on New Orleans film festival. [TJR-IL1]
- 880 **WCBS** NY, New York. 6/23 good. 0050 with spot for Nynex's *88 cellular service. [TJR-IL]
- 900 **CHML** ON, Hamilton. 6/6 fair. 0125 with talk show promo and oldies. [TJR-IL]
+6/26 fair. 0050 with oldies and a promo for news tips phone line. [TJR-IL1]
- 950 **WJPC** IL, Chicago. 6/9 poor. 0955 with rap music. [TJR-IL2]
- 970 **WAVG** KY, Louisville. 6/23 poor. 0055 with standards format. [TJR-IL]
- 990 **CBW** MB, Winnipeg. 6/6 fair w/WLUP off. 0135 with CBC "Jazzbeat." [TJR-IL]
- 1010 **CFRB** ON, Toronto. 5/27 fair. 2149 w/spots for 1800 Ontario & Brown's Clothing. Also heard at this DX location on 6/26 with a good signal. [TJR-IL1]
+6/6 good with WLUP off. 0140 with talk program. [TJR-IL]
- 1070 **CHOK** ON, Sarnia. 5/27 fair. 2151 with Blue Jays baseball game. [TJR-IL1]
- 1080 **KRLD** TX, Dallas. 6/23 poor. 0058 with spot for Worthington Hotel in Ft. Worth. [TJR-IL]
- 1090 **WCRA** IL, Effingham. 6/9 good. 1015 with spot for DR trimmer. [TJR-IL2]
- 1130 **KWKH** LA, Shreveport. 6/23 very poor. 0059 brief fade up w/talk of tri-state area. [TJR-IL]
- 1150 **KRLG** AR, North Little Rock. 6/23 excellent. 0104 with gospel music. New logging for me. [TJR-IL]
- 1210 **WGMP** PA, Philadelphia. 5/1 fair. 0000 with "WGMP Philadelphia" SID into CBS News. New for me. [SA-MB]
+6/23 fair. 0105 with "Oldies 98" ID and promo for show on FMer. [TJR-IL]
- 1400 **KEYE** TX, Perrytown. 5/8 fair. 0629 with "Hit Country 1400" ID. C&W music. [SA-MB]
- KGVL** TX, Greenville. 5/8 fair. 0610 with "93.5 FM" and "Kick-FM" mention. C&W music. //KIKT?? New for me. [SA-MB]
- KVRP** TX, Stamford. 5/8 poor. 0650 with "KVRP Stamford, KVRP Haskell" ID. New for me. The 3rd TX station heard on 1400 in 40 minutes. [SA-MB]
- 1450 **WDXR** KY, Paducah. 5/8 fair. 0600 with "Southern Illinois and western Kentucky's most reliable news is on CNN AM 14-50 WDXR Paducah." New logging for me. [SA-MB]
- 1530 **WSAI** OH, Cincinnati. 5/27. 2154 with standards. "15-30 WSAI" ID. [SA-MB]
- 1540 **KXEL** IA, Waterloo. 6/1 good. 2330 noticed with Jazz/BBD/NOS music and religious programming. Format change from C&W music. [SA-MB]
- 1610 MT, Fort Peck. 5/23 fair. 0517 TIS with a jammed loop repeating only part of normal message. [SA-MB]
+6/4 fair to poor. 0035 with info on wildlife and watersport activities. [SA-MB]

LOCAL CHANGES

- 950 **WJPC** IL, Chicago. Station has changed to a 2/3 rap, 1/3 slow urban contemp. format. Legal ID is "WJPC AM, FM Chicago, Lansing." Slogan used is "106 Jams." [TJR-IL]

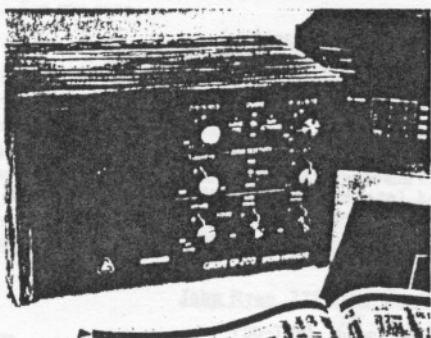
25 YEARS AGO

July 19, 1969 issue of IRCA's "DX Monitor"....New members included Gene Martin of Denver, CO and Frank Merrill of Milan, MI....Bill Nittler of Englewood, CO mentioned he would be visiting northern California....Bruce Portzer of Seattle, WA received a verie from 3YW. Said at 2000 watts it has to be his best verie ever....There was a reminder about the Apollo 11 moonwalk on MM.

OPEN MIKE

True friendship is a plant of slow growth. Thomas Reiser has joined the ranks of members reporting to CDXR via e-mail. Shawn Axelrod said he is kicking around the idea of writing a book about DXpeditions. I'd say that is a great idea. Not only could he pass along some valuable information, he could entertain all of us with those great DXpedition stories. Remember the time the snow plow caught their antenna? Those that keep track of Billings' broadcasting might want to note our 9th FMer came on the air June 9th, KRSG 101.7 airing Christian Rock with slogan "Rescue 102." The 1994 IRCA Convention in Aberdeen-Hoquaim is now just a month away, if you haven't yet sent in your registration you might want to do that today! Bill and Nancy have planned a super convention for you. 73, John-John.

NOW HEAR THIS!



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Leonard Hyde
1805 Whipple Drive #27
Blacksburg, VA 24060-2436

DEADLINE: August 13 issue - 8/1:

ANNOUNCEMENT: After August 1, send all loggings for EDXR to:
Mark McMillan, 152 Sumner #2, Stoughton MA 02072.

*** CHECKING IN THIS WEEK ***

(WPT) William P. Townshend-Washington DC; Sony ICF-2010
(KJZ) Karl J. Zuk-154 Old Post Rd North-Croton-On-Hudson NY 10520-1932

*** HOT TIPZ ***

740 WGSN NY Huntington noted format change from NOS American standards to rock standards of the 70s and 80s recently. (KJZ-NY)
1390 WEGP ME Presque Isle has entered into an LMA with WREM 710 Monticello ME for the next few months as a trial. WREM is using a GE Superadio III powered by a tractor battery to pick up WEGP's signal! (KJZ-NY)

*** AROUND THE DIAL ***

950 WXGI VA Richmond 5/8 2037 C&W mx, good. (WPT-DC)
(WCTN) MD Potomac 5/8 2037 noted off air. (WPT-DC)
960 WEAV NY Plattsburgh 6/5 2200 rock mx parallel w/their FM and using FM calls as "WGFB." (KJZ-NY)
1520 WWKB NY Buffalo 6/6 0445 now has C&W mx late late weekends w/"The Road Gang" syndicated show 0100-0500. Nice to hear music on "KB" again. (KJZ-NY) (even if it's country? -ed)
1550 WRDM CT Springfield-Hartford 6/6 0400 now 'world music' format w/lots of reggae tunes. "Power Jam 1550." (KJZ-NY)
1602 ---- NY Croton-on-Hudson 6/5 0900 local real estate agent using a "Talking House" brand Part 15 xmtr to broadcast a digitally recorded loop of info about a house for sale. Tearing up local WWRL w/a powerful het for blocks and blocks. Front lawn sign promoted "station" to people driving by. Just another source of noise on the BCB. (KJZ-NY)

*** TIS/HAR ***

590 WTBJ332 MD Rockville 5/5 2155 taped message running every 65 seconds, with reports of traffic cx on Georgia Avenue in Montgomery Co. (WPT-DC)

*** WHO DAT? ***

1360 unID 6/6 0430 "the station that never forgets... WLG." Nostalgia mx of the 40s and 50s. (KJZ-NY)

*** HEADLINES FROM HQ ***

Thanks to Bill & Karl for supporting EDXR this week.

T111 last time, 73/gud DX de LLH. (28)

1/b



Western DX Forum ★ ★ ★ ★ ★

Reid Wheeler 5910 Boulevard Loop SE Olympia, WA 98501

Deadline: Saturday 2 weeks before publication

Your WDXF Editor

It sounds like the 1994 Convention in Aberdeen will be well attended. Being so close (50 miles or so) I won't be staying at the facilities but will commute. Due to lots of other commitments, I will only be there for the late afternoon and evening festivities on Saturday, August 27th. I am looking forward to meeting all of you then. The last time I 'went to convention' was sometime in the late '60s when it was held in Vancouver B.C. The exact year is hazy in my memory but I do remember that it was a very good time for all. See you soon.

Frank Aden Jr., 4096 Marcia Place, Boise ID 83704

It looks as if Aberdeen is on, even though it coincides with the start of college here (I work at Boise State University). I have been able to get the time off approved. I may bring my Ham-TV transmitter and receiver equipment that we might use or a video link to the coast antenna site. Are there any members going to the convention that have Ham-TV receivers? A cable-ready TV that can receive ch. 60 (439.25 mhz) will work. KBSU moved their transmitter to the KIDO tower on 5-29, still running 500w d, 83 w night. KIOV-1450 in Payette came back on with SS around 5-1. We believe they must be running new equipment as the original transmitter was dismantled. Bill Hale of NRC has tried to get info out of their FM, "KQXR" which operates from Mt. Billiards in Boise but with little luck. 73! See you in Aberdeen!

John Ryan, 275 Ester Dr, Fairbanks AK 99709

907-479-6308

[6/2] The aurora borealis was magnificent this winter. Red & green curtains shimmering in the night - spectacular moving beauty that touches one's soul. Unfortunately, it also touched the medium wave band with a quiet electromagnetic fog that blocked all but the most persistent signals. I must admit that I became despondent. Serious DXpression set in. I even gave up listening for the DX tests after a while. On the good side, DX was such a bust that I spent a lot of time on the snowmachine. I built a little two-bunk-and-a-stove remote cabin that promises to be DX heaven, provided that the aurora clears. It is at least 15 air miles from any noise generator, definitely off the power grid, and has serious vertical terrain between it and the local rock & roll outlets. Plenty of room to string out a beverage or two. Hopefully the DX will justify hauling & building in below zero weather. The cabin should also be handy for a bit of hunting & fishing in the DX off-season. I hope that you all had a better DX season than I did, hopefully I'll have something to offer next winter. We are into 20 plus hours of daylight here - DX is over until fall.

Gary Larson, 2806 Lincoln, Burbank CA 91504

818-843-4219 as of 6/20

[6/11] On June 8 I was listening to 1050 about 1958 my time and heard the usual Spanish there. I'd also thought that it was a new format of Fraser Pk, CA but I detected a weak sound of classical, then the call KKGO, but too much interference to hear. Called KKGO/KJGI here in CA to inquire and was told 1050 now KKGO simulcasting 105.1. I didn't expect this - format of 1050 was country when they first went on. Summer almost here, meaning an increase in temp. Hope you'll all have a great summer, plus everyone going to convention. I'm finding myself listening a lot of nights to Art Bell over KOGO 600, speaking on many interesting subjects. Wish 710 talk KMPC would air program. 73.

[6/22] Had a nice talk with Jim Hilliker on June 21 about many things relating to AM/FM changes and he updated me on who was silent in his area. Seems I was right about 1050 KKGO site being east of where I-5 & 99 split S of Bakersfield. Spoke to someone who saw site up close. Hope convention is well attended by members from all over U.S. 73

Patrick Martin, PO Box 843, Seaside OR 97138

[6/22] Hi everybody: DX this summer hasn't been the best. Conditions have been rather poor at times. Hopefully this Fall will be better. The past couple of years, the Fall has been great. Called Steve Donaldson, the CE at KDLA-De Ridder, LA. He told me that he has been very busy and that he will be getting to the reports from the DX Test last January. If you don't receive a reply soon, maybe another report should be sent. Received my first two FAX QSLs lately. I was quite surprised, even though I do have a FAX number now, I didn't really expect a station to spend their own \$\$\$ in this day and age! Any way to get a QSL. I now have 2202 MW QSLs. They sure aren't as easy to get as they used to be. So many CEs are over worked with stations buying other stations and not hiring more help. Station Engineers do not always have the time to answer DX reports. Hope there is a good turnout at the convention. See you there. Good DX. 73s, Patrick

Larry Godwin, 2390 Clydes Dale Ln, Missoula MT 59801
406-721-5131

[6/22] Greetings! I've been playing around with two DX-related computer programs the past month. The first is Art Peterson's GCD, which computes distances (in miles and kilometers) between the DXer's location and that of most radio stations in the world (by call letter). It's very easy to use. First the DXer instructs the computer to automatically compute a database of distances based on his/her latitude and longitude. Then it's a matter of using the FIND command to locate a particular station (e.g., WLS), and the distance is displayed soon after (depending on the computer's processor speed). I believe ordering info appears in this DXM. The second program is Zephyr Services' Suntimes, which computes calendars (by month) of sunrise and sunset times for any location on earth. I just used it for Missoula, and noted in June, sunrise here varied from 5:41 to 5:45 a.m. MDT only, but sunset varied from 9:23 to 9:34 p.m. MST. Total hours of sun 6/20 were 15:53, compared to only 8:31 on 12/20. The cost of Suntimes is \$54.95 including S&H; order from 800-533-6666. I can demonstrate both programs on my laptop at the convention. I also bought a large great-circle map centered on Missoula; it's interesting but I'm not sure it's worth \$25. The slate of nominees for the TVA is awesome this year; it's tough to make a decision. I see more and more Canadian AM stations are moving to FM; will the trend spread south? Nigel P.'s observations about auroral activity in the 5/15 DXM are interesting. I also have noted that some regional stations to the south (e.g., KSL-1160) are weak on auroral nights, making reception from deeper south possible. See you in Aberdeen! 73.

Gary Jackson, 7735 Center Parkway, Sacramento CA 95823

Greetings: never made anniversary issue! Thought I would make it to convention but had to sign up for vacation before convention date was released. So won't be able to make it. Was in IRCA back in the 1960's but dropped out when I went back to school and working full time. I am 52, work for Department of Justice as a fingerprint identification expert. We have been busy working 12 hour shifts. Sacramento now has one of the highest murder rate in the state. I am trying to log all the TIS stations I can before new AM stations come on 1600-1700 kHz. 73's, Gary.

Art Peterson, 851 31st St, Richmond CA 94804

Elsewhere in this DXM you will find an announcement for my new great circle distance and bearing program, GCD. There have been new developments since the announcement was composed. GCD now features the much more accurate SPHEROID earth model that better takes into account the true shape of the earth -- a sphere slightly squashed at the poles. This model makes two adjustments to the traditional sphere model: 1) Geographic latitudes are adjusted to geocentric latitudes, and 2) the radius of the earth is sampled and averaged along the particular path to the target station. Distances should be accurate to the nearest mile. The sphere model is still available simply by changing one entry in the control file, but I recommend using the spheroid model. All of this is explained in more detail in the 17-page user guide which is included on disk. I'm really excited about the program, and I hope it will be a valuable resource for the DX community which has added so much to my enjoyment of the hobby over the last 30 years or so. Unfortunately, I will not make it to the convention due to conflicting plans, but I trust that those who do will have a roaring good time! 73 and good DX to all.

Bill Hardy, 2301 Pacific Ave, Aberdeen WA 98520-4527
E-Mail: 73201.2263@CompuServe.com or Prodigy FMFT21A

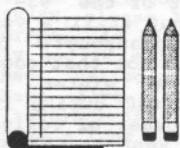
[6/30] Work is progressing well on the 1994 convention here in ABERDEEN-HOQUIAM on August 26-

27-28. If you will be coming, be sure to let Nancy or me know right after August 1 (we're on vacation July 16-31) so we can plan for the banquet. See more late-breaking convention news at the end of Nancy's column or in the July and August DXM's. Several people are trying to guess the convention "surprise" and nobody's gotten it right yet, hi. Almanac stuff: I'm working on "Market Profiles" for cities throughout the US and Canada. This is a way to gather information on station slogans, networks, talk shows, satellite feeds, weekly music shows, foreign languages, play-by-play sports, and other information we publish in the Almanac. I'd like to have everyone send in station information, both AM and FM. This can include your local and semi-local stations heard in the daytime, plus any distant stations you can hear at night. And if you travel, you can scan for the stations in the areas you visit. If you would like a print-out of stations in your area, or the areas you plan to visit in August or later, drop me a line. There will be plenty of blank spaces for you to fill in, and all of it helps the Almanac! 73 and good DX.

Herb Vanderbeek, 630 Ashton Ave, Palo Alto CA 94306-3609

I would like to invite IRCA readers to tune above 1615 kHz to another world. There are few BC stations running kilowatts, however, there are a bunch of little peanut whistles calling for attention. These are called MedFERS - Medium Frequency Experimenters limited to 0.1 watt input power, 3 meter or less length antenna by FCC Part 15 regulations. Since most operate BEACONS that are identified by Morse CW at about five (5) words per minute, identification is relatively easy. A BFO of some sort is needed. If one doesn't have a BFO in the monitor receiver, the LO of another BC receiver works quite well in this service. Just tune the usual BC radio to between 1150 to 1250 kHz and, while listening somewhere in the 180 meter band, the LO will be heard. Adjusting orientation or distance to the monitoring receiver often controls the "injection" level! Most MedFER stations use identification "calls" of one to three letters. Typical West Coast stations are TI-1631, SD-1687, EK3-1655, G4-1651. Calls such as ABC123 are fishnet beacons in the Atlantic or Pacific ocean. MedFER stations are often hard at distances up to 1,000 or more miles! Good hunting. Please report these stations in the DX Monitor & I will pass them on the MedFER newsletters with credit to the IRCA members. 73 Herb, WY6G. [Herb has a more detailed list of beacon stations available. He also publishes a small newsletter, the PART 15 EXPERIMENTER and the wider read newsletter, THE LOWDOWN.]

-----31-33-----



Eastern DX Forum

Richard C. Evans

P.O. Box 21883

Milwaukee, WI 53221-0883

Phone: 414-Atlantic 2-9035

DEADLINES: 7/30 8/20 9/3

Mike Brooker, 99 Wychcrest Avenue, Toronto, Ontario M6G 3X8

Toronto, home of the Leafs, Blue Jays, Argos and...Raptors! Yes, that's the name of the NBA expansion team that begins play in 1995-96. They unveiled their logo as soon as the team name was announced: a sickly-looking purple dinosaur (looks like Barney on steroids). Still no word about the Raptors flagship. CFRB aired the Knicks vs. Rockets NBA final, so perhaps they're going to bid for the Raptors radio rights. Fan-1430 (CJXL) will no doubt put in a bid, though there will be many conflicts with leaf games. By the time the Raptors tip off in the fall of 1995, Fan-1430 could be Fan-590, if Telemedia's bid to buy out CKYC-590 (Country 59) and move from 1430 to 590 is approved by the CRTC. Fan-1430 also broadcast some World Cup soccer games that didn't conflict with Jays games. It sure is weird to hear a soccer play-by-play in EE, hi! Veries received from WCCW-1310, WDAS-1480, WJIB-740, WHND-560, KBMR-1130 and WESC-660. I also received a "verie" nice letter from an 18-year-old Bangladeshi girl, Nila Nannu. She seems to be a legitimate DXer (secretary-general of the South Asian DX Association), not just a "DX groupie". Her EE isn't too bad either, fortunately for me since I don't

speaking Bengali (just Sanskrit and a bit of Hindi and Gujarati, thanks to my yoga practice!). Radio Bangladesh was one of my better SW catches, heard only once in 1989, but they never verified. Maybe Nila can get me a QSL. I've heard two out of the three stations involved in the great Cincinnati frequency swap: WSAI-1530 (ex-1360) and WAOZ-1360 (a totally new station, or just what used to be WSAI?). WCKY-550 (ex-WLWA) must wait until WGR is off, but I heard them a few years ago during a WGR SP when they were WKRC. 73 (and 88's to Nila, hi!)

Tom Jasinski, 419 North Raven, Shorewood, Illinois 60435

Greetings: A recent article in a local newspaper (Joliet Herald News, June 12th) has details for WSCR-820. Their present xmtr site at Belmont and Cicero Ave. in Chicago is not big enough for their night time pattern. They have chosen a new site close to Lemont, Ill., 20 miles north east of here. This new 66 acre site will have six 300 foot towers. The directional night pattern will protect WBAP. This will allow for 24 hour operation. The only hitch is the site has wetlands on it. Present environmental laws require reconstruction of any damaged or filled in wet lands. They have a permit from the Army Corps of Engineers. They still require a permit from the village of Lemont. So don't expect time to go 24 hours just yet. Construction of the site has not yet begun. My worst fear about a powerful and overcrowded AM band is becoming a reality. I am fortunate to live on the outer edge of the Chicago suburban area. Slowly stations are invading my area. First, it was WAUR on 930, then the four TIS stations on 530. Late last year local information stations popped up on 1610 and 970. Now 820 gets a lot closer. Luckily I will be in WSCR's null towards Texas at night. As for DX the 1460 WENR and 690 HCJB DX tests were not heard. The only new catch this summer is KRFU-1400. 73's and good DX.

R.C. Watts, 4109 Graf Drive, Louisville, Kentucky 40220-3016

The IRS seized property of WBFC-1470 in Stanton, KY for non-payment of taxes. Notice of public auction says everything will be sold on June 30 - right down to (1) lot magazines! I never got around to visiting the station. Have not gotten back to check out the T.I.S. at Slade, KY. A/c in the car quit and too hot to take it to the shop, let alone going somewhere in it. Nice special QSL from 2AP, West Samoa, for the 2/20 shortwave relay DX test from WIWO-1580, probably the last of the '93-'94 season. No joy from the WCGC-1270 or WFRB-560 tests, but still a very good return. Was unable to hear the HCJB-690 DX test (did anyone?) Too much WLW-700 and local WXKN-680, plus reception conditions not that good. Should be possible if they will do it again during our winter. I happened upon WSB-750 with live feeds from brother KFI-640 during the O.J. Simpson chase on 6/17. The on-air WSB host and a number of callers advocated that O.J. shoot himself. Low, low radio. We went to CNN and TV seemed to be playing it straight, for a change. Col. DX sez stay cool! (second report) A.J. and I drove down to Upton/Millertown to visit WJCR-FM (90.1) and SW. Got a couple of windbreakers and took some pix of new facilities. A 530 kHz T.I.S. has appeared at Elizabethtown, KY since last time we were on I-65. Address is Tourism & Convention Bureau, 24 Public Square, 42701. Will try to obtain the call sign. Car blew a hose on the way back so I had to have it towed and fixed. I can't make the IRCA Convention, darn it. Too far and hard to justify the expense. I am going to the Atlanta MT Convention in October, though. Got a postcard from several of the folks at the European DX Council meeting in Paris. Would like to attend EDXC-'95 or 96 and take a side trip to Moscow but not sure I'm physically up to it. Col. DX is Radio-Active, so anything can happen!

Mike Hardester, 3118 Gaitway Ct., Jacksonville, North Carolina 28546-6973

GREETINGS! Unfortunately, I missed the HCJB Special Test, but maybe next time...please let there be a next time, hi! On the subject of DX tests, I've yet to receive a reply for reports on DX tests from KSD-550, WFRB-560, WYNI-930 and KDLA-1010. For WYNI and KDLA, I included a tape since reception was not that great. On the flip side, I sent a thank you letter to one station, mentioning a couple of code (CW) letters heard, and received a v/q in reply! Unfortunately, no can count...I'm not even sure I heard the station. The updating of the TIS/HAR list for the IRCA AM-FM ALMANAC is progressing, and all inputs are welcome. An interesting

addition may be added if I can get enough information: Carrier Current Stations. Normally, these stations have a range covering the campus, but in one report received, the range was reported as 40 miles! If you have info on any carrier current stations, please drop me a note. Even if you only know that a school has such a station, let me know and I'll follow up. Also, I'm still trying to obtain a mailing address for Raleigh-Durham International Airport. Thanks! Very 73 and Best of DX!

Tom Bryant, 849 Todd Preis Drive, Nashville, Tennessee 37221

Greetings from Music City...where DXing has been pratty doggone good! I've fallen way behind in getting reports in to DDXE but wanted to mention that I did nab a few excellent catches including CKLQ in Brandon, KYGO Denver, a Honduran on 740, and the GY test of KXXY in Oklahoma City. My log total has almost doubled in the past 15 months (now 853) primarily as a result of adding a Kiwa loop. It's a great piece of gear. Thanks to J.D. Stephens for an outstanding job of arranging the vast majority of the CPC tests. I managed to hear about 2/3 of those I tried for! There has been comment recently regarding how much or how little should be reported about the content of tests; the apparent goal being to put the brakes on those who might be inclined to fake reception reports. For what it's worth, my opinion is that regardless of what is printed, cheaters will continue to cheat. I don't have much use for those who abuse our honor system and deliberately falsify reports, stats, or anything else, but since no cash or prizes are involved, no one really gets hurt by a cheater. The only one that suffers is the cheater himself...when he (she) gets caught! Any credibility or reputation that person might have had instantly goes down the drain. This is not to condemn those who make errors in judgement and claim loggings they really didn't get...I suppose almost everyone does that once in a while (I know I have)...but there IS a difference between an unintentional error and an outright deliberate lie! Simply put, there is no practical way to curb cheating. For the benefit of the 99.9% of club members who are honest, let's continue to print full data so each individual can compare what he heard with the reports of others. Had an opportunity to view Ernie Wesolowski's video of the Billings convention...great fun! Sure wish I could have been there...but it wasn't possible. Won't be able to get to Aberdeen either...maybe it'll move back to the east in '95! On another subject, I notice occasional requests for information about TV and FM DXing and would like to volunteer to respond in behalf of the Worldwide TV-FM DXers Association. If anyone who reads this has an interest in TV/FM, please let me know and I'll see that you get sample info from the WTFDA. As AM conditions worsen, I find I'm spending more time with the TV and FM side of the hobby...excellent E-skip openings during most of May! Nailed an FM our of Las Vegas at 1564 miles just last week! (late May) I've also decided that the ULTIMATE DX challenge is the GRAVEYARD frequencies! I'm devoting more time to GY listening...but a little bit goes a long way! Too much at one time will propel you into the land of the cuckoo's nest in a hurry! In closing I wanted to say that I was sorry to hear of the death of Jack Parks. I met him at the Huntsville convention and really enjoyed getting to know him. He was a good DXer and a nice guy. We'll miss him! (Tom, you've already answered my question which was about the WTFDA--rce)

Rick Evans, 4841 South 26th Street, Milwaukee, Wisconsin 53221-2937

Good turnout this time, and I may hold it to see if anything comes in Tuesday before mailing it during the afternoon. This has been a odd season in one way for me in that I received more veries than I sent out reports--WTOP-1500 DC sent a v/q for a 12/92 report. Five veries for four reports. I tried to listen this morning (7/5 right after midnight) but too much static to be enjoyable, even on local WOKY-920. I haven't had much free time since the first of April this year, but some of it has been spent in antique stores. I've really been surprised at the number of older table model AM-only radios I've come across with some prices that really don't seem that high on them. Granted, I'm no expert on those radios or what they are worth, but if you remember the old tube-type radios and want to take a look at them, the antique stores might be the place to look. I picked up an old Zenith AM/FM to see if perhaps it might do better on suppressing FM images, spurs or whatever that I get here, but haven't had the time to even plug it in. I'm not working that many hours, I guess, only 10 1/2 hours per day, but it's 1800-0430 and when the wife wants to do something in the afternoon, the whole day is shot and the weekends are spent sleeping, hi! See you in 4 weeks. 73.



QSL

VERIFICATION
SIGNERS

Stephen S. Howe
9 Warner Drive
St. Albans, VT 05478-1575
showe@moose.uvm.edu

My deadline is the last Friday of the month, unless indicated otherwise.

Contributors:

GVJ Gary V Jackson, 7735 Center Parkway, Sacramento CA 95823
TJR Thomas J Reiser, 9506 S Winchester, Apt 205, Chicago IL 60643-1109; reiser@aol.com

FREQ	CALL	NAME and TITLE	ADDRESS	WHAT	WHEN	WHO
521	KONA	Larry Conrad	MSO SFO Manager Missoula International Airport FAA Airway Facilities Sector Field Off 4955 Highway 10 West Airport Missoula MT 59802	L	5	GVJ
800	PJB	Joyce E Walker*	Trans World Radio Bonaire, Netherlands Antilles	Q+	14	TJR
1500	WTOP	Granville Klink, Jr		Q	580	TJR
1631	TI	Rex Wilson [KB7TZ]	4550 Venetti Lane Kingman AZ	Q+	5	GVJ
1687	SD	Frank Cathell [K3YAZ]	P O Box 535 Descanso CA 91916	QL	5	GVJ

WHAT was received: L = Letter; Q = QSL card; P = Prepared card supplied by DXer; R = DXer's letter returned with statement; M = Coverage map; B = Bumper or other sticker; bc = Business card; + = Extra goodies

WHEN the reply came: Number of days elapsed; f = Follow-up; n = Return postage not used; r = Return postage returned

NOTES: * [for this report] = This is a different signer than Tom reported for PJB in April

Very short column this month—summer is definitely here, hi! Note my Internet e-mail address at the top of the column. Feel free to send me tips using e-mail. This column was prepared on 6/24/94. 73, SSH.

Wanted: Newspaper Clippings and "Market Profiles"

Bill Hardy is building a database of information on AM and FM stations throughout the United States and Canada. This information will be used in the next IRCA AM-FM Almanac.

Bill would like to have the following items from your city and nearby cities:

- Newspaper clippings from the "radio/TV" section that list items such as station format, talk shows, weekly music shows (American Top 40, etc.), and the like.
- Newspaper clippings from the sports section, showing play-by-play sports carried on radio in that city.
- A written summary of the AM and FM stations in your area, indicating their format, network, play-by-play sports, and any talk or music programs they carry that we'd want to list in the Almanac.
- **Travellers:** If you travel on vacation or business, the same types of information for the areas you visit.

For the newspaper clippings, please indicate the newspaper and date.

Anybody sending Bill information will receive, by return mail, a printout of the "Market Profile" for that area.

Please send the information to Bill Hardy, 2301 Pacific Ave., Aberdeen, WA 98520-4527. Thank you!

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Notes from Mexico

Mexican Editor:

Ing. Carl Huffaker, Domocillo Conocido,
Huasca de Ocampo, Hidalgo, C.P. 43500

U.S. Editor/Typist:

Bill Hardy, 2301 Pacific Ave.,
Aberdeen, WA 98520-4527

Welcome to IRCA's new Mexican column!

Carl Huffaker and I discussed starting an IRCA Mexican column during the past few months, while we were updating the IRCA Mexican Log, just published in May. This column will appear periodically, much like John Oldfield's "Kanadian Korner" north of the border. Our goals:

1. Explain Mexican radio, and how it differs from radio in the USA.
2. Give you profiles of Mexican stations that will help you understand Mexico, Mexicans, and the stations that you hear.
3. Report news about Mexican radio.
4. Provide station data to update the Mexican Log.

To that end, Carl will supply me with information, and I'll type it here for publication in **DX Monitor**. At the end of each section, I'll indicate whether the words come from Carl or from Bill.

I'll note that there can be considerable mail delays to Carl's remote location in Hidalgo. "Air mail" takes two to three weeks to and from the USA! Feel free to send questions and information directly to Carl. Remember to use a 35¢ stamp for ½ ounce, 45¢ for 1 ounce. But if you have a "hot item" for this column, please send it directly to me. Use my address above, or use the E-mail address appearing each week in Nancy's Western DX Roundup column. Thanks! --Bill.

The new IRCA Mexican Log has been published!

For those who missed the announcement in the May **DX Monitor**, IRCA has published the 1994 edition of the IRCA Mexican Log after months of preparation.

The log lists all AM stations in Mexico by frequency, giving call letters, state, city, day power, night power, slogans, schedule in UTC/GMT, formats, networks, and notes. Stations that have changed frequency since 1990 are cross-referenced on the old frequency.

The call letter index gives call, frequency, city and state. The city index (listed by state, then city) gives frequency, call, day and night power. There is even a guide to the Spanish alphabet and numbers.

The log has been completely updated from the 1990 edition and carefully cross-checked by Carl and by other IRCA members throughout the U.S. This will be an indispensable reference for anyone who hears Mexican radio stations.

The price, payable to IRCA in U.S. funds:

- IRCA/NRC Member: \$6 U.S./Canada/Mexico/seamail, \$7 rest of the Americas airmail, \$7.50 Europe/Asia airmail, \$8 Australia/New Zealand airmail.
- Non-Member: \$8 U.S./Canada/Mexico/seamail, \$9 rest of the Americas airmail, \$9.50 Europe/Asia airmail, \$10 Australia/New Zealand airmail.

You may order the IRCA Mexican Log from Phil Bytheway, IRCA Bookstore, 9705 Mary N.W., Seattle, WA 98117. We owe Phil a big debt of gratitude for countless hours reconstructing the Mexican Log database, which was almost lost.

And by all means, if you have additions, updates or corrections, please send them to Carl or to me. Thanks! --Bill.

Introduction to Mexican Listening -- by Carl Huffaker

The FM Atlas includes Mexico in North America. World Radio-TV Handbook, with a hint of banana republic, lists it in Central America. And the ghost writers in Washington, to keep NAFTA

(North American Free Trade Agreement) short enough to pronounce, brought it back to North America.

In reality, Mexico straddles two continents. The Sierra Volcánica Transversal, a line of volcanos extending roughly from Puerto Vallarta to Veracruz, is the dividing line. Too, the Tropic of Cancer cuts Mexico neatly in half dividing the country between the Temperate and Tropic global zones. And vertically, one climbs through more vegetation and life zones than exist in North America. Even in the sea, the line between the South Pacific and the Coral Sea touches the shore at Oaxaca, and Baja is washed by the North Pacific. Mexico is a land of contrasts. Each of the coastal plains, the steep-sided valleys cut deep into the mountains, the sierras, the interior basins, the great river valleys, even the desert has its own history, its own culture. Each small area is unique as is each of the ever-growing number of local radio stations. That's why I listen to Mexico.

Much of the vocabulary and many of the concepts used by stations in slogans and formal identifications are regional and many local. In this column, I'll define and explain those that I understand. But a column on Mexico has a more important function. Radio, especially local radio, is a booming business. New stations are constantly being added, others are increasing power and changing frequency, and -- important to the DXer who uses the slogan as confirming data -- the slogans are being constantly changed as the station adjusts itself to the audience in its commercial coverage area.

In addition to commercial growth, radio is expanding as each state takes advantage of "decentralization" and establishes its own radio network. Local radio stations are established to help Indigenous Peoples enter mainstream Mexican culture, others to preserve the Indigenous culture, others to coordinate the development of new economic areas, and others to prevent a reoccurrence of the unrest in Chiapas. There is no single or reliable source for new station data; most must be derived from on-the-air monitoring. The column will feature "off the air" data as it becomes available.

The Mexican is characterized by an intense love for his tierra, his race, and his country. A new station, XETLA, "La Voz de la Mixteca," 930 kHz in Tlaxiaco, Oaxaca, summarizes this in its sign-off. The music is a song of a Mixteca (the term refers to both a people and a region) singing of his pride in his land, his race, and his country. The music is interrupted momentarily by each of four phrases: "Una voz que canta su tierra," "Una voz que canta su sangre," "Una voz que canta Oaxaca," "Una voz que canta México," and then changes suddenly to the Mexican National Anthem.

The station, I believe, was established by the Commission for the Development of Oaxaca to aid in the development of the area. Its location, Tlaxiaco, is a rapidly growing city and the site of a new privately owned station, XETLX on 1040 kHz. Like many government stations at their onset, the staff at XETLA is young and probably trained in Communications in a Mexico City University. Normally, and this is no exception, the staff of these stations is given considerable latitude in determining the "culture" of their broadcast area and the type of program to best serve that culture. Here, the prepared tapes and ID's seem targeted toward a campesino or indigenous group, but the programs themselves are "cultural" and targeted more toward the city. As these new stations adjust to their audience, the DXer gains a better knowledge of Mexico's micro-geography than will appear later in a government report or profound thesis.

Not far from Tlaxiaco in Tlapa, Guerrero, XEZV, "La Voz de la Montaña," broadcasts on 800 kHz. This station was established in 1975 by the Commission on the Development of the Balsas and has remained a campesino station. As interest was in the lower Balsas at the time, the station avoided mention of the Mixteca in its slogans. Later, as the "montaña" was already claimed by XEZV, XETLX used a roundabout slogan to identify itself with that area. The Balsas, a large tectonic basin drained by two major rivers, is for the most part arid, but clouds from the ocean pile up against the high mountains and those particular areas are humid. In one of its slogans, XETLX refers to itself as "memoria musical de la región de la lluvia." This, where it rains, could only mean the montaña. --Carl.

Deadlines for this column will be roughly the same as Western DX Roundup when we are monthly. I look forward to your comments about this new column! 73 and good DX. --Bill.

IRCA Electronic Mail List

July, 1994

Compiled by Bill Hardy, 73201.2263@compuserve.com

This is the first listing of IRCA members who have computers and access to online services and/or the Internet. Electronic mail, or "E-mail," is a convenient way of exchanging hot DX tips 24 hours a day without having telephones ring at 3 a.m. When a member has more than one address, their preferred Internet address is listed first.

If you use Prodigy or America Online (AOL), that service's internal addresses will be exactly as printed before the "@" sign. CompuServe uses a comma in its internal address, but Internet does not support commas in addresses and substitutes a period for the comma. For instance, 73201,2263 is my internal CompuServe address.

Some DXers have chosen to have "unlisted" E-mail addresses. I have not listed the address of anyone who has not given IRCA consent to print it. If your name is not on this list and you'd like to include it here, please send an E-mail message to me at the address above. — Bill.

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Niel Wolfsh, ON Lobo@io.org

GREAT CIRCLE DISTANCE AND BEARING CALCULATION PROGRAM FOR THE IBM-PC

Announcing the release of GCD, a new, fast, easy-to-use, full-featured computer program for use on IBM compatibles running MS-DOS. Do you often ask how far it is to a DX target and which direction to point your loop? If you have joined the vast number who own or have access to a PC, this inexpensive program is for you! Includes the following features:

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MINIMUM REQUIREMENTS: IBM or compatible PC/XT/AT, 256K of RAM, DOS 2.11, math chip helpful but not required, any type monitor (Monochrome is OK).

Sample computed output from GCD:

GREAT CIRCLE DISTANCE/BEARING COMPUTATIONS FOR RICHMOND								
STATION	MILES	KM	HOPS	GCB	LATITUDE	LONGITUDE	GRID	
HA-367	4055	6526	3.12	201	-18.03510	140.58170	L BH91	
KHNR/KORL-650	2403	3867	1.85	252	21.17280	157.50200	M BL11	
XEOY-1000 DF	1887	3037	1.45	126	19.23000	99.17000	M EK09	
TIS-AZ-PHOENIX AIR, WXX790	658	1058	0.51	115	33.26110	112.00300	N DM33	
FALKLAND ISLANDS-SW	7310	11765	5.62	144	-51.42000	57.51000	S GD18	
FJY4	11355	18274	8.73	264	-37.47250	-77.33550	U MF82	
WVW	942	1516	0.72	73	40.40490	105.02270	U DN70	

Send to: Art Peterson, 851 - 31st Street, Richmond, CA 94804

Name _____
Address _____
City _____ State _____ Zip _____

Disk size: 5 $\frac{1}{4}$ _____ 3 $\frac{1}{2}$ _____ (If disk not checked, 5 $\frac{1}{4}$ will be sent)
_____ Trial copy (\$3 donation). _____ Full registration (\$20 donation).
Check or M.O. in US\$ only; please do NOT send cash! THANK YOU.

Home DX shack coordinates (optional):

Latitude: _____ deg _____ min _____ sec; Longitude: _____ deg _____ min _____ sec

IRCA BOOKSTORE

International Radio Club of America publishes several items which are available from the IRCA Bookstore.

IRCA AM-FM ALMANAC, 5th Edition 1991 - (Reprint)

This 240 page book is a must have cross reference for the serious AM DXer. Within it you will find the current frequency check list, affiliates for news and talk show networks, syndicated music and religious programs, AM-FM simulcasts, station slogans, broadcasting in Canada, AM stereo, sports networks, utility stations and many articles on AM broadcasting. In addition, the fifth edition contains a section focusing on AM band foreign DXing (including a compressed IRCA Foreign DX Reference). Each list is in frequency order and many include the FM frequencies as well as the AM (great for FM DXers).

IRCA AM-FM Almanac is available loose leaf or comb bound (please specify). Prices are:

IRCA/NRC member: US - \$13.00 Canada - \$14.00 Overseas Sea Mail - \$14.00 Overseas Air-Mail - \$17.00
non-members: US - \$15.00 Canada - \$16.00 Overseas Sea Mail - \$16.00 Overseas Air-Mail - \$19.00

IRCA AM-FM Almanac, 5th Edition 1991 Updaters are also available from the IRCA Bookstore!

Updater 5.1 - Almanac index, AM slogans. Updater 5.2 - Satellite Music Network, Unistar/Transtar, talk updates, BRN, 1991 Baseball. Updater 5.3 - updated NFL and college football, NHL Hockey, 530/1610 TIS/Highway Radio update, Rush Limbaugh. Updater 5.4 - updated NBA and college basketball, ABC-AP-UPI-USA network lists, ESPN-SEN sports talk lists, Canadian Music networks and more. Updater 5.5 - 1992 baseball, Spanish networks, Interstate Radio Network and AM Slogan list updates.

Each IRCA AM-FM Almanac, 5th Edition 1991 Updater is 20 pages. Price \$2.00 US and Canada, \$3.00 elsewhere.

(NOTE: IRCA Almanac (third and fourth editions) are still available for \$5.00 (overseas airmail add \$2.50))

SHORTWAVE DATABASE & LOGGING UTILITY VERSION 1.0

This new program from Orchid City Software in Florida is not only reasonably priced (\$29.95 including shipping), but one that is easy to use and complete enough to satisfy most DXers in their needs to maintain frequency, schedules, and other databases but also allows report printing in several formats.

After an easy installation at the DOS prompt you are greeted by a nice screen showing the current date and the four main categories available to use. They are:

1. MENU TO SORT RADIO STATION ROUTINES
2. LOG REPORTS MENU
3. SPECIFIC INFORMATION REPORTS MENU
4. PRINT DATABASE REPORTS MENU

QUIT

You simply step through the choices or leave the program as you choose.

Pressing the first one brings you to a menu which again has several choices:

1. Sort Records by Station Name
2. Sort Records by Frequency
3. Sort Records by Schedule
4. Sort Records by Language
5. Sort Records by Country
6. Sort Records by Continent

Each one of these contains the fully editable set of entries which come already installed in the database. There are over four thousand entries, not only SWBC and some Utility Stations but plenty of Mediumwave Stations too; and the information is quite up to date. You can access a special editing screen which allows you to change any of the entries to reflect the latest monitoring reports and by simply pressing "insert" one gets into a screen for new items to be added to the database such as your own personal loggings or information. All you have to do is enter the station name, or frequency, or time, or language, or country, or the continent and the display automatically scrolls to that particular item showing the others available in the same "area" of the database.

Since my personal choice is "frequency" that is the one I normally use for most of my work. However, the others have their use to me and some DXers may prefer to use other listings.

The Log Reports Menu allows you to enter and review all of you logs which you personally wish to prepare for filing or sending to your favorite club bulletin. One can look at all your loggings or one specific group. This done by simply labeling each group with a file name at the end of each entry form, then you call up the file you want to see. A very nice feature indeed!

There are only three printings allowed other than the complete database which can be printed out if one desires. These three choices are:

2. Print Loggings by Frequency
3. Print Loggings by Continent
4. Print Loggings by Country

Unfortunately the ability to print out loggings by time/schedule was omitted from this program. This would have enhanced its usefulness for those interested in logging by time and for setting up "target" lists dependant on broadcast times. Possibly there would be a way to add this feature.

This is an extremely easy to use program. "user friendly" in every sense. There are minimum keystrokes required and the color presentation and layout are excellent in my point of view. Of course every DXer has his or her own requirements for this important part of the hobby. We all keep our logs in our own way. But, it was a simple matter for me to adapt to this program and now after only a short period of time I am completely at home with it and most of the functions are second nature to me now.

There are some spelling errors here and there but all of those are easily corrected. Most amusing was the spelling of Protoguese for Portuguese on numerous occasions, But then, I'm not sure I can spell it properly anyway.

I am very satisfied with my investment in SWBC DATABASE & LOGGING UTILITY from: Orchid City Software
P.O. Box 18402
West Palm Beach, FL 33416

I can certainly recommend it to those wanting an easy to use and very useful utility for use on their PC in conjunction with their DXing hobby. The price is considerably lower than the value one receives. I can say that this program satisfies a need that I have had for some time and is doing an excellent job for me.

Charles Bolland also has available a simpler version of the SWBC Database for \$19.95 and he can provide "demo" disks for only \$3.00. these are 3 1/2" only. However the main programs are available in both 3 1/2" and the 5 1/4" formats. I do not know if any of these programs are available in MacIntosh or Commodore versions.

Chuck Boehnke
P.O. Box 488,
Keanu, HI 96749-0488

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To order any of the above items from the IRCA Bookstore, send the correct amount (in US funds) to:
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IRCA Reprints

The IRCA maintains a large file of articles which have appeared in past issues of DX Monitor. These articles cover a wide variety of topics, including: antenna theory and construction, tips for the foreign BCB DXer, how to improve your DXing skills, history of DXing and broadcasting, lists of stations by subject, construction projects and receiver modification, receiver reviews, medium wave propagation, and more. Copies are available for a nominal charge. For a list of reprints, send \$1.00 to:

IRCA Reprints, c/o Steve Ratzlaff, 1885 E Bayshore Rd Sp 90, E Palo Alto CA 94303.

GEO - Geomagnetic activity
 maf - major flare
 mas - major storm
 mis - minor storm

pca - polar cap absorption
 SA - Solar Activity
 spe - satellite proton event
 ss - severe storm

Date	FLUX	A	K	SA	GEO	OTHER
5/ 8	74	24	4	very low	quiet-mis	-
9	77	26	4	very low	unsettled-active	-
10	80	18	5	very low	quiet-active	-
11	82	22	3	low	unsettled-active	-
12	87	10	3	very low	quiet-unsettled	-
13	89	6	4	low	quiet-active	-
14	90	15	3	very low	quiet-active	-
15	91	18	3	very low	unsettled-mis	-
16	91	26	4	very low	unsettled-mis	-
17	95	16	3	very low	quiet-active	-
18	94	19	4	very low	quiet-mis	-
19	91	15	3	very low	quiet-active	-
20	90	9	0	very low	quiet-unsettled	-
21	88	6	2	very low	quiet-unsettled	-
22	85	7	1	very low	quiet	-
23	81	6	3	very low	quiet-unsettled	-
24	78	18	5	very low	quiet-mis	-
25	74	21	3	very low	quiet-active	-
26	71	11	2	very low	quiet-active	-
27	70	4	3	very low	quiet-unsettled	-
28	70	23	5	very low	quiet-mas	mis 1800
29	69	30	5	very low	unsettled-mis	mis
30	69	35	4	very low	unsettled-mas	mis
5/31	69	29	4	very low	unsettled-mis	-
6/ 1	68	20	4	very low	unsettled-active	-
2	68	21	3	very low	quiet-active	-
3	68	16	3	very low	quiet-active	-
6/ 4	68	16	4	very low	unsettled-active	-

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Universal will not sell returned or demonstrator units as new! From time to time we have such items, and can usually offer them at 15 to 25% off our discounted price.

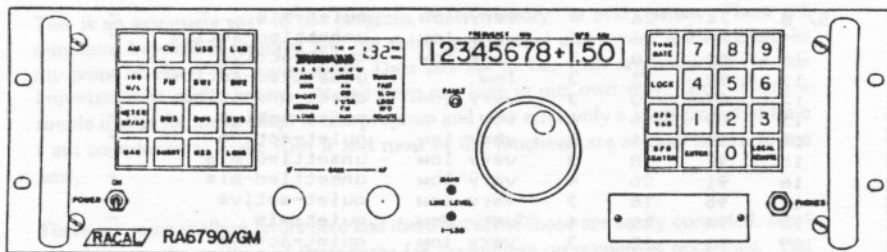
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Dallas Lankford, 13 XII 93



About six months ago the U.S. military disposed of several hundred RACAL RA6790/GM (R-2174(P)/URR) receivers through surplus bids, and subsequently several surplus equipment sellers have offered them for about \$1500 (with filters, checked for operation). The R-2174(P)/URR is identical to the RA6790/GM except that the R-2174(P)/URR was equipped with plug-in crystal filters instead of mechanical filters. There was some variation in filter line-up from one to another of these surplus 6790's, apparently because some of these receivers released for surplus bids were missing one or more filters; see, for example, Fair Radio's Fall 1993 Catalog Supplement. Evidently many also required repair and/or replacement of some parts.

The 6790 I received contained five filters, 0.4, 3.24, and 6.8 KHz nominal symmetric bandpass filters, and 2.7 KHz USB and 2.7 KHz LSB filters, all of them the large plug-in crystal filter type. Apparently 1.2 KHz and 16 KHz BW filters were also installed in some 6790s. The bandwidths mentioned above are nominal. For example, the measured bandwidths for the 3.24 KHz and 6.8 KHz filters in the 6790 I tested were 3.48/5.00 KHz and 8.01/13.5 KHz at -6/-60 dB respectively. The 3.24 filter is excellent for DXing, but the 6.8 filter is a bit wide even for SW pleasure listening.

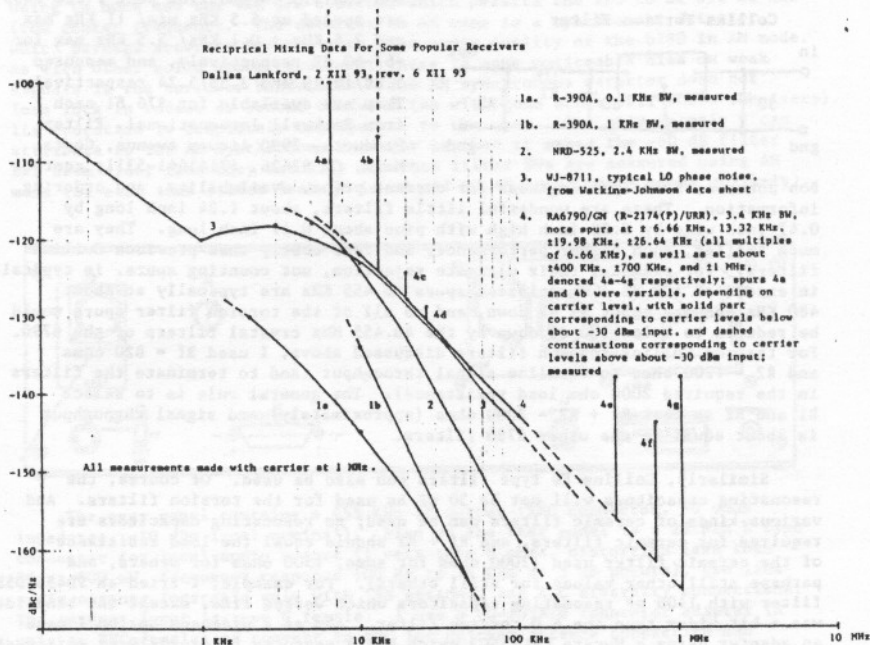
A detailed review of the RA6790/GM (R-2174(P)/URR) is contained in the 1982 WRTH, so this review will necessarily be brief. The 6790 tunes 0.500000 to 29.999999 MHz with resolution and readout to the nearest Hz in the finest (slowest) tuning rate. Tuning rate resolutions are 1 Hz, 30 Hz, and 1 KHz, selectable by a front panel push button. The 6790 does not tune below 0.500000 MHz contrary to a statement in the 82 WRTH. There is a "trick" you can use to tune below 0.500000 MHz. For example, in the 1 KHz tuning rate, press ENTER then 01310, then press ENTER again and 00. The receiver will be tuned to 310 KHz, but if you move the main tuning knob ever so slightly, the 6790 returns to the 0.5-30 MHz range.

The 6790 is still in production, and spare parts and the manual are available from RACAL. You should phone or write for prices and parts availability: RACAL Communications, Inc., 5 Research Place, Rockville, MD 20850, (301)948-4420.

These surplus 6790s did not include the optional independent sideband module (ISB PC board, assembly A5), or the remote control module (serial asynchronous remote interface PC board, assembly A6A1). The 6790 manual also mentions other options which are available: improved internal frequency standard ± 3 parts in 1,000,000,000, an RF amplifier for greater receiver sensitivity, extended low frequency tuning range to 10 KHz, and a broadband IF output.

The following performance parameters were measured for the 6790 I tested. AM sensitivity for the 3.24 filter for a 10 dB S+N/N using 400 Hz modulation at 50% modulation varied between 0.7 and 1.7 microvolts. The 3rd order intercept at 100 KHz or greater spacing was +30.5 dBm. The 2nd order intercept was +56.5 dBm. Both of these values are, of course, outstanding for a receiver with no front end preselection. The 3rd order intercept was phase noise limited

at 20 KHz spacing. The weak point of the 6790 is eight reciprocal mixing spurs within ± 30 KHz of the tuning frequency. A graph of the 6790 reciprocal mixing characteristics is given below together with reciprocal mixing characteristics of an R-390A, NRD-525, and WJ-8711. The four close-in reciprocal mixing spurs at about ± 6.66 KHz and ± 13.32 KHz can be heard on-the-air if a nearby signal is strong enough. For example, I have one super-local MW station, KRUS on 1490 KHz, which puts about 20,000 microvolts per meter field intensity into my location about one mile away from the KRUS antenna. This causes KRUS to appear not only at its normal 1490 KHz, but also at 1477 KHz, 1484 KHz, 1496 KHz, and 1503 KHz. This is not exactly what one would anticipate from a \$20,000 professional grade receiver. Neither my venerable boat-anchor R-390A nor my lightweight NRD-525 produce any such spurious responses.

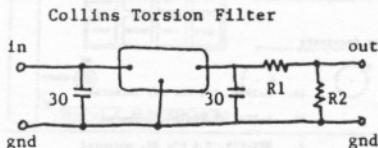


While KRUS 1490 is the only station received at my location to produce multiple spurious receptions of a signal, urban listeners with multiple super-locals would likely observe multiple occurrences of this phenomena. The close-in reciprocal mixing spurs at ± 6.66 KHz (approximately) produce two other unusual phenomena. When a strong signal is tuned in a wide bandwidth (say, 12 KHz or greater), a weak but noticeable 6660 Hz het is heard. And when tuning splits at night (when signal strengths are stronger) in the MW band, this same 6660 Hz het is often heard (in narrow bandwidths). Again, this is not exactly what one would expect for a \$20,000 professional grade receiver, and neither my R-390A nor my NRD-525, nor any other receiver I have ever used, has produced any such spurious responses. The 6660 Hz (approximately) hets due to the ± 6.66 KHz spurs are not strong (except in the case of KRUS 1490), and might not be noticed by many listeners. It is very unlikely that they would cause any serious problems when DXing splits. Also, the KRUS 1490 spurs can be completely eliminated by inserting a 5:1 (14 dB) attenuator between the 6790 and the antenna.

The 6790 is dual conversion, with 40.455 MHz 1st IF, and 455 KHz 2nd IF. There are two crystal filters, separated by an amplifier, in the 1st IF, one marked 20 KHz BW, and the other marked 25 KHz BW. The measured combined BW of these two filters in the 6790 I tested was 32 KHz at -6dB and 70 KHz at -60 dB. This extremely wide BW of the 40.455 MHz IF filters is easily made available by jumping the input and output of the next vacant filter

position (if one is available) and running the BITE program (which automatically identifies the filters, measures their 3 dB BWs, and assigns them in increasing BW order to the front panel buttons B1-B5).

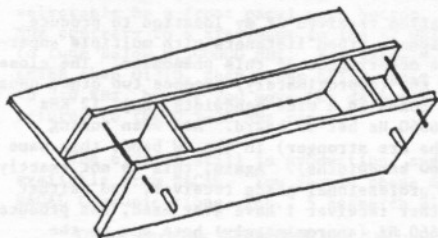
It is straightforward to add additional or optional 455 KHz filters to a 6790, though time consuming to fabricate the required homebrewed PC board plug-in adapter. At present I am using 2.5 KHz and 6.0 KHz BW Collins torsion mechanical filters in addition to the regular filters in the 6790 I have tested. The torsion filters have somewhat less loss than the standard plug-in crystal filters, so to equalize signal throughput I used a resistor divider network; see the schematic below. These filters, the 6.0 BW (Collins part # 526-8636-010),



and the 2.5 BW (Collins part # 526-8635-010), are speced at 5.5 KHz min/ 11 KHz max and 2.5 KHz \pm 0.1 KHz/ 5.5 KHz max for -6/-60 dB respectively, and measured 5.88/10.19 and 2.55/5.24 respectively. They are available for \$76.81 each from Rockwell International, Filter Products, 2990 Airway Avenue, Costa Mesa, CA 92626, (714)641-5311; contact

Bob Johnson, Principal Engineer for current price, availability, and ordering information. These are wonderful little filters, about 1.24 inch long by 0.47 inch wide by 0.23 inch high with pins about 0.17 inch long. They are much smaller, much higher performance, and less costly than previous Collins filters. For example, their ultimate rejection, not counting spurs, is typically in excess of 100 dB. The closest spurs to 455 KHz are typically at about 480 KHz and are about 82 dB down, and so all of the torsion filter spurs would be reduced to below 100 dB down by the 40.455 MHz crystal filters of the 6790. For the two Collins torsion filters discussed above, I used R1 = 820 ohms and R2 = 1200 ohms to equalize signal throughput (and to terminate the filters in the required 2000 ohm load resistance). The general rule is to select R1 and R2 so that R1 + R2 = 2000 ohms (approximately) and signal throughput is about equal to the other 6790 filters.

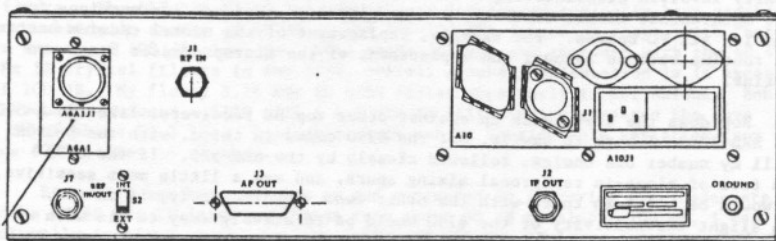
Similarly, Collins FD type filters can also be used. Of course, the resonating capacitors will not be 30 pF as used for the torsion filters. And various kinds of ceramic filters can be used; no resonating capacitors are required for ceramic filters, and R1 + R2 should equal the load resistance of the ceramic filter used (2000 ohms for some, 1500 ohms for others, and perhaps still other values for still others). For example, I tried an FD455FD58 filter with 1100 pF resonating capacitors which worked fine, except the bandwidth was a bit wider than the 6.0 torsion filter. And as a wideband option I made an adapter using a Murata CFL455G3 which had a measured BW of 13/19 at -6/-60 dB.



The general features of the plug-in filter adapter PC boards I fabricated are shown at left. The length is 3 inches, height 2 inches, and width 15/16 inches. The bottom of the bottom PC board is the fiberglass side. The small pins are #22 tinned (with the rough cut ends tinned with solder and smoothed with fine steel wool). The large pins were octal plug pins, obtained by breaking apart octal plugs (like the plugs used to plug in old tube type Q-multipliers).

The large vertical PC board, and the two small PC boards are not etched, and the upper side of the base PC board is etched only at the corners where the two smaller "pins" pass up to the upper PC board (which holds the filter, resonating capacitors, if any, and resistors). The positions of the small and large pins on the base PC board are obtained by careful measurement of the 6790 plug-in filter sockets. The individual PC boards were soldered together along their seams.

As mentioned above, when new or alternate filters are plugged into the 6790, the BITE program is run, and it automatically sorts the filters into increasing BW and assigns them to the B1-B5 buttons on the front panel. In addition, the measured 3 dB BW is displayed in the square LCD when any of B1-B5 are selected. The choice of 5 filters, independent of mode, plus USB and LSB filters, is one of the nice features of the 6790. There are 3 AGC release times selectable from the front panel, SHORT (fast) MED, and LONG (slow), with release times of about 30 msec, 200 msec, and 3.75 secs respectively. The MED and LONG AGC positions are "hang" AGC, which seems superior to other AGCs I have used. In MAN mode the AGC release times are still operable, but the AGC threshold is set by the front panel (manual) IF gain control. All of the 5 non-SSB filters (B1-B5) can be used for SSB by using CW mode and the VAR BFO control, which permits the BFO to be set ± 8 KHz from center frequency. The detector in AM mode is a synchronous detector, which perhaps accounts for the very good audio quality of the 6790 in AM mode. As with other solid state receivers, there is some noticeable hiss on weak signals in the narrower bandwidths. The AM synchronous detector does not lose lock in fades, or become confused (as with some other well-known receivers). Its operation is completely transparent to the user. The only anomaly I can attribute to the AM synchronous detector is that it makes the -60 dB filter BWs seem wider than they actually are when filter BWs are measured using AM mode (or else some filter leakage is caused by AM mode, which seems unlikely).



The rear panel contains a 455 KHz IF output (BNC connector, 50 ohms impedance, -10 dBm level nominal). Also on the rear panel is a 25 pin D type connector for local audio output (1 watt into 8 ohms, distortion less than 3% at 500 mW, frequency response 100 Hz to 16 KHz at 3 dB points), two line audio outputs (operable only with ISB option), and AGC diversity connections. The antenna input is type N female. I use a UG-201A/U connector adapter (N male to BNC female) to convert to BNC for quicker antenna connection and disconnection. The RA6790/GM has no front end protection diodes or other type of front end protection. You should use some kind of front end protection device for the 6790, such as the LA-1B with BNC connectors which can be mounted inside the 6790 between the BNC female output of the antenna input connector and the BNC male connector with miniature coax which connects to the 30 MHz low pass filter.

The 6790 maintenance manual, RACAL part # 84249, is about 250 pages plus about 35 pages of large fold-out schematics. Unfortunately, the schematics are incomplete, missing the first mixer circuit (said to be quad passive FETs, Siliconix SD215DE). And there is little information in the manual about aligning transformers and trimmer capacitors, or about adjusting various potentiometers. If you are familiar with the thoroughness and completeness of the R-390A maintenance manuals, you will find the 6790 manual disappointing. Similarly, the NRD-525 maintenance manual, though not as good as the R-390A manuals, is much better than the 6790 manual.

At first I considered the 6790 close-in reciprocal mixing spurs to be an indication of a problem with the 6790 LOs or other circuits. But another 6790 user I contacted has similar, if not identical, reciprocal mixing spurs. And one of my sources told me that an FCC monitoring station in Florida had similar spurs in their RACAL receivers. So the present evidence indicates that the close-in spurs at multiples of 6.66 KHz (approximately) are normal for the 6790. One problem did develop with the 6790 I tested. After being left turned off for several months, the 6790 came up into the BITE routine

and then locked up when turned on. This problem was cured by replacing the nickel cadmium volatile memory back-up battery. Curiously, the 6790 manual does not discuss this potential fault, or replacement of the battery. The battery requires about 72 hours to reach a full charge, and will keep volatile memory alive for several months after the 6790 is turned off. Replacement of this battery should be a regular maintenance item (about one replacement every four years). If/when you replace the battery, resistor R9 270 ohms should be checked (in case the battery failed by shorting and drew excessive current through the resistor, either burning it open or changing its value). For higher reliability, the battery may be replaced more often than once every four years. Hospitals, for example, replace rechargeable back-up batteries in their equipment annually.

Like many synthesized microprocessor-controlled solid state receivers, the 6790 cannot be used with a nearby loop antenna for MW band DXing because of RFI emitted by the 6790. The level of RFI emitted by the 6790 in the MW band is greater than the level of RFI emitted in the MW band by the NRD-525. Perhaps the 6790 RFI levels could be reduced to an acceptable level by mounting the 6790 inside a well-shielded cabinet, or by shielding the microprocessor board. I have not tried either.

The PC boards in the 6790 are fairly easy to remove and replace. Removal usually involves disconnecting a few cables and removing a few screws. The 6790 maintenance manual seems to have complete and thorough instructions for removing all PC boards. For example, replacement of the nickel cadmium battery was routine because removal and replacement of the microprocessor board was routine.

How does the 6790 stack up against other top DX receivers, like the R-390A and NRD-525? I hate to say it, but the 6790 comes in third, with the R-390A still my number one choice, followed closely by the NRD-525. If the 6790 was free of close-in reciprocal mixing spurs, and was a little more sensitive, it would be right in there with the other two. Unfortunately, it is not. The slight insensitivity of the 6790 would be relatively easy to fix with a high dynamic range, tuned, transformer feedback preselector. It remains to be seen if the close-in reciprocal mixing spurs can be reduced or eliminated.

Addendum 10 VI 94

Elimination of the close-in reciprocal mixing spurs was something of an ordeal. I had considerable assistance in the form of advice about how to proceed with trying to isolate the spurs from two very helpful RACAL employees. However, all of their helpful and appreciated advice led to what seemed to be dead ends. The 6790 1st and 2nd LO's were eliminated as possible sources of the spurs by operating the 6790 with external oscillators. (This required me to fabricate some adapter cables using SMB connectors, which was not an easy task.) Next, I attempted to isolate the spurs to a particular place in the 6790 by conventional trouble shooting methods (my own idea), and again I reached dead ends. Finally, out of desperation, I went at every board in the 6790 with "freeze spray" while sitting on one of the close-in spurs with the BFO on (so that I could hear even the slightest change in spur frequency). A slight change in spur frequency (a few 10's of Hz at most) led me to the hermetically sealed 5 MHz master crystal oscillator with built-in crystal oven. The 5 MHz output is divided by 5 to 1 MHz which is used throughout the 6790 as a reference. The 1 MHz reference is also output at a BNC plug on the rear panel. I connected the 1 MHz output through a 20 dB attenuator to an R-390A and tuned around 1 MHz. The close-in spurs were found at the same offsets as on the 6790. I removed the 5 MHz master oscillator and powered it stand-alone on my work bench with +12 VDC. The spurs were found near 5 MHz at the same offset as on the 6790. An "internal/external" slide switch on the rear panel permits the internal 5 MHz master oscillator to be disabled and an external 1 MHz source to be used. I operated my 6790 with a high spectral purity external 1 MHz oscillator and found no close-in reciprocal mixing spurs. A new 5 MHz oscillator was ordered from RACAL (\$240 plus shipping), installed in my 6790, and there now appear to be no close-in reciprocal mixing spurs of the kind described at the beginning of the article. The RA6790/GM does,

of course, have a few weak spurs here and there. And if you happen to make a reciprocal mixing measurement near one of these spurs, it will appear to be a reciprocal mixing spur. In addition, there do appear to be a few irregular weak reciprocal mixing spurs. To eliminate the fixed internal spurs from a reciprocal mixing measurement, one should do two reciprocal mixing measurements at two different frequencies. The weak fixed internal spurs can be found by tuning around with BFO on and no antenna connected. For my 6790, these internal spurs are at 1.000, 4.000, 4.500, 4.900, 5.000, 5.100, 6.825, 7.000, 7.00084, 7.100, 8.000, 8.00097, 8.300 MHz, and so on. Except for the 1.000 and 5.000 MHz spurs, these internal spurs are typically about 3 dB above the -121 dBm noise floor of my 6790 in a 6 KHz BW. They should not be observed in actual listening situations below, say, 5 MHz where man-made and atmospheric noise are high.

While fiddling around with my 6790, I had noticed that my 3.24 KHz BW filter (RACAL part # 08413, McCoy part # 164B67) had considerable leakage on the high side. I replaced it with an NTK CLF-D2K N311A ceramic filter mounted on an adapter board like the Collins torsion filters discussed above. Good-bye filter leakage. These ceramic filters are available from Kiwa Electronics, 612 South 14th Avenue, Yakima, WA 98902, tel. (509) 453-5492 for about \$70. You will have to fabricate the adapter board yourself, unless Sherwood Engineering has an adapter board available by the time you read this. Bob Sherwood told me that he was planning to make some adapter boards for the 6790, but I don't know if his boards will accept Collins torsion filters or CLF-D2K N311A ceramic filters. The CLF-D2K N311A ceramic filters I measured typically have stopband attenuation in excess of 86 dB in the 400-500 KHz frequency range, with "notches" in excess of 100 dB close-in. When these filters are cascaded with the 40.455 MHz IF crystal filters in the 6790, overall stopband attenuation is in excess of 100 dB. My flakey 3.24 KHz BW 6790 filter apparently is not unique. Bob Sherwood mentioned a 6790 with a 6.8 KHz BW filter which appeared to have a BW of about 10.3 KHz. Evidently there can be considerable variation from one 6790 filter to another.

Because I had been working on and succeeded in improving the inadequate Drake R8 50 KHz IF image rejection from about 80 dB to almost 100 dB, I was naturally inclined to examine the RA6790/GM 455 KHz IF image rejection. With a stock A3 mixer board, 455 KHz image rejection was about 114 dB, which is substantially greater than any other receiver with a 455 KHz IF that I have measured, and, of course, exceptionally outstanding. With a modified A3 board which I had implemented for some of my trouble shooting, the 455 KHz IF image rejection was greater than the limits of my measurement equipment, in excess of 126 dB.

Repairing or modifying RA6790/GM PC boards is not easy because most, if not all, PC board holes are plated through, and many of the leads fit tightly in any case. I had to develop new techniques to remove components without damaging the PC board. Unless you are an expert at PC board work, don't even try to work on a 6790.

After my success at trouble shooting and eliminating the close-in reciprocal mixing spurs, it is unclear to me whether the problem is as widespread as I had been led to believe. The fellow who sold me the 6790 assured me that close-in reciprocal mixing spurs were normal for the 6790, and since he was in the process of selling about 50 of them, I assumed he would know. But then the first 6790 he shipped me had a bad A2 1st mixer board, and a bad A7 1st LO board, which required me to return the 6790 to him for repairs.

I was a bit surprised to find that he had painted the A2 cover plate mounting screws and the A7 cover plate mounting screw day-glow orange when I received the repaired 6790. It was easy enough to remove the paint with a mild solvent because the paint was hardly dry. Perhaps there are other 6790's with close-in reciprocal mixing spurs due to bad 5 MHz crystal oscillators, but it seems unusual that a surplus dealer should have 50+ of them. In any case, I was never told by anyone at RACAL that the close-in reciprocal mixing spurs were normal, and, in fact, was told just the opposite, namely that the close-in spurs were not normal for 6790's. They were right. And the surplus dealer was wrong. A more plausible explanation for the spur situation which I encountered is that the surplus dealer was not knowledgeable enough about RA6790/GM's to check it out properly. This prompts me to advise anyone thinking about buying

a surplus 6790 the familiar "caveat emptor." On the other hand, it is also possible that there are significant numbers of RA6790/GM's with defective 5 MHz crystal oscillators, and, thus, close-in reciprocal mixing spurs like I experienced. That remains to be seen.

Based on my experiences, the 6790 was not intended to be repaired at the component level (except for the 455 KHz filters, which are plug-in). In other words, it appears that the 6790 was meant to be repaired by replacing PC boards. As I mentioned above, the manual does not have the detailed data, like stage gains, active device operating voltages and resistances, and so on which are required to trouble shoot at the component level, and the plated-through-tight-lead-fit makes component level board repairs difficult. Board prices vary from about \$600 at the low end to several thousand dollars at the high end, depending on the board, so repair-by-board-changing is probably not an acceptable option for most hobbyists. Prices of individual parts can also vary wildly. For example, the USB filter (part # 08410) currently is \$260 (+ S&H), but the matching LSB filter (part # 08409) is \$700 (+ S&H), and both prices are subject to change. Since many of the 6790's which came on the surplus market recently were missing one or more filters, no surplus dealer (to the best of my knowledge) will sell you an individual 6790 filter, and so you are stuck with RACAL's current price for the filter you want (or you can merely live without it).

Back to the question of how the 6790 stacks up against other top DX receivers like the R-390A and NRD-525, I still vote 390A/525/6790 for 1/2/3, mainly because of the slight insensitivity of the 6790 compared to the other two. While I am reasonably sure a carefully designed tuned preamp will fix the 6790 sensitivity, that remains to be seen. But I don't expect to see a solid state microprocessor controlled PLL receiver as spur-free and with as low LO noise as the 390A in my lifetime. And it is tough to beat the combination of good intercepts, tracked tuned front end, ease of use, small size, light weight, and overall good performance (after a few simple mods are done) of the 525. I don't regret buying the 6790 even after having to "go to school" on it. Some people like fine music, or fine food, or fine cars, or fine houses, to name a few. I like fine receivers, and the attention to detail of design and construction place the 6790 in a category by itself. I did not buy it to use as a DXing receiver, but rather to learn more about top end receivers and especially to learn more about intermodulation distortion and perhaps to use the 6790 as part of my ultralinear intermodulation distortion measurement system. I must say, however, the 6790 audio quality in AM mode is exceptionally good, due, in part, I presume, to the AM synchronous detector, and the hang AGC in medium and slow release modes. In AM mode, detection is always (and only) by AM synchronous detection. Operation of the AM synchronous detector is completely transparent to the user (as it should be): it never loses lock and there is never a growl or any other evidence of the AM synchronous detector. For this reason alone I will probably use the 6790 for some of my listening.

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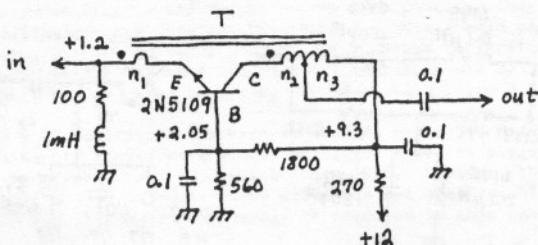
In my DX News 60, No. 27 - June 28, 1993 article, "Drake R8: Increased dynamic range," I described a simple method of increasing the dynamic range of the R8. Subsequently, I discovered that the improvement I reported may not be so dramatic for some R8's when I bought another R8 RF PC board to have on hand for "before-after" comparisons. This new (unmodified) RF board had substantially better 3rd order intercepts than my original RF board before I modified it, namely about -2 dBm with preamp on, and +10 dBm with preamp off. To satisfy my curiosity, I restored my modified RF board to original, but with a new SBL-3 mixer and new J310 FET, and measured the intercepts. They were about -2 dBm and +10 dBm respectively for preamp on and off, about the same as for the newly arrived RF board. Apparently the SBL-3 mixer or J310 FET or both were defective in my original R8. Consequently, I recommend against doing that mod because the improvement in dynamic range over an unmodified R8 does not justify the effort, assuming that your R8 is not defective, as mine apparently was originally.

The simplest way to improve the R8 out-of-band dynamic range is to use a low-gain tuned preselector. I have not tried this approach myself, but I have been told by several R8 owners that it is a simple and effective solution for the R8 dynamic range problems. What preselector should you use? Again, I have no first hand experience with tuned preamps. The MFJ-1020A indoor active antenna might be suitable; it has been been rated a excellent when used as a preselector in some reviews, though poor as an active antenna. It tunes 0.3 - 30 MHz in 5 bands (the MW band is split into 0.3 - 0.7 and 0.7 - 1.6 MHz), and sells for \$79.95. MFJ also sells an MFJ-956 SW/MW/LW preselector/tuner for \$39.95 which might be suitable. It is apparently passive (no amp), and tunes 0.15 - 30 MHz in 4 bands.

A tuned preselector improves dynamic range by reducing the signal levels of the offending stations. Thus, the preselector approach is effective against signals 100 KHz or so away from the desired signal in the MW band, and several 100 KHz away from the desired signal in the SW band. A preselector is not effective against nearby signals, and does not improve the close-in dynamic range.

Despite the disappointment of my first effort, I have remained interested in substantially improving the R8 dynamic range. The MiniCircuits data book suggests that the SBL-3 mixer should be capable of considerably higher 3rd order intercept than the R8 achieved, namely about +18 dBm (with preamp off). The amount of improvement with preamp on depends on preamp gain and other factors.

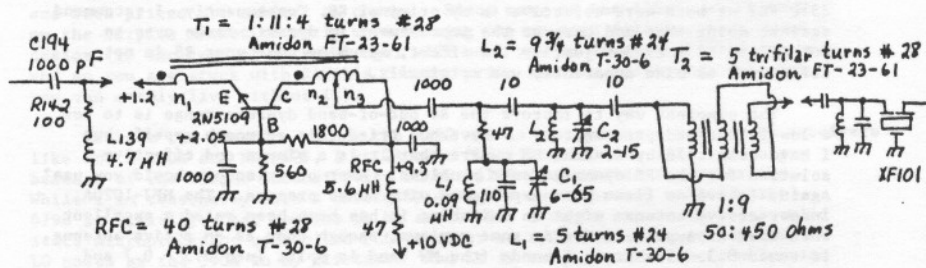
My second attempt at improving the R8 dynamic range began with the preamp. After extensive measurements, I had concluded that the R8 preamp had too much gain, and it was too noisy. The original RF preamp was removed and replaced with so-called noiseless (transformer feedback) amplifier set up for 9.5 dB gain. A schematic of this preamp is given below.



$T = 2:10:6$ ($n_1:n_2:n_3$) turns #24
 on Amidon FT-50-75 wrapped
 with Teflon tape

Measured preamp-on sensitivity in the 6 KHz BW, AM mode, 400 Hz modulated 50%, with the shield described in my article (same DX News above), "Drake R8: Type F spurs elimination," was 0.35 microvolts for a 10 dB S+N/N at 1.8 MHz. Without the shield, preamp-on sensitivity was 0.55 microvolts.

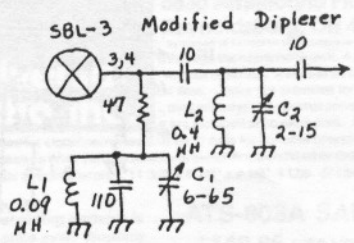
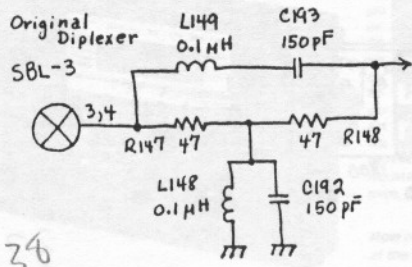
Next, the J310 1st 45 MHz IF amp was replaced with a noiseless (transformer) feedback amp set up for 12 dB gain, followed by a diplexer, followed by a 9:1 broadband step-up transformer (the 1st 45 MHz IF transformer was removed). A schematic of this mod is given below.



The exact circuit of the 45 MHz crystal filter (XF101 and preceding parts) is unknown. The parts on both of my RF boards do not agree with the R8 service manual schematic. I was told by a Drake engineer that the input impedance of the crystal filter is 500 ohms real, so I used a 1:9 step up transformer, which is a reasonably good match. I also used C194, R142, and L139 from the original R8 1st 45 MHz IF amp to save space. RFC is probably not necessary because there is already good decoupling of the +10 VDC line on the R8 PC board at the 1st 45 MHz IF amp, but I wanted to be sure that I had the 2N5109 feedback amp well isolated from the DC line.

The 3rd order input intercept, ICP3, of the original 1st 45 MHz IF amp (tones injected at P104) was +18 dBm. The ICP3 of the above modified 1st 45 MHz IF amp was +29.5 dBm. External stand-alone measurements of a push-pull version of this amp have shown that it is capable of +40.5 dBm ICP3 when it is terminated properly, so perhaps some further improvement is possible for the ICP3 of the 1st 45 MHz IF amp.

The last step in the modification was to replace the R8 diplexer following the SBL-3 1st mixer. The original diplexer is given below on the left, and the new diplexer is given below on the right.



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Several types of diplexers were tried following the 1st mixer. The one above, derived from a 9 MHz diplexer in Fig. 11 of Chapter 6 of Solid State Design by W. Hayward and D. DeMaw, gave higher ICP3 and was easier to tune than the others. Practically everyone agrees that the 2nd harmonic termination (L1, 110 pF, C1) should have a high C/L ratio, and that the ratio should be about what I used. However, there does not seem to be general agreement on how to implement the signal path part of the diplexer. So perhaps further improvement is possible in this part.

All tuned circuits of the diplexers should be tuned to resonance. This is easy to do for the signal path part (L2, C2) because there is a very pronounced peak in signal level when C2 is adjusted (with a CW signal generator connected to the R8 antenna input terminal). A word of caution is in order concerning the signal path tuned circuit, L2, C2. The inductor L2 is about 0.4 microHenrys, which is tuned to resonance at 45 MHz with about 30 pF of capacitance. Due to the nature of the capacitive coupled circuit, the coupling capacitors are added to C2; they are part of the resonating capacitance. When distributed capacitance of L2 is included together with stray capacitance, very little additional capacitance is need to tune the circuit to resonance. With the turns spaced evenly around the toroid (L2), resonance was obtained with about 5 or 6 pF from C2. The point is that there may be enough variation in T-30-6 toroids to require addition or subtraction of a turn to or from L2.

Final adjustment of the diplexers may be done with a two tone IMD measurement system with two tones of about -10 dBm spaced about 40 KHz apart in the 1.6 to 2.0 MHz range. However, a high dynamic range IMD measurement system is required for this approach. A better approach is to adjust C2 of the mixer diplexer for minimum intermodulation distortion on some MW band distortion product in the 1.8 to 2.0 MHz range with the preamp turned on. With this approach, and the R8 in CW mode, on a quiet morning, the IMD3 on 1.85 MHz due to KRUS and KWKH (2x1.49 - 1.13) can be completely eliminated. Other IMD3 which I used to hear at night (from many sources) are now completely gone from the 1.8 - 2.0 MHz range.

With the diplexers adjusted as described above, and tones spaced about 40 KHz apart in the 1.6 to 2.0 MHz range, preamp-off ICP3 was about +20 dBm, and preamp-on ICP3 was about +10 dBm. These ICP3 values hold up to about 10 MHz, and then begin to fall off slowly to about +13 dBm preamp-off and about +6 dBm preamp-on at 15 MHz. For comparison, using my unmodified RF PC board, I got +12 dBm preamp-off and -2 dBm preamp-on ICP3 at 15 MHz. While making these measurements, I observed that there was considerable variation in ICP3 between the 2xf1 - f2 and 2xf2 - f1 IMD3, so I took the worst of the two ICP3's for the values above.

The above mods also improve the 2nd order performance of an R8. For example, the preamp-off ICP2 of a stock R8 is about +40 dBm at 510 KHz for tones at 980 and 1490 KHz. The corresponding ICP2 of a modified R8 is about +53 dBm, which is about what an SBL-3 mixer is capable of when properly terminated according to MiniCircuits data. The preamp-on ICP2 of a modified R8 at 510 KHz due to 980 and 1490 KHz tones is about +43 dBm.

Although these mods have made the R8 3rd order intercepts with preamp-on about as good as an unmodified R8 with preamp-off below about 10 MHz, I have changed my mind about rewiring the R8 to leave the preamp permanently on, as described in my previous article. A better solution, which I have not done yet, is to install an on-off switch on the rear panel so that the preamp can be switched between always-on and R8-original. This should be implemented so that the switch can be unplugged from the RF PC board to facilitate easy removal of the PC board. The best solution, of course, would be for Drake to change the software so that the preamp can be enabled below 1.8 MHz.

As much as 6 dB additional increase in the 1st mixer 3rd order intercept might be possible with square wave local oscillator drive as suggested by technical correspondence, page 43, QST, October 1988. However, the feasibility of changing the R8 1st LO to square wave drive has not been established. A push-pull 1st 45 MHz IF amp would probably be required in this case.

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