



# DX NEWS

*the magazine of the  
National Radio Club*

— SINCE 1933 —

Volume 45, Number 26 Monday, May 15, 1978.

## STATIC FROM HQ

As the static increases outside, the static decreases inside, which is polite to say we have just a bit this time around. The complete new reprint list appears inside this issue and it has new numbers, which means you can't use any past list for ordering hereafter! Also, details of the 1978 NRC convention appear inside and we hope all members will join us in Atlanta. Make your plans now! Also, any city or town wishing to host NRC in 1979 should make plans to send in your bids to headquarters or present them from the floor (if you happen to be that drunk!) in Atlanta. West, South, East or North, please bid and remember that any size city or town will do, so make plans now! This issue is a big one and we thank those who sent in items to us--some are even being held as we ran out of space, but don't let that stop you--if you have an item to send, mail it in as we always welcome contributions (make checks payable to....hi!) Reminder----next issue of DX News is June 12--see ya in **four weeks!**

*Feb.*

## THEY JOINED

We welcome these new members and hope you will Muse soon and introduce yourselves!

- E.C. Gregory, 4000 N. Charles, Apt. 1409, Baltimore, M.D. 21218.
- Michael A. Alvarado II, 11918 Mondon Ave., Norwalk, Calif. 90650.
- William S. Bailey, 1219 Park Avenue, Ft. Wayne, Ind. 46807.
- J.C. Doherty, P.O. Box 6158, Postal Station A, St. John, N.B. E2L 4R6.
- Albert Earnhardt, 1 Curtiswood Ave., Sumter, S.C. 29150.
- Frank R. Hieber, 9201 Beech, Munster, Ind. 46321.
- Tracey Hoskins, 348 Georgetown Drive, Daytona Beach, Fla. 32018.
- William P. Townshend, 4500 Connecticut Ave., NW #901, Washington, D.C. 20008.

## CPC TESTS

Looks like the test season is over, but we do want to thank those who arranged tests this year--we have had a great interest in arranging tests and now, at the beginning of summer is a good time to mention that you could spend a rainy day or two writing test requests for next season and mail them in September. CPCer of the year will be named at the 1978 convention.

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# AM SWITCH

BRUCE WINKELMAN  
3324 KETTERING PLACE  
GREENSBORO, N.C. 27410

Greetings one and all and welcome to another AM SWITCH. On to the goodies..

### NEW STATION APPLICATIONS:

680 UT Bountiful D1 1000/	1270 VA Buena Vista D1 1000/
850 TN Fairview D1 500/	1290 IA Anamosa D3 500/
1170 KY Hazard D1 250/	1380 KY Wicklife D3 500/
1170 MI Lansing D3 1000/	1530 AR Yellville D1 500/
1190 KS Beloit D3 2500/	1540 NC Yanceyville D1 250/
1250 CO Fraser U4 500/500	

Anybody out there know if there really is a Yellville, Arkansas????

### CALL LETTERS GRANTED:

810 HJXL AL Jacksonville CP	1330 WFGS FL Milton CP	1540 WRSN AL Sumiton CP
1150 KABN AK Long Island CP	1470 KTNW MN Anoka CP	

### CALL LETTER APPLICATIONS:

540 KDLT-UT seeks KNAK	1250 CA Grass Valley CP seeks KNCO
790 WFUN-FL " WNW5	1310 HRP-TX seeks KAAM!!!!!!!!!!!!
970 WIIN-GA " WKLS	1330 WKVO-NC " WCPQ
980 WYCL-SC " WBZK	1350 WEZY-WY " WCWR
1060 KUPD-AZ " KKKQ	1370 KVWO-WY " KSHY
1140 KLUC-NV " KLXX	1380 WQWV-CN " WNVV
1240 KBON-CA " KDIG	1390 KCLN-IA " KLNT
	1400 KBMI-NV seeks KVEG
	1460 WAXC-NY " WWWW
	1470 KNDE-CA " KXOA
	1520 WSLT-NJ " WIBG
	1590 WQTC-WI " WYTR

### CONSTRUCTION PERMIT APPLICATIONS:

600 KIIX-CO CP: D1 5000/	1430 KBRC-WA CP: U2 5000/5000
1000 WVVI-VI CP: U1 5000/1000	1470 WSR0-MA CP: U4 1000/1000
1050 WBUT-PA CP: D1 500/	1590 WMS0-TN CP: D3 2500/ on 1220
1260 KWIQ-WA CP: U2 1000/500	1600 KMDO-KA CP: D1 1000/
1420 KBTN-MO CP: U2 500/500	1600 WHVL-NC CP: D3 5000/

### CONSTRUCTION PERMITS GRANTED:

960 KLD-OR CP: U2 5000/5000	1090 WILD-MA CP: D1 5000/CH:1000
960 KWYK-NM CP: D1 5000/	1530 WRBX-NC CP: D3 10000/
1010 KHCS-AZ CP: U1 1000/250	1560 WAGL-SC CP: D3 50000/
1060 KHVM-TX CP: D1 10000/	1600 WCPK-VA CP: D1 5000/

### MORE CALL LETTER CHANGES:

*1410 WGGM-VA ex WIKI	1440 WRDD-MI ex WBCN
*1290 KWLS-KS ex KWNS	1510 WMIB-FL ex WRGI

### NOW ON THE AIR:

1130 WKED-KY	1530 KAWS-TX	1540 WMLN-MI
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### PRESUNRISE AUTHORIZATIONS: (ALL POWERS LISTED ARE IN WATTS)

940 WINE-CT 3	*1060 WKNG-GA 97	1330 KLBS-CA 500	*1470 KUTY-CA 63
*920 WBBB-NC 473	*1080 WEWO-NC 20	1370 KGEN-CA 375	1520 WKMG-SC 500
960 WAAK-NC 500	1110 WHYI-IN 34	1390 KFML-CO 500	1540 KISA-HI 500
970 WIIN-GA 500	1150 KXLR-AR 500	1410 KLFD-MN 500	1560 WCCP-SC 500
980 WCAP-MA 124	1190 KHAD-MO 86	1420 WACK-NY 500	1570 WQSP-GA 168
1090 KEXS-MO 250	1300 KMOO-TX 500	1480 WYDK-NC 500	

### FROM JOHN KROMKA MONTVILLE, NJ:

1580 WDRG-SC sked: 0600-0100 daily 1590 WQQW-CT anncd 24h sked, no info on SP (if any)

Out of room for now--Ron Schiller. I lost your trip, please advise again. Still Thanks to Stan Morris for his interesting tidbit re: Broadcasting Next edition: May 25 Report!

# DOMESTIC DX DIGEST

RAY ARRUDA  
47 BURT STREET  
ACUSHNET, MASS. 02743  
(617) 998-3958

We're getting to the time of year when many of us slack off a bit on our DXing, with better weather, outdoor activities and DST. If you do any DXing at all over the Summer months, why not share your random catches with the rest of us? Jot em down on one side of the paper and fire em off to me. Don't forget DST also.

### DX TESTS

WPHG - Heard by DS, RJE  
KROW - Not heard by RJE  
WAMS - Not heard by BH, NH. Tent. w/TT only by RA. (April results.)  
KNIX - Heard by BH, NH, RA

### FREQUENCY CHECKS

1st Tue.	KWRP-860 Not heard by RJE. (April)
1st Wed.	WCUG-850 " " " RJE. (April)
1st Thu.	WFJT-1590 Tent. in April w/brief TT, no IDs. (RJE)
1st Sat.	WRUM-790 Not heard by RJE. (April)
2nd Tue.	WRAA-1330 (DS)
3rd Mon.	WVNS-1240 (DS) Dixieland ex, IDs.
	KBMT-1240 (WR) Announced f/c 0330-0345 w/TT/IDs
	KBNO-1250 (WR)
	KBIL-1340 (WR)
4th Sun.	WBHU-1240 Not heard by RJE. (March)
4th Mon.	KBMT-1240 Not heard by BH.
4th Tue.	WSLB-1400 (RJE) 1 min. TT/ID & then off. (March)



### GENERAL

1480 KQLA WA LAKEWOOD - Per letter from GE, this CP should be on ES by the end of May, 1KW D3, 500W PSA power, MeR format, pattern strongest to ESE. May do some ET's before ES begins, but they would be done on irregular basis. (BH)

### MIDDAY TO MIDNIGHT

690	WAPE	FL	JACKSONVILLE - 4/4 2300 local nx, ID, local ads null'd. (LVH)
	KGGF	ME	COFFEEVILLE - 4/13 2215 w/IDs, local ads, T40 nx. (LVH)
710	KEEL	LA	SHREVEPORT - 4/13 1936 w/ID as "KEEL-71 Shreveport." T40 nx. (LVH)
960	KMA	IA	SHEWENOA - 4/9 2335 w/ID during WERO fade. (LVH)
1110	KEOR	OK	ATOKA - 4/13 1957 w/s/off anno mixing w/XELBO. (LVH)
1210	KGYN	OK	GUYMON - 4/19 @ 2000 w/ID & network nx. (LVH)
1270	KFJZ	TX	FT. WORTH - 3/29 @ 2038 w/local ad, ID, Rock nx. (LVH)
1290	WOMP	OR	BELLAIR - 4/8 1854 noted briefly w/wr then null. (DS)
	KUMA	OH	FRENLETON - 4/23 2252 s/off after "Portals of Prayer" then SSB, odd time for a Sun. s/off! (BH)
1320	WVOJ	FL	JACKSONVILLE - 4/19 1953 w/nx, ID/ads/XBO nx. (LVH)
1330	KMBI	WA	SPOKANE - 4/8 2130 ID then into program "Gloss-Up" about the Spokane Art School. Good w/KEO-1320 stop absent for a moment & no sign of KUPF. (NH)
1350	WSMB	LA	NEW ORLEANS - 4/19 1950 w/T40, ID, nx & sports. (LVH)
1360	KLRS	MO	MOUNTAIN GROVE - 4/19 1944 w/s/off, no SSB. (LVH)
	KXOL	TX	FT. WORTH - 4/19 1946 after KLRS s/off w/ID/OW nx. (LVH)
1380	WYNK	LA	BATON ROUGE - 4/19 1929 s/off then SSB. (LVH)
	KONW	KS	FARWAY - 4/19 1934 w/Mutual nx, ID then religious. (LVH)
1490	WJNL	PA	JOHNSTOWN - 4/8 1851 noted briefly at time in w/Johnstown Calendar, then gone. Still needed here. (DS)
1520	KMPL	MO	SIBBSTON - 4/3 1837 w/local ads then ID. (LVH)
1530	WFIC	VA	COLLINGSVILLE - 4/9 1848-1900 alone but weak w/many local spots, TT, Ac nx then s/off. (DS)

WPPA - WAVT-FM

# 1 In Schuylkill County

1550 KGAR WA VANCOUVER - 4/22 1343 local spots, PSA, promo, ID, then O&W mx. Good w/local KGHO-1560 off, never heard before at this hour due to KGHO sloop. (NH)

1560 KDFL WA SUMNER - 4/22 1347-1401 relig. pgm, ID @ 1401, info about area church services, more religion @ 1405, good w/local KGHO off. (NH)

KGHO WA HOQUIAM - 4/22 noted totally off 1337. 00, spurts of weak audio, and off completely, til they came back on @ 1711. (NH)

KQYX MD JOPLIN - 4/17 at 1941 w/Rock mx, ID/wx/promos. (LVH)

**MIDNIGHT AT THE BEVERAGE SIGHT**

790 WEAH RI PROVIDENCE - Now runs Mutual Net. Don't know if APR is still used or not, noted 2330 3/31. Runs Larry King Show AN out of Miami. Change log. (RJE)

990 KRKT OR ALBANY - 4/9 0846 alone & atop on RS, O&W mx, "KRKT Oregon Country" jx, kint for 250 watts. W/KKIS off til 0900 Sun. this should make it to CA. (BH)

1030 ETWO WY CASPER - 4/3 0129 w/rel. pgm then ID "KTWO Casper, more power than any other Wyoming station" for State #34. (LVH)

1070 WFLI TN LOOKOUT MOUNTAIN - 4/19 0217 on f/c w/mx & IDs after each record mixing w/WDLA/KNX. (LVH)

1110 WLBB GA GARROLLTON - 4/10 0720 w/IDs, local ads, O&W/net mx o/u WWR. (LVH) (DS)

WUPE MA PITTSFIELD - 4/2 0542 noted way under WHIM w/female annor.

1190 WOWO IN PT. WAYNE - 3/20 0100-0130 ET/TT/lotsa IDs. (WH)

1230 WREY NY ELMIRA - 4/17 0012 noted w/oldies while tracking down a still UNID f/c. (DS)

KHSW OR GOOS BAY - 4/16 0840 poor thru mess w/DJ ment. call letters between T40 songs quickly faded under, noted again 4/23. EX-K00S, format now T40 & AN but not HSP. (BH)

1240 WSEW PA SELLINGROVE - 3/30 0530 s/on w/multi-verse orchestral "America". (RJE)

WJTH NY JAMESTOWN - Quite strong w/ID @ fade in 0200 3/26 o/WROV/WGBB/WGVA/WWVD. (RJE)

WPAI GA THOMASVILLE - 4/19 @ 0237 w/ID & wx given by DJ. (LVH)

1280 WGSO LA NEW ORLEANS - 4/19 @ 0121 w/ID & T40 mx. (LVH)

KIT WA YAKIMA - 4/24 0255 DJ said someone was coming on next for the AM Show, so looks like they are AN again MMs. (BH)

1340 WOYL PA OKC CITY - 4/17 0040-0055 believe this one here w/rr & jx. between selections, very rough. (DS)

1350 KRNT IA DES MOINES - 0140 on 4/19 w/ID & Des Moines wx. (LVH)

1360 KRYS TX CORPUS CHRISTI - 4/19 0145 w/T40/ID/wx, & local station contest promo. (LVH)

WIZZ PA MCKERSPORT - 4/17 0009 noted on ET/00/O&W mx, strong. (DS)

1380 WYWK LA BATON ROUGE - 3/20 ET/00/TT 0120 & on. (WH)

KOTA SD RAPID CITY - 3/20 0115 s/off w/SSB. (WH)

1390 KSLM OR SALEM - 4/9 0744 ending MBS nx & into Pop mx on RS on Sun Morn, have never been AN before. (BH)

1400 WSMY MO WELDON - S/off atop mess 3/28 0000. Change log. (RJE)

1410 WMYR FL FT. MYERS - 4/16 0529 weak ID/jx noted, then into gospel mx & gone. (DS)

1440 KXXR WA SPOKANE - 4/9 0822 good signal w/PSA, O&W mx, alone on open freq. @ this early Sun. hour, evidently has LSR s/on in Spring & Summer. (BH)

1450 WILM DE WILMINGTON - 4/10 ET 0145-0225 w/00/TT/PSA's & annor that couldn't get time checks right (me). (DS)

1470 WMBD IL PEORIA - 4/17 0530 after John Denver song, ID given by YL DJ, then ball scores for 5 min. Fair to poor, w/QRM from UNID relig. pgm. & CJVB 00, this could be widely heard. (BH)

1520 WOHE PA WEST CHESTER - 4/25 0114-0118 think it was they way u/WKBW playing oldies on f/c - ET, no IDs noted. (RA)

1560 KGHO WA HOQUIAM - 4/9 0832 s/on, 1st time since 1966 they've signed on earlier than 0900. LSR s/on daily except possibly for MMs but I haven't checked yet. (BH)

CEDAR RAPIDS TELEVISION COMPANY  
**KCRG-TV9-RADIO 16**  
 2ND AVENUE AT 5TH STREET SE  
 CEDAR RAPIDS, IOWA 52401

1590 WQQW CT WATERBURY - Is now 24 hrs, W/MBS AN Larry King Show, heard 4/6 0400-0430, change sked & net. Still CBS also. (RJE)

WQIQ PA ASTON - Not AN 4/6, delete AN, change log. (RJE)

That's it. Have a safe Summer and I hope to see you in the next issue in June. Deadline will be May 27. Thanks go to the following:

- RJE Russ Edmunds, Kinnelon, NJ HQ-150, 4' AA FET Loop
- LVH Larry Van Horn, Brighton, TN
- DS Dave Schmidt, New Castle, DE
- BH Bill Hardy, Aberdeen, WA HE-30, SMI
- NH Nancy Hardy, Aberdeen, WA HE-30, SMI
- WH Wayne Heinen, Colorado Springs, CO RBB-4 Navy Surplus, LW, Loop
- RA Rocket Ray, Cush Net, MA

73..... Ray



**THE GOVERNMENT BROADCASTING SERVICE**  
 (ST. CHRISTOPHER NEVIS ANGUILLA)  
 ZIZ RADIO - TV

Telephone: 2621/2/3  
 Cable: ZIZ St. Kitts  
 155 Kilo/Ch. 5  
 Ref: 22/1/78

P. O. Box 131,  
 SPRINGFIELD,  
 St. Kitts, W. I.  
 16th March, 1978

Mr. Kelly Andrews,  
 7016 Montank Drive,  
 Richmond, Virginia 23225  
 U. S. A.

Dear Mr. Andrews,

I refer to my letter of Verification of your report for ZIZ radio, dated 23th October, 1977.

We are now broadcasting with a radiated power of Twenty Thousand (20,000) as of Tuesday March 14th, 1978, and would be grateful for another reception report from your area.

Best Wishes,

Yours faithfully

*[Signature]*  
 St. Christopher Nevis,  
 Senior Technical Assistant.

123/45

# INTERNATIONAL DX DIGEST

Times are GMT. For ELT subtract 4 hours. Deadlines are usually Monday.

CHUCK HUTTON  
1035 LATHAM ROAD  
DECATUR, GA. 30033  
(404) 633-1198  
(BEFORE 2300 ELT)

Editor's goof department: apologies to Mark Connelly for misplacing one of his reports that should have appeared in the last issue.

Reporter's goof department: once again I have to complain about the number of reports that do not include station calls and location. I cringe at the thought of having to stop all the time and look up information that should have been included. It adds a lot of time to typing up the column so let's have a bit more cooperation along this line.

DX has been mainly boring of recent-the static is here to stay so goodbye to DX. Thinking of the season, it was really disappointing. TA's were extremely poor; too bad since it was our last season on the old freq plan and there goes our last chance for a few goodies. LA DX was nothing to get excited about; Peru not heard once on the east coast if I remember correctly, Argentina not heard, etc, etc. Randy Tomer is about the only person who made a decent season out of it.

525a COSTA RICA TICAL 4/19 at 0552 w/R. Rumbo ID, light LA vocals, weak (are they really 250 watts as per WRTH?), if so they are my best LA catch to date. Country 14. (Van Horn) I think they are at least a kw, but don't recall whether that is official or merely my conjecture-CH

530 AUSTRALIA Kempsey 2KM fair 1008 4/20 w/rr mx, spot for garage in Kempsey. Becoming a regular lately. (Tomer) Wonder if I'd be wasting my time trying for this??-CH

540 AUSTRALIA Longreach 4QL weak to fair w/religion, "ABC Radio" ID 1245 4/22. (Tomer)

540 NICARAGUA Managua YNOW 4/4 at 0346 w/R. Corporacion ID, sounded like nx. Way over XEWA even on the LW here. (Van Horn)

548 ALGERIA Oran loud w/AA female vocals and string mx 0314 4/17. (Connelly)

548 USSR Mayak 3/26 in RR at 1750 w/talks by male and instrumental mx. Either antenna switch or power reduction as at 1758 suddenly weak sig w/vrsus otherwise very strong. (Hardester) 548.000 PFM

550 SOUTH KOREA Vagabond Radio/AFKN at 1808 on 3/26 in EE w/man. Noted after USSR s/off/switched w/instr SSB (strange time as is 0300 Korea time/Japan time), into AFKN nx report w/local wx and into canned pgm. Fair after USSR off. (Hardester) 549.994 PFM

555 ST. KITTS ZIZ Basseterre fair to good w/Caribbean mx 0143 4/2. (Connelly)

575 COSTA RICA 4/26 at 0226 in the midst of a T-storm, surely a CR but I don't think it is Omega returned. The one ID I heard sounded like R. Nacional. (Hutton)

590 CUBA San Antonio de las Vegas QMW R. Rebelde here 4/19 at 0500 w/ La Habana in the mess. (Van Horn)

600 CUBA QMKV San German/other-apparently 2 Cubans here w/parallel pems: political talk by man in SS noted: heavy SAH present w/no evidence of second audio 0146 4/2. (Connelly) There need not be any audio present to produce a SAH, ergo no reason to suspect that the SAH was caused by a // Cuban. CH

611 MOROCCO Sebass-Aioun fair w/male chanting 0012 3/31. (Connelly)

620 HAWAII KIPA Hilo fair w/slow ID 0735 4/20, then faded u/KTAR. (Tomer)

640 GUATEMALA TGW here 4/3 at 0228 w/R. Nacional de Guatemala ID's, killed the Cuban even on the LW, country 10. (Van Horn)

655 EL SALVADOR YSS San Salvador w/ID, TC, light LA vocals 4/11 at 0400. (Van Horn)

660 AUSTRALIA Byrock 2BY fair w/choir mx //700; heard at 1248 4/22. (Tomer)

660 CUBA CMHC 4/18 at 0445 w/progresso net, mentions of Cuba by male anncr. (Van Horn)

660 MEXICO XERP R. Uno 4/18 at 0450 w/ID, calls, freq, location, and light mx running even w/Cuba. (Van Horn) More of an ID than most US stns give! CH

660 NEW ZEALAND Wellington 2YC weak w/National Program ID 1158 4/20, //880 but weaker. (Tomer)

680 SOUTH KOREA Gun San HLSA on 3/26 from 1905-2000 w/US pop mx of 60's to 1930, and into lite instrumental mx to IS (?)/anthem or whatever at 1955. KBS like pips on hour w/ID by male. Fair w/moderate QSB. KK lang. (Hardester) 680.032.

680 CUBA 4/23 at 0425 a R. Progresso //690, 2 listed w/equal power so I can't add anything to the log. (Hutton)

700 AUSTRALIA Grafton 2KR old reliable in w/xint sig 1040 4/20; had quiet piano mx. (Tomer)

700 COLOMBIA Cali HJCX fair o/others w/R. Sutatenza ID 0027 4/2. (Con)

700 UNID, suspect Beijing the one on 3/25 from 1330-1400 w/EE-CC lang lessons w/much examples of PRC culture. Into straight CC at 1400 w/out ID orpips. Fair level w/unid JJ QRM. 700.04, drifting 3-5 kHz. (Hardester)

720 CUBA Colon CMGN in like a blockbuster w/SS political speech about "socialistas", atop YVOE 0103 3/29. (Connelly) loud w/piano mxx atop YVOE's fast LA vocals 0143 4/23. (Connelly)

725 SURINAM Paramaraibo SRS good w/US c&w ballad 0056 3/29. Loud w/soul female vocal then full "Radio Omroep Surinam in Paramaraibo" ID in DD 0030 4/2. (Connelly)

730 CUBA Holguin CMKJ w/piano mx //720; fair and alone on channel 0144 4/23. (Connelly)

730 DOMINICAN REPUBLIC Santo Domingo HIZ noted w/ads for Santo Domingo businesses, then LA mx 0101 3/29. (Connelly)

735 ECUADOR Quito HCBC1 good w/slow male SS vocal 0158 4/2. (Connelly)

737 SPAIN Barcelona fair w/man in SS 0445 3/25. The band seemed to be open at the time but I didn't have time to check. (Connelly)

750 AUSTRALIA Toowoomba 4QS weak w/quiet mx //700, heard at 1123 on 4/20. (Tomer)

750 JAPAN Sapporo JOIB fair w/YL talking in JJ at 1243 4/21; //770. (Tomer)

750 VENEZUELA Caracas YVKS fair w/ads for nightclubs in Caracas, then R. Caracas ID o/low het 0148 4/23. (Connelly) Good w/R. Caracas ID atop low growl 0051 3/29. Heavy AU cx then. (Connelly)

760 CUBA Havana 4/3 at 0312 w/Reloj pgm, WJR nulled. (Van Horn)

760 HAWAII KCU Honolulu fair w/ FMB 0515-0535 4/1 w/mellow jazz mx, local spots, and ID's. (Tomer)

765a SENEGAL Dakar fair during poor cx, male singing and screaming like some offbeat kind of opera 0026 3/29. (Connelly)

770 AUSTRALIA Melbourne 3LO most likely the source of jazz mx and DU accented EE talk, mixing w/the JJ at 1250 4/22. (Tomer)

775 COSTA RICA SanJose TIW booming in w/"I Wish" by Stevie Wonder, usually covering the WABC buckshot 0620 4/2. (Connelly)

780 CUBA Camaguey CMJN leading the pack w/RR pgm w/woman and man anncrs. Low end domestic skip wiped out by aurora 0037 3/29. (Con) 4/3 at 0315 w/Rebelde pgm, male and female anncrs, light Cuban vocals. (Van Horn) You can spot a Cuban right off by the male/female anncrs-CH

780 JAPAN Muroran JOIU weak w/JJ talk 1237 4/21. (Tomer)

780 NEW ZEALAND Dunedin 4YA in w/xint hi fi sig 1110 4/20, had a narrated jazz pgm. (Tomer)

800 NETHERLANDS ANTILLES Bonaire good w/organ and piano rigs mx o/unid str 0035 3/29. (Connelly) Potent w/SS talk and rigs organ mx 0155 4/23. (Connelly)

800 NORTH KOREA Pyongyang here w/male talks 1155-1230 on 3/26. ...-pivers over 3 seconds //655, 685, 735, 850, 3320, and 6400 (not 6250 as per WRTH 78). Good level. 800.409. (Hardester)

810 UNID wobbling, drifting LA yielding wavering het on nulled WCY and assumed WKW/HJCY mix 0634 3/29. (Connelly)

820 AUSTRALIA Glenn Innes 2CL weak w/choir mx //700 1251 4/22. (Tomer)

825 PARANA HOR56 R. Peninsula fair 4/29 at 0505 w/ID by male. Titania was gone, leaving a much weaker Peninsula. (Hutton)

830 HAWAII Honolulu KIKI earliest fade-in ever 0440 4/22 w/the "Coyote Program" T-40. This was way before Honolulu LSS. Not dominant o/WCCO until 0553, then faded. (Tomer)

834 BELIZE R. Belize 4/2 at 0450 w/BB same. Rigs moment w/s/off anncr plus SA, off at 0525, little late, ehl. (Van Horn)

840 AUSTRALIA Rockhampton 4RK weak w/WHAS 1023 4/20 w/piano mx //700. (Tomer)

844 SILBERT ISLAND Tarawa good sig 0620 4/12 w/BBC World Service nx. (Tomer)

860 UNID 4/18 at 0500 w/SS nx, sounded like bonps after each nx item in a mess of them. R. Clarin maybe? (Van Horn) Never noted bonps on Clarin. Don't know who it is-CH

870 JAPAN Kumamoto JOCB fair w/JJ talk 1243 4/21. (Tomer)  
 880 CUBA Pinar del Rio 4/3 at 0345 w/R. Progreso ID, light Cuban vocals. (Van Horn)  
 880 NEW ZEALAND A uckland LYC xint sig 0735 4/20 w/quiet cl mx, accented EE talk. (Tomer)  
 890 AUSTRALIA Adelaide SAN fair w/MOR vocals 1115 4/20; ABC "News in Brief" at 1200, ABC Radio One ID 1202. (Tomer)  
 890 DOMINICAN REPUBLIC Santo Domingo HIPJ to fair peaks w/rhythmic LA vocal mx, R. Continental ID, atop growl of other LA's 0028 3/29. (Connelly)  
 890 JAPAN Sendai JOHK fair u/SAN w/ball game 1118 4/20. (Tomer)  
 900 MEXICO XEW Mexico City 4/18 at 0515 w/male and female SS anncrs interviewing SS Donald Duck (such entertainment!) (Van Horn)  
 940 HAWAII KAHU Waipahu dominant on freq 0835 4/10 w/c&w mx and KAHU ID's (make that SID's-GH) every other song. Fairly regular when KFERE is off. (Tomer)  
 940 MEXICO XEQ 4/11 at 0340 w/"XEQ Radio" ID, then LA mx, several ID's. (Van Horn)  
 950 JAPAN Tokyo JOKR on 3/25 at 1500 in JJ, male anncr, pips on the hour ..- and into JJ mx, and EE pops of the late 60's. Fair, PFM 950,000. (Hardester)  
 950 UNID Mexican 3/26 at 0850 "Musica Internacionales", clobbering KIMN, looped SW, XECM w/high power? (Beard) Possibly, XECM is heard occasionally. Also could be XEYJ, who sometimes dominate 950 here-GH  
 1000 JAPAN NHK1 synchros fair w/JJ talk 0855 4/10; //880. Fade at 0900 but NHK pips made it through anyway. Amazing how far a few 1 kw stns can travel! (Tomer)  
 1000 MEXICO XEYO R. Mil 4/4 at 0420 w/nx then whistle ID, was hoping for Costa Rica this good LA evening but no sign. (Van Horn)  
 1000 NEW ZEALAND Tauranga LZD fair signal briefly 1032 4/24 w/the beginning of a BBC comedy play. (Tomer)  
 1010 JAPAN Osaka JONR probably the one w/JJ heard o/XEHL 0915 4/10. (Tomer)  
 1030 MEXICO XEQR R. Centro 4/11 at 0325 w/R. Centro ID, then instrumental mx from Star Wars, no WBZ. (Van Horn) Would somebody please come up with an abbreviation for "instrumental"? CH  
 1030 SOLOMON ISLANDS Honiara VQO fair to good w/native OM talking in Pidgin //5020 SW. Hrd 0835 4/10. Sounded like OM was reading messages from friends to people in outlying islands. (Tomer)  
 1034 PORTUGAL Porto Alto good (not strong, but in the clear) w/PP talk by woman then march mx. Followed by vocals by man and woman (pop mx influenced by opera) 0552 4/2. (Connelly)  
 1043 MOROCCO Sebaa-Aioun messing around w/test tones, carrier good, 0551 4/2. (Connelly)  
 1043 PANAMA (tentative) Las Tablas HOJ2 poor to fair w/fast SS talk hetted by Morocco 0550 4/2. (Connelly)  
 1070 DOMINICAN REPUBLIC HIBI R. HIBI good 4/29 from 0145-0200 w/ads, ID's, and promos for beisbol. Listed as inactive in 78 WRTH but not so. (Hutton)  
 1080 NORTH KOREA Haeju KCBS-HS w/male talks and orchestra mx on 3/26 at 1400. Pips on the hour but mixing badly w/other stns so can't tell exact number. (Hardester) 1080,076  
 1100 ANTICUA St. John's ZDK in w/wall to wall softrock, 0151 and noted at 0157 w/ads for happy hour at Stenmar Retail Store, this was followed by a calypso song identification contest 3/20. (Connelly)  
 1110 MEXICO XELEO 4/13 ar 0100 w/ID then mx, then more ID's into Mexican mx. Not bad for 1 kw signal, nice strength w/no WBT. (Van Horn)  
 1120 DOMINICAN REPUBLIC Santo Domingo HICN very good w/R. Antillas ID, ad for Angelo's disco, then uptempo male SS vocal 0146 3/20. (Con)  
 1140 JAPAN Kyoto JOBR at 1525 on 3/25 w/male anncr in JJ and JJ pops. Fair level w/QSB. 1140,000. (Hardester)  
 1140 PHILIPPINES Poro, VOA w/EE ID, Yankee Loodle, and into Vietnamese pgm on 3/25 at 1400. Xint level. (Hardester) 1140,001  
 1155 EL SALVADOR YSCF San Miguel 4/11 at 0310 w/R. Ondas Orientales ID, telephone number given, LA vocals, many mentions of El Salvador and San Miguel. Tip tnx to Mike Deltz who caught them too! (Van Horn)  
 1165 ANTICUA St. John's 4/3 at 0111 w/rel pgm, ID with call power, freq, etc., then soft mx. (Van Horn)  
 1170 HAITI Port-au-Prince Radio Soleil, new, dominant evs in Miami. Estimated 1-5 kw power. Sked: FF/EE/SS pop mx 0030, rel choral 0130, cl mx 0200, s/off w/out A. Calls 4V7R or something. (Schaefer)  
 1205.5 UNID weak carrier hettine the suspected 1206 Indo 1255 10/21 (?-CH) ~~might possibly~~ DYRH reported by Hardester. (Tomer)

1206 INDONESIA (?) often heard just before dawn w/good signal: noted at 1255 4/21 w/instrumental mx and Indo-sounding talk. Faded across the hour but 6 pips were heard, may be a Siberian there too. Fair sig 1305-1325 and possibly //3945 SW but 3945 was suffering extreme Amature QRM. Maguire, what do you hear on 1206? (Tomer)  
 1210 CHINA Foreign Service (?), KK talk at 1402 3/28. (Tomer)  
 1210 HAWAII Honolulu KZoo fair at 0700 4/10 w/"K-ZOOI" exclaimed 3 times by an OM, then "This is KZOO, the Cherry Blossom Station, 1210 on your dial". Again at 0700 4/20 w/same ID and a couple of PSA's, then an EE ogm said to be on every Wed. eve. (Tomer)  
 1210 UNID LA, + 5 khz: superb drifter wobbling all o/WCAU; SS mx heard at 0305 3/29. (Connelly)  
 1220 UNID non-stop SS talk, possibly a sporting event, seemingly gave a R. Rebelde mention, but announcer's style not like that of typical Cuban programming, 0140 3/29. R. 26 listed for Cuba (QMGY) (Connelly) QMGY heavily dominant here-GH  
 1265 ST. KITTS Basseterre 4/3 at 0155 w/rel pgm, R. Paradise ID, then more rel pgm. Tnx to Mike Deltz again. (Van Horn)  
 1270 CUBA Camaguey QMJC clearly dominant w/Reloj pgm, traces of WTSN showing under, 0129 3/29. (Connelly)  
 1330 JAPAN Nagoya JOSF from 1758-1810 on 3/26 w/male in JJ mixing w/ Beijing. Believe pips on hour but not sure. (Hardester)  
 1367 PORTUGAL Porto Monte de Virgean to fair peaks w/nx by woman in PP 0602 4/2. (Connelly)  
 1375 ST. PIERRE ET MIQUELON poor w/FF talk by man 0020 4/24. (Connelly)  
 1376 FRANCE Lille poor w/talk by man 0537 4/2. (Connelly)  
 1380 DOMINICAN REPUBLIC Santo Domingo HISC briefly atop the channel during severe aurora: strident R. Nacional ID then festive mx 0119 3/29. (Connelly)  
 1385 SPAIN (tentative) Madrid suspected during Iberian opening: cl mx poor o/pack of SAH's 0536 4/2. (Connelly)  
 1385 UNID Canary Islands suspected. Lush Muzak briefly good, then faded down 0013 4/25. Signal was alone on channel and looped to Africa. Band was open to Africa and closed to Europe at the time. (Connelly) Don't forget Haiti, they are often quite good and play quiet jazz, cl mx, and LA mx-GH  
 1394 UNID Spanish locals suspected: an SS-sounding vocal popped up briefly o/a graveyard like mess; Albania not noted 0604 4/2. ←  
 1403 GUINEA Conakry xint w/rhythmic African mx 2354 3/30. (Connelly) In with big carrier weakly modulated by male chanting 0010 4/25. (Connelly)  
 1410 JAPAN Fukuoka JOIF from 1600-1630 on 3/26 w/man in JJ. NHK-like pips on hour; r&r mx of late 60's in EE, and JJ pops. Good w/QSB. 1410,003. (Hardester)  
 1415 UNID mystery stn here w/pop mx including Paul Simon and James Taylor, looped E of Caribbean, S of Africa 2355 3/30. Faded into slop before ID given. (Connelly) HIOS on 1416 maybe?-GH  
 1470 UNID 2 SS LA's battling each other, yielding low het-no domestics noted on a channel normally dominated by WLAM-no clear ID's from the LA's 0111 3/29. R. Azul, Dom. Rep. is the off freq stn-GH  
 1475 BENIN (tentative) Cotonou likely w/carrier and occasional African drumming-signal strength strongest w/loop peaked for E-W pickup 2359 3/30. (Connelly) Fair but faded w/repetitive African instrumental mx 0004 4/25. (Connelly)  
 1475 SABAH Tuaran RMKK xint sig at 1250 4/21, playing US pop mx. Almost equal to domestics in strength. (Tomer) Kota Kinabalu on 3/29 at 1230+ w/female anncr in lane. Clear "Suara Malaysia" and "Kota Kinabalu" on ½ hr. Fair to poor w/DWRF 1470 QRM and QSB. Varies from 1474,985 to 1475,010. (Hardester)  
 1475 SPAIN one of the Spanish locals peaked up well w/SS vocal mx but it faded deeply 0607 4/2. (Connelly)  
 1502 SPAIN Spanish graveyard up w/SS operatic female vocal in amongst a mass of carriers 0608 4/2. (Connelly)  
 1520 CUBA (assumed) QMKT R. Victoria must have been the Cuban 5/1 at 0030 but he launched into a long speech and there went my patience. (Hutton)  
 1525 USSR (tentative) Khabarovsk strong carrier 1248 4/21; some weak audio that seemed to be cl mx. (Tomer)

# INTERNATIONAL DX ACHIEVEMENTS

NORM MAGUIRE  
1406 BRYN MAWR DR. N.E.,  
ALBUQUERQUE, N.M. 87106

- 1555 CAYMAN ISLANDS Georgetown making it thru WJXR slop; disco mx noted at 0132 4/2. (Connelly) Fair, battling 1554 African het w/pop vocal 0029 4/25. (Connelly) 4/4 at 0320 w/female anncr in ES, then soft instrumental mx, then R. Cayman ID. Last of the MADS hotline tips via Mike Deitz. (Van Horn)
- 1555 PHILIPPINES Cebu City DYLA (tentative) very weak w/YL talking in unid lang at 1303 4/21. (Tomer)
- 1571 DOMINICAN REPUBLIC Santo Domingo badly hetting aurora-weakened CKLM 0107 3/29. (Connelly)
- 1578 PORTUGAL Porto CSB5 food on peaks o/CKLM slop; PP folk-rock w/man and woman duet (resembling a Gilbert and Sullivan operetta) 0611 4/2. (Connelly)
- 1578 UNID carrier noted during opening which was African only; bits of talk occasionally surfaced 0001 3/31. Ivory Coast a remote possibility. (Connelly)
- 1578 UNID Portugal or an African here on a low latitude TA bearing: hard rock then SS or PP sounding talk 0007 4/25. (Connelly)
- 1594 PORTUGAL Lisboa CSB4 in like a champ w/soft jazz 0613 4/2. This TA opening was unusual in that it was very specific; only high band Iberian stations came through. These were much stronger than usual. Northern European powerhouses like 1214 and 1586 could not be heard and the normal low band Iberians like 719 and 737 were not to be found either. (Connelly)

Doug Beard-Springville, Ia. Zenith Transoceanic  
 Mark Connelly-Arlington, Mass. SPR4, FRG7, Sanserino loop  
 Mike Hardester-Okinawa R390A, S:2  
 Chuck Hutton-Decatur, Ca. R390A, 1900' Beverage  
 Ron Schatz-Margate, Fla. R388, HQ180A, LSCA  
 Randy Tomer-McKinleyville, Ca. HQ180, FRC7, 670' mini-Beverage  
 Larry Van Horn-Brighton, Tenn. DX160, 150' LW, DA5

Call	Location	COUNTRIES	FOR.	T.V.	Africa	Best
B. Danerfield	Pennsylvania	117 VAC	353	430	31	Pietermaritzburg, S.A. 845
H. Gustafson	Illinois	107 VAC	305	851	22	CR6RZ Angola 872
R. Anderson*	Virginia	105 VAC	314	1448	28	WIND Nouvassar 500w
H. Robie	Massachusetts	90	148	263	12	R. Sahara, Sp. Sahara 2kw
R. Schiller*	Texas	86 VAC	375	2133	8	Sierra Leone 1200
D. Reynolds	California	85 VAC	493	1398	4	Conakry, Guinea 1403
N. Maguire	Hawaii	81 VAC	529	3015	1	Algiers 1176 50kw
H. Wilkinson	California	72 VAC	378	462	2	Sierra Leone 1205 10kw
A. Imprescia*	New York	67 VAC	253	1573	9	Togo 1394
C. Freeman**	California	67 VAC	368	1575	2	Conakry, Guinea 1403
G. Allen	California	65 VAC	540	2876	2	Sierra Leone 1205 10kw
A. Rugg	Quebec	60	1259	1457	5	Cairo 773
R. Sperry	Connecticut	42	249	1669	1	R. Senegal
S. Waterman*	Massachusetts	39	89	239	1	R. Senegal 764
S. Dellit**	Australia	36 VAC	127	262	1	Mauritus 683 10kw
R. Pistek*	Illinois	34	121	1141	--	--
B. Reynolds**	Missouri	28	121	1103	--	--
R. Carr	Illinois	28	108	693	1	R. Senegal 764
E. Wesolowski*	Nebraska	24	168	1899	1	Dakar 764
F. Wheeler	Pennsylvania	24	189	1702	--	--
W. Powis*	Virginia	20	199	264	--	--
K. Rychalsky	Connecticut	11	46	225	--	--
P. Mount*	New Jersey	6	24	216	--	--
J. Kay*	Ontario	3	154	212	--	--

Am holding over those members that need to update their standings until my move to New Mexico is completed. Sam Dellit, please let me have your latest totals as I know you are getting plenty of new varies. My file cards and certificates will go with the shippers, but please send your updated totals to me during this period to: 1406 Bryn Mawr Drive NE, Albuquerque, NM 87106. Will turn out one more IDXA before the shippers pick up my belongings. Hope you all enjoy the best of health and have a good Summer. 73 and Aloha,  
*Norm*

## The sporting life



"...SO COLONEL, WHEN AH FOUND OUT MAH WIFE BET ON A YANKEE HORSE, AH HAD NO CHOICE BUT TO HAVE HER SHOT."



## TIPS....

- TRF A service manual is available for \$2 from Radio Shack Customer Service, 1801 South Beach, Fort Worth, TX 76105. Ask for service manual for "AM Portable Radio 12-655". Info from Michael Hopkins.
- WSIG-720 has a regular check with TT from 12:00 to 12:15 a.m., every 3rd Tuesday. This from Jim Hopkins.
- TCC LATE to verify WAXC-1460 in Rochester? According to Jim Renfrew, they were to change to WWWW on May 7. (3-W-G???)

## RADIO NETWORK

"Business News from The Wall Street Journal" Stations

KSFO-560	San Francisco	KRLD-1080	Dallas, Tx.
WEEL-590	Boston	KNOX-1120	St. Louis
WARM-590	Scranton, Pa.	WAMB-1190	Nashville, Tn.
KTAR-620	Phoenix, Az.	WCAU-1210	Philly
WHLO-640	Akron, Ohio	WQSA-1220	Sarasota, Fl.
WRNG-680	Atlanta	KSFO-1230	Spokane, Wa.
WOR-710	NYC	WNOG-1270	Naples, Fl.
KIRO-710	Seattle	WUTC-1280	Minneapolis
WKIS-740	Orlando	WRBC-1300	Jackson, Ms.
WBBM-780	Chicago	KFH-1330	Wichita
WSGW-790	Saginaw, Mi.	KDEN-1340	Denver
WEAN-790	Prov., R.I.	WALL-1340	Middle'n, N.Y.
WJW-850	Cleveland, O.	WMEZ-1430	Memphis, Tn.
KEYH-850	Houston, Tx.	WILM-1450	Wilm., Del.
WRFD-880	Columbus, O.	WBIG-1470	Green'o, N.C.
WSBA-910	York, Pa.	KXRX-1500	S. Jose, Ca.
WSOC-930	Charlotte, N.C.	WTOP-1500	Wash., D.C.
WWJ-950	Detroit	WURL-1500	Win.-S'm, N.C.
WHPN-950	Pough'sie, N.Y.	KYXI-1520	Portland, Or.
KNX-1070	Los Angeles	KPEK-1530	Sacramento
WVCG-1080	Coral Gables, Fl.		

# SONY TR-6500 VS. THE "TRF"

-- SO E COMPARISONS AND IMPRESSIONS

Gerry Thomas  
(IR A)

Charlie Barfield  
(NRC, IRCA)

While flipping through a Sony radio catalogue a while back, we came across the Sony TR-6500, an AM-only portable that boasted of a "Tuned RF amplifier (that) provides clear and sensitive AM reception over long distances--even in mountainous areas." The catalogue's illustration of the TR-6500 showed a radio of about the same physical size and configuration as the Realistic "TRF," and a call to a local Sony dealer revealed an identical price--\$29.95. So far, the potential of the Sony seemed pretty promising. But what about selectivity? There was no mention of that in the catalogue's blurb, although it did point out the Sony's "full fidelity" sound. Hmm, cause for concern? But wait a minute. The less expensive (\$19.95) Sony TFM-6100W, an AM/FM portable, features a ceramic filter in the AM section. Surely an AM-only portable costing \$10.00 more and designed specifically for long distance reception would also have some provision for better than average selectivity. The possibility that the popular Realistic "TRF" was facing a worthy challenger certainly crossed our minds at this point. But, on the other hand, why hadn't we heard of the TR-6500 before now? At the time, to our knowledge, no one in the major clubs was using the Sony. Whether the TR-6500 had been overlooked by MW DX'ers or we had simply missed earlier critiques wasn't known, but curiosity demanded that the Sony be given a hands-on test. (Locating a TR-6500 in stock on the Gulf Coast was impossible and one ultimately was ordered from Memphis.)

Before describing the results of the comparison tests between the Sony and the Realistic, we'd like to put forth a word of caution. Having come in contact with several Realistics, we were keenly aware of the fact that the Realistics vary considerably along the dimensions of sensitivity and selectivity and that the "TRF" we'd be using for the comparison tests had slightly better than average selectivity for this model. Similarly, the test Sony represented only one example of the TR-6500

## SPECIFICATIONS

	<u>SONY</u>	<u>REALISTIC</u>
Circuit:	Superhet w/TRF Amplifier	Superhet w/TRF Amplifier
Semiconductors:	9 Transistors 5 Diodes 1 Thermistor	1 FET 7 Transistors 10 Diodes
Dimensions:	6-3/4"(H) 8-7/8"(W) 2-5/8"(D)	7-5/8"(H) 9-1/4"(W) 2-3/4"(D)
Weight (w/batteries)	2 lbs., 9 oz.	2 lbs., 12.8 oz.
Color:	Black & Metallic Grey	Black, Grey, and Metallic Grey
Power:	AC or 4 "AA"	AC or 4 "C"
Speaker:	3-3/4"	3"
Tone Control:	High/Low	Continuous
Ext. Ant. Jack	No	Yes (but of minimal value w/untuned ant )
Accessories:	Earphone	Earphone
Price:	\$29.95	\$29.95

## NON-PERFORMANCE IMPRESSIONS

Both cabinets are physically attractive with the Realistic having a somewhat "steek" appearance when compared with the Sony's more squared-off, rugged look. Both have a fixed carrying handle that is integral with the cabinet. All controls are located on the right side of the cabinets with the Sony employing a rotary potentiometer and a two-position/slide switch for the volume and tone controls, respectively, whereas the Realistic uses slide potentiometers for these functions. The frequency scale of the Sony is on a rotating (direct drive, horizontal axis) drum with a fixed indicator while the Realistic's frequency scale is stationary and has a moving (via string and pulley) scale pointer. Removing the backs of the radios resulted in the impression of better component quality in the Sony. As just one example, the Sony's three-ganged variable capacitor is of the air-gap type and larger than the miniature, mylar-gap variable capacitor used in the Realistic.

## SENSITIVITY AND SELECTIVITY

Without the proper test equipment it was difficult to determine positively which of the two radios was the more sensitive. At no time during the comparison tests when a station was audible on one radio but not on the other could this advantage be attributed solely to a difference in sensitivity or signal-to-noise ratio. In fact, it was usually the case that a difference in selectivity resulted in a station's audibility or inaudibility. The audio quality of the Sony was, however, better than that of the Realistic which was due, at least in part, to the Sony's larger speaker. Regarding gain, or audio output, the Sony was definitely superior. For example, at midday, the Cuban on 720 kHz (CMGN) was rated as being "weak" in level on the Realistic but "fair-to-good" on the Sony (with both radios at full gain and equipped with fresh batteries). This gain advantage was evident across the band and over several days of testing and, in combination with the Sony's better audio quality, occasionally made monitoring a station somewhat easier than on the Realistic. A look at the circuitry of the Sony (a schematic for the Sony was not available, even from the local authorized service center) revealed at least a contributing factor in the Sony's superior gain--the Sony employs three levels of IF amplification whereas the Realistic uses but two.

This additional level of IF amplification also indicates a design philosophy difference between Sony and Radio Shack on the matter of improving selectivity. While neither of the authors of this review can be considered to be well-versed in radio engineering principles, those who are knowledgeable about such matters (eg., W.I. Orr, author of Radio Handbook) point out some expected differences between the Realistic's two IF stages and tuned crystal method of improving selectivity, and the Sony's three IF stage approach. According to Orr, adding additional IF stages improves the shape factor (but not the width) of the resulting passband. That is, the Sony's -60dB and -6dB points should more closely approach the ideal ratio of 1.0 (i.e., the skirts are vertical) than those of the Realistic's sharper-peaked, broader-skirted crystal system. The critical question remained, though, "Was the Sony's passband narrow enough (even with a superior shape factor) to outperform the Realistic?" In a word--No. In every instance, the Realistic exhibited less adjacent channel splash than did the Sony. In some instances (eg., Antigua at 1165 kHz), the Realistic at times produced a readable signal while only garbled noise was audible on the Sony. Again, a word of caution: The Sony we tested would come very close in selectivity to some of the lesser Realistics we've seen and undoubtedly could be significantly improved by installing a set of transfilters, a ceramic filter, etc. If this (easily correctable) selectivity shortcoming were the only drawback of the Sony, its purchase might be worthwhile. Unfortunately, operating the Sony is another problem.

## OPERATING CONSIDERATIONS

Tuning -- While the Sony's direct drive, tuning drum is very good looking (electric blue on black) and more durable than the Realistic's dial string system, its thumb wheel tuning knob is a full blown pain in the patoot. Tuning split frequencies was almost impossible and we found it necessary to install an 8:1 drive vernier knob to conduct these tests. On the high end of the frequency scale, even 10 kHz gradations required the touch of a pickpocket. Here, the Realistic's forefinger

# SUNSPOT CYCLE 21

and thumb tuning knob is vastly superior.

## Frequency Read-Out

On frequency read-out, the Sony proved to be a real match for the Realistic -- both were horrible. Nothing need be said about the Realistic's notoriously poor read-out and accuracy, but the Sony's read-out was about 8 kHz low at 540 kHz and 50 kHz high at 1550 kHz. Furthermore a minimum parallax error of 20 kHz was average on the Sony (although at the high end (1550 kHz), the indicator line could, by tilting the cabinet, be made to center on any frequency from 1400-1600 kHz!).

## CONCLUSIONS

While the Sony we tested did enjoy some advantages over the Realistic (eg., a sturdier looking cabinet, superior audio quality), it cannot be said that the Sony outperformed the Realistic in actual DX'ing situations. In fact, it was always the case that if a station was audible on one radio but not the other, the radio receiving the signal was the Realistic. Another point that should be considered involves the fact that the frequency read-out of the Realistic can be fairly easily improved and its external antenna jack can be made functional by simple tuning devices. On the other hand, correcting the Sony's shortcomings requires a little more effort--but is far from impossible. In fact, after conducting these tests, the Sony's components were removed from its somewhat cramped cabinet and placed in a more spacious enclosure. Its tuning drum was replaced with a 5-1/2" circular dial scale (allowing 5 kHz read-out across the band), and an external antenna tuner and vernier tuning knob were added. These modifications greatly improved the Sony's operation and could be adapted to any portable or table model radio...but that's another story.

(Typed by John D. Bowker)

## GET-TOGETHERS

Saturday, May 27. First Annual MADS Bash. 10 a.m. 'till ????? at Brighton, Tennessee, about 30 minutes from Memphis. (Details and map in the May 1 DX NEWS). For info write Larry Van Horn, Rt. 2, Box 270, Brighton, Tenn. 38011, phone (901) 476-3168.

Sunday, May 28 Manhattan open house at Bill Wurtzel's spacious loft in mid-town Manhattan. Noon till midnight with refreshments being served. Bill's place is located near Broadway and all subway and bus lines stop nearby. Port Authority Bus Terminal, Pennsylvania and Grand Central Stations are within walking distance. The address is 32 West 31st Street, Studio 7, New York, NY 10001. Phone is 212-594-8332.

July 14-16 Association of North American Radio Clubs Convention in Montreal. Host will be Radio Canada International. Registration is \$12 plus \$5 for the banquet. This is an all wave convention. NRC's official rep will be Ken Chatterton. Info available from ANARC, 557 N. Madison Ave., Pasadena, Calif. 91101.

July 28-30 WTPDA Convention in Louisville at Holiday Inn Southeast, same site as for the 1976 NRC Convention. Agenda includes unique DXpedition on the steamboat Belle of Louisville. Banquet speaker will be Clarence Henson, builder of the first WHAS FM station in the 1940s and owner of 4 AM and FM stations. Also several station tours, tech sessions by experts on TV & FM DX and SCA reception, equipment displays. Registration is \$17.50 and motel rates are about the same as at NRC 1976. Banquet and Belle ride INCLUDED in the \$17.50 registration fee.

Aug. 11-13 International Radio Club of America Convention in Portland, OR. IRCA HQ please send details by June 2 so we can include them in the next DXN.

Sept. 1-4. NRC - ATLANTA CONVENTION - Details on page 46 of this issue.

## THE PEAK, HOW MUCH, AND WHEN\*

By O. Okleshen W9RX (Propagation Editor HR Report)

Of the many methods and authors of the "how much and when" of a solar cycle maximum, the most recent and likely the most accurate method has been devised by A. I. Ohl, a Soviet scientist whose first publication was reported in Solnechnaya Dannyye, #9 pp 73-75. H. H. Sargent III, Space Environment Services Center, Boulder, Colorado, modified the Ohl theory thus enhancing the accuracy of the basic method developed by Ohl. The theory is based on the Regression Of Recurrent Geomagnetic Activity Recorded From The Prior Cycle To Predict The Sunspot Maximum Of The Forthcoming Cycle.

Mr. Sargent modified the Ohl theory by taking into account finer time resolution and more accurate data than was available to Ohl. The Ohl theory, as modified, provided accuracies of maximum sunspot cycle peaks when tested against observed data within an accuracy of 1% in some cases. While not so in every case, accuracies within 5% of maximum sunspot level predictions appear to be common. Compared to any prior known methods, the Ohl/Sargent method would be, by far, a major breakthrough in the prediction of sunspot cycle maximum levels, when accuracy and other advantages are considered. The data used to establish and test the original Ohl theory was extracted from the last 110 years. The data before 1848 is dubious because of the information and techniques available. For that reason, some of the other theories used at that time to predict sunspot maximum levels may be erroneous.

Many other methods have been used to achieve individual and combined success to determine maximum sunspot peak levels. The IGY peak of 1957 led to anticipation of a peak level, certainly of a magnitude that would stimulate IGY research. One often used method is a "slope" technique that observes the rate of upward change at the beginning of a new cycle. This observed rate of change is then projected to a peak value. The Ohl method has two most important advantages over all other theories and methods of establishing the sunspot peak level. First, it appears to be superbly accurate, and second and probably most important, the Ohl method gives a year's earlier lead time. It is only necessary to use data from the prior decaying cycle.

The exact mechanism between the prior cycle recurrent geomagnetic behavior and the succeeding cycle sunspot maximum is not clear. However it is likely that one is directly related to the other in solar physics whereby it is even possible that a new definition of a solar cycle may have to be established. Conjecture may place some possible validity in the theory that coronal holes that relate to recurrent geomagnetic disturbances may be the birthplaces for the succeeding cycle sunspot regions. This aspect of course would have to be studied and proved.

There is no doubt that the Ohl/Sargent method has great potential, as those needing accurate sunspot predictions are and have always been confronted with widely ranging opinions. We know that cycle 21 predicted maximums of 50 to 60 have already been exceeded; the February 1978 smoothed sunspot level has already reached at least 90 with the cycle peak approximately two years into the future!

As for specific figures of what may be in store for amateur radio, the following highlights and numbers have been extracted from the work of Mr. Sargent.

## hr REPORT . . .

Special Report  
March 17, 1978

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Predicted Smooth Sunspot Maximum For Cycle 21 By Ohl/Sargent....153.6  
 Approximate Arrival Date Of The Maximum.....early 1980  
 Prediction Of Smooth Sunspot Level Maximum By Method Of Ratios..158.0  
 (This method takes the averaged smoothed odd cycle peaks divided by  
 the averaged smoothed even cycle peaks times the peak of cycle 20)

Accuracy Of The Ohl/Sargent Method As Tested With Observed Data  
 From Cycle 20 And Compared To Cycle 20 Sunspot Peak Level..nearly 95%

Twelve Hour Periods With Geomagnetic "A" Indices Of  
 100 Or More Expected In The Next Ten Years.....81  
 (an "A" index of over 50 indicates a major geomagnetic storm)

Monthly Smoothed Predicted Sunspot Numbers  
Using The Modified Ohl Method For Cycle 21

Jan 78----58.6	Jan 79----110.8	Jan 80----151.5	Jan 81----139.0
Feb 78----64.4	Feb 79----114.6	Feb 80----153.4	Feb 81----135.8
Mar 78----69.6	Mar 79----116.8	Mar 80----151.4	Mar 81----133.7
Apr 78----75.0	Apr 79----120.3	Apr 80----152.0	Apr 81----134.8
May 78----80.6	May 79----124.5	Apr 80----153.6	May 81----127.8
Jun 78----85.1	Jun 79----127.8	Jun 80----152.2	Jun 81----126.2
Jul 78----89.5	Jul 79----131.1	Jul 80----150.9	Jul 81----126.2
Aug 78----93.6	Aug 79----136.1	Aug 80----149.8	Aug 81----125.6
Sep 78----97.6	Sep 79----138.2	Sep 80----146.2	Sep 81----123.4
Oct 78----99.7	Oct 79----140.8	Oct 80----145.4	Oct 81----122.3
Nov 78----103.3	Nov 80----145.0	Nov 80----143.7	Nov 81----121.2
Dec 78----107.1	Dec 80----148.1	Dec 80----141.2	Dec 81----120.6

It is clear that if the predictions hold true, cycle 21 will be a whopper and will likely parallel cycle 18 and have an impact almost as severe as cycle 19. During periods of high solar activity, many services will be detrimentally affected. Satellite damage from solar radiation is one example. Communications and power will be interrupted. VLF Omega navigation alert used on overseas aircraft would likely be affected rendering the service at times, next to useless. Worse may be the impossibility of warning users that the system is failing. Space travel and related health hazards will become a significant factor to take into account. Magnetometer survey work for natural resources will be affected to such an extent that at times, the investigations would have to be curtailed with a severe cost impact on such resources even before production. CB radio on HF will likely be sheer havoc with skip interference. And now there is new evidence to support the fact that the weather is directly affected by solar sunspot behavior and geomagnetic occurrences previously thought to be unrelated.

HR Report feels that the amateur community should be made aware of a highly accurate prediction that may well not only affect our use of the radio spectrum, but likely our daily lives and our destiny.

W9RX

## PROPAGATION NOTES

Condensed from notes by R. J. Edmunds concerning the above article.

From the data presented in the summary, it is evident that this maximum will be far more severe than any we have experienced in the Broadcast Band DX hobby since we have been keeping track of such things. Amateurs (Hams) are comparing it to periods of sunspot cycle maximums around 1913 and 1935, which were most severe. The current cycle is expected to parallel Cycle 18 (approx. 1911-32) and have almost as severe an impact as Cycle 19's greatest maximum. Cycle 19 ran approximately from 1933 to 1954, with two maxima; we are unable to determine immediately which of the two maxima common to each cycle was more severe.

We can see, from the data, that broadcast band conditions will continue on the downswing for at least the next two seasons. It is probable that the next minimum (1985-87?) will also be even less pronounced than the immediately previous one, which is further cause for concern...

(For additional information see "Review of Solar Activity for the DXer" in the May 1, 1978 DX News and NRC reprints P-1, 6, 7, 10, 12, 13, 19 and 20, new reprint series.)

## MORE THOUGHTS ON BEVERAGE ANTENNAS

CHUCK HUTTON

A few more comments on Beverage antennas are in order, by one who has used Beverages for years and had 4 Beverages up permanently for the last year. In addition I have accumulated notebooks of information on Beverages from research laboratories and the commercial press. NRC'er Bill Bailey has been playing with these antennas for longer than Clements and myself put together and probably knows more practical details than anybody else.

First, the matter of length. The optimum length is dictated by the velocity of the current on the antenna, which is always less than that of the space wave. This leads to increasing phase differences between the currents induced in various sections of the wires. Analysis of the equations shows the point at which the currents are more than 90 degrees out of phase and resultant loss of signal takes place. For example, an average Beverage constructed over average earth will have an antenna velocity of between 80 and 90%, which limits the maximum practical length to right at 2 wavelengths-about 1300 feet at the top of the band and 3600 feet at the bottom. That is why you rarely see very long Beverages used by those with much experience in the field.

Secondly, termination. The resistor at the far end is designed to match the surge impedance of the antenna, so that currents propagated in the direction of the far end see no impedance "discontinuity" and travel thru the resistor to ground. This takes place no matter what the length of the antenna in wavelengths, making the system unidirectional. What Beverage is saying in his article is that the antenna will have no pickup directly off the back end or some pickup dependent on the antenna length in wavelengths, and also attenuation (dB per kilometer) and antenna velocity. As for the variation in the exact terminating resistance required, the change is only of a small order of magnitude-say 50 ohms. The antenna will not stay perfectly terminated, but a slight error is still greatly preferable to no termination. One point mentioned by Clements that is important is that a long Beverage begins to assume significant unidirectional qualities. This is due to the rather high transmission line losses that any signal must suffer that is propagated to the far end of the antenna and then reflected to the receiver end. Such losses will run at least 25% and make a Beverage much less useful off the back side. My experience with a 1600' Beverage on a 250 degree bearing used all this season was that it is almost useless for TA's off the back end. As for how necessary the termination is on a Beverage, I have tried the 1900' Beverages I have running 150 degrees with and without the resistance, and the difference is very great if you have the right resistance. I started off with 470 ohm resistors and found that did not do the job. 560 ohms was the next value and that must be close to perfect-you are welcome to hear my tapes of Dobleve 840 with little or no WHAS (who is at a commercial listening quality usually), and the Cuban R. Guama outlets on 990, 1000, 1010, 1020, and 1030. The R. Guama outlets are all covered by domestics when the antenna is ungrounded, although 1020 can be heard thru KDKA.

Construction-past 5 or 10 feet off the ground there is little to be gained by raising the antenna. Chances of you getting it  $\frac{1}{2}$  wavelength off the ground (essentially in free space as far as the antenna is concerned) are minimal. Beverages simply stretched on the ground will indeed work, but will have somewhat lower signal levels due to the extremely high attenuation and the high degree of earth losses in these closely coupled antennas. The Beverage is actually a very inefficient antenna, averaging about 10% of the efficiency of a vertical. This is due to the high ground losses, and can be dramatically rectified by the use of a second wire parallel to the first, with more wires bringing an even further decrease in near field losses. I have found that a second wire yielded an 88% increase in signal delivered to the receiver. Increases of up to 300% are possible according to some studies done by research laboratories for the Department of Defense. Going back to Beverages stretched on the ground, the extra attenuation and slower wave velocity can be plugged into equations

# NRC REPRINT LIST

## PAST ARTICLES FROM DX NEWS

of Beverage performance. The results show slight but appreciable blunting of the characteristics. The only practical experience I have had with ground Beverages was at the Louisville convention, where I had 1500' feet parallel to the LPC Beverage that was up on poles. The space between the antennas was about 20 feet. The good DX heard that night was not quite as loud or quite as free from QRM as on the main Beverage, but we heard every station they heard, I believe.

Frank Dailey once published a brief note on what he called loaded Beverages-winding wires on coils every hundred feet or so in order to have the full length of wire in less space. Unknowingly, he was close to doing something that will indeed yield full Beverage directionality in reduced space. The directionality of the antenna depends on the length of the wire and also on the wave velocity, ignoring other minor effects. By reducing the wave velocity to half of the normal value, you can get an antenna that is as directional as an antenna twice as long. Series inductance or shunt capacitance will produce the proper phase delay, but I have never taken the time to derive exact values. Beverage used series capacitance in order to obtain phase advance and keep the wave velocity (effective) at a high value when using super long Beverages (on the order of 17 miles!) for one low frequency Beverage.

Lastly, phased Beverages are perhaps the most amazing of all the Beverages. They are touched upon briefly in the original article on the Wave antenna by Beverage. His system used two wires with 180° phase difference-once the phase difference is created it is a simple matter to combine the two currents and produce a null in any direction off of the back of the antenna. Unfortunately it is necessary to leave the far end open for one antenna and grounded for the other in order to produce the out of phase currents. This situation means that some reflection will take place from both wires and there will be a degree of pickup off the back end. The phasing controls then allow you to move the null to any location and remove whatever pickup there was. Nulls of 30-40 dB can be created on nighttime pests. You will notice that this system (state of the art in amateur and BCB Beverage user's circles) allows users to null only pickup off of the rear of the antenna. So far I have had some success using a system of 2 almost parallel Beverages that are both grounded at the far end, and accomplishing phasing with the use of a passive phasing circuit.

Sometime in the near future I hope to write up a full report on my experiences with Beverages, including the phased systems. My personal observations plus some data from several research labs has led to some new conclusions, some of which contradict accepted ideas that many of us have held.

One item that also deserves attention. Beverages perform well at BCB frequencies regardless of the ground over which they are erected. The difference in the ground determines the value for the tilt angle (ratio of horizontal to vertical gradient) of the incoming wavefront. The tilt angle also is affected by the frequency; in early days when Beverages were used for TA communications on frequencies like 60 kHz, ground was all important as the antenna was almost useless over ground with a high soil conductivity. The British PO abandoned several sites in north England because of the ground characteristics. At BCB freqs, the worry is needless, as there is plenty of wave tilt from both the ground and the arrival angle of the signal. Of course, antennas will deliver somewhat more signal over a desert than over swamps. As to the question of whether water in the soil will cause the surrounding area to be too conductive for a Beverage to operate correctly, Beverage addressed this question in his epic and proved there was no effect with surface streams. Ground water is so far below the surface that it has little effect on the Beverage performance. I think it still very true that the best antenna would indeed be one over a desert, terminated in a swamp. Further, parts of all of my 4 Beverages are over mushy swamps (or close to it), and I think the results certainly show that they have been excellent antennas, as good or better than any I have ever used. I think losing a Colombian on 1490 indicates a pretty fair antenna. . . .

APRIL, 1978 - SUPERCEDES ALL PREVIOUS LISTS AND ORDER FORMS WHICH SHOULD NOT BE USED.

### ANTENNAS

- A1 HIGH PRECISION DIRECTION FINDING ON THE BCB, PARTS I & II. G. P. Nelson. Part I uses Maxwell's equations to derive the equations describing MW direction finding with a loop. Part II is a non-technical discussion of how a loop antenna operates and how to get the most out of a loop.
- A2 A ZERO SHARPENING DEVICE FOR A BCB LOOP. T. Holmes. If you're having trouble obtaining sharp nulls with a standard loop, this simple device may help. The 1965 forerunner of the Pattern Controlled Loop.
- A3 A VERSATILE LONGWIRE ANTENNA COUPLER, R. Foxworth. How to get the maximum amount of signal from your longwire.
- A4 ROLL YOUR OWN (LOOP THAT IS...), D. Fischer. Loop won't tune the entire band? This article describes what's wrong and how to cure it.
- A5 LOOP DISTORTION: WHY GET SKEWED? G.P. Nelson. Discusses origin on distorted loop patterns. Unique technical material not available elsewhere; a must for those interested in designing MW loop antennas.
- A6 PATTERN CONTROLLED LOOPS, PARTS I & II. G.P. Nelson. Introduction to the theory and practise of pattern controlled and cardioid loops for the MW DXer.
- A7 THE FLORIDA BEVERAGE, J. Conrad. Jerry describes the fantastic results with a Beverage antenna and compares it with others he has used.
- A8 THE CARE AND FEEDING OF A WAVE ANTENNA, J. Starr. Practical construction hints for a Beverage antenna.
- A9 DOWN TO EARTH GROUNDS, G.P. Nelson. Hints on making low resistance ground connections for terminating a Beverage antenna.
- A10 A CALIFORNIA BEVERAGE, Fr. Jack Pejza. Another article describing the spectacular results obtained with a Beverage.
- A11 THE SUPER SIGNAL SNATCHER, D. Fischer. Article describes the theory of the Beverage antenna. Includes equations, tables, many diagrams.
- A12 THE VERTICAL PICKUP PATTERN OF THE MW LOOP ANTENNA, G.P. Nelson. Helpful information for those doing horizon blockage experiments with a loop antenna.
- A13 USING TWO ANTENNAS TO GENERATE ASYMMETRICAL RECEIVING PATTERN. M. Levintow. Shows and describes a simple way to skew your loop's pattern to effect a null that will permit reception of a station impossible to receive on a figure 8 loop antenna by itself. Reading of reprints A5 and A6 are a requirement for understanding this technique.
- A14 A NEW MEDICAL BREAKTHROUGH FOR LONGWAVE TA'S, C. Clayton. Instructions on how to build an inexpensive loop antenna for LW.
- A15 REVIEW OF THE DYMEK DA-3 ANTENNA, Pete Taylor, with notes by R. J. Edmunds. Evaluates this recent development in MW antennas and its application to MW DXing.
- A16 MORE ON BEVERAGE ANTENNAS, Wes Boyd. An update on Beverage antenna theory and application.

- A17 AN FET LOOP PREAMPLIFIER WITH COAXIAL OUTPUT, James Hagan. This article describes a highly effective balancing amplifier for the air core loop, useable with unbalanced receiver inputs, and featuring power tapped from the receiver and switchable attenuation controls to prevent overloading.
- A18 A WHIP ANTENNA COUPLER FOR USE WITH PORTABLE RECEIVERS, J. Hagan. A simple construction project to inductively couple a whip antenna to the internal ferrite rod in many portable multiband receivers.
- A19 NEBE: THE NEBRASKA BEVERAGE, D. Fischer, C. Dabelstein, R. Mitchell. A discussion of the Nebraska Beverage and the results of its use.
- A20 THE LSCA-1. Ron Schatz. Complete construction plans for building the Loop Sense Cardioid Array. NOT A PROJECT FOR BEGINNERS! This antenna system is complex to build and operate. Should yield a unidirectional receiving pattern if operated properly.
- A21 A GOOD LOOP IS EASY (AND CHEAP) TO MAKE, J. Tull. Construction plans with photographs for a simple loop amplifier system.
- A22 THE WEDGE ANTENNA. C. Wolff. Plans for construction of a revolutionary alternative to the 4-ft. box loop for those with limited space.
- A23 A STURDY AND EFFECTIVE FLOOR STAND MOUNTING ARRANGEMENT FOR LOOP ANTENNAS. M. Maloney. Article on mounting air core loop antennas.
- A24 A LARGE APERTURE FERRITE CORE LOOP ANTENNA FOR LONG AND MW RECEPTION, J. Hagan. Details and theory for the construction of this new type of DX antenna.
- A25 A NOVEL APPROACH TO BUILDING YOUR OWN BCB LOOP, M. Maloney. New ideas for improvements in ease of operation and sturdiness of loop antennas.
- A26 AN AC POWER SUPPLY FOR THE FET LOOP AMPLIFIER, J. Hagan, R. Edmunds. Tired of the high expense and short lifespan of batteries for your amplified loop? Here is a simple plan, complete with schematic, to adapt your loop amp to wall current.

#### STATION LISTS

- L1 FREQUENCY CHECK LIST, J. Fela. Many U.S. stations run equipment tests at regular intervals and times; this is a listing of frequency checks that will permit many new loggings. Updated yearly.
- L2 THE BANANA LIST, R.F. Schatz. Current situation (Jan., 1978) of AM stations for Tegucigalpa and San Pedro Sula, Honduras.
- L3 THE CUBAMAITIEN LIST, R.F. Schatz. A list of all MW stations in Cuba, Jamaica and Haiti.
- L4 NON-DIRECTIONAL AERONAUTICAL BEACONS, D. Davis. An explanation of the types of beacons found in and near the MW band, plus current listing (Feb. 1978) of aeronautical beacons.
- L5 THE TICA-TEGA LIST, R. Schatz, K. Simon, G. Hauser. A list of the stations on MW in Belize, Guatemala and Costa Rica.
- L6 A SURVEY OF LA SPLITS, R. Schatz. A list of all Latin American stations presently operating on split frequencies. Updated yearly.
- L7 BRAZILIAN INFORMATION, R. Veltmeijer. A current list of all MW stations operating in Brazil.

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#### RECEIVING EQUIPMENT AND TECHNIQUES

- R1 SPURIOUS SIGNALS AND SPURIOUS SIGNALS REVISTED, R.J. Edmunds and G.P. Nelson. Many DXers hear stations on frequencies where they don't belong. Article describes causes and cures of spurious MW signals. Especially valuable if you have powerful locals nearby.
- R2 SINGLE SIDEBAND RECEPTION ON THE BCB WITH MECHANICAL FILTERS, G. P. Nelson. Few commercial receivers covering the MW band have adequate selectivity to cope with MW interference--particularly in the presence of powerful local stations. Explains how to fit mechanical filters to an existing receiver for the ultimate in adjacent channel rejection.. This technique is widely used by many top MW DXers.
- R3 SUBAUDIBLE HETERODYNES ON THE MW BCB, G.P. Nelson. Details on a technique which permits the MW DXer to detect and characterize signals too weak to hear at the time; also allows the DXer to count the number of stations on a channel; even if no programing is audible and permits direction finding on channels with several stations present.
- R4 MODIFYING THE REALISTIC TRF TO 10 KHZ READOUT, G. Thomas and C. Barfield. Some relatively simple procedures for modifying this fine portable receiver to 10 Khz dialface markings and still maintain a professional appearance.
- R5 THE TRACKING PROBLEM AND HOW TO CURE IT, G.P. Nelson and T. Holmes. Many excellent receivers are poorly designed for MW DX operation; this article describes one of the most common design faults and how to cure it. Very useful if you have strong locals.
- R6 ELECTRONIC VERNIER TUNING, R. Moore. Detailed instructions on how to fit a varactor to a MW receiver to provide fine bandspread.
- R7 MECHANICAL FILTERS FOR THE HQ-180, J. Starr. Complete details on the conversion of the popular Hammarlund HQ-180A receiver to mechanical filter operation. Order with R2.
- R8 REDOING OLDER RECEIVERS, C. Hutton. The author explains how he took a \$50 HQ-129X receiver and "re-juvenated" it to compare favorably with a Collins R-390 or R-388. An electronics background is helpful in implementing this article.
- R9 RECEIVER/ACCESSORY INTERFACES MADE SIMPLE AND CHEAP, R.J. Edmunds. A discussion of methods of interconnecting DX equipment.
- R10 UP THE CARRIER, W. Bailey. Dig the weak DX out of the mud with this form of exalted carrier reception.
- R11 PRECISION FREQUENCY MEASUREMENT, R. Schatz. How to use the frequency counter, an instrument now within the budget of the average serious DXer.
- R12 THE FMS-3 FREQUENCY MARKER STANDARD, R. Foxworth. A review of operation, how to make the proper connection to the receiver, and some modifications incorporated by the author to permit full use of the unit's capabilities.
- R13 SINGLE SIDEBAND RECEIVING ADAPTERS, T. Sundstrom. How to sharpen your receiver's IF bandpass using a B&W #370 receiving adaptor.
- R14 REVIEW OF THE AUTEK Q-BOX, T. Sundstrom. Describes the uses of this new noise filtering device and its applications in MW DX.
- R15 REVIEW OF THE HEATH SB-620 SPECTRUM ANALYZER, R. Foxworth. A comprehensive and detailed analysis of the unit's operation and uses as related to MW DXing.
- R16 THE WORCESTER LONG DISTANCE AM RECEIVER, J. Worcester. A stage by stage description of the construction, theory and circuitry of a new type of AM DX receiver.

- R17 BUILD YOUR OWN AUDIO FILTERS, P. Sullivan. A somewhat technical theory and construction article on inexpensive homebrew audio filters for the DXer.
- R18 THE RUSTRAK R-88 RECORDER, R. Schatz. Explains operation and use of this versatile chart recording marker and its applications to the study of propagation in MW DXing, and gaining insights into potential loggings.
- R19 A BRIEF REVIEW OF THE AUTEK QF-1 AUDIO FILTER, C. Hutton. A non-technical review of this new noise and interference filter.
- R20 A FREQUENCY COUNTER FOR RECEIVER TUNING, R. Foxworth. A very thorough paper on digital readouts and what to look for in various models. Discusses technical theory and provides circuitry to enable the experimenter to build a counter for use as a "digital dial". Very thorough.
- R21 FURTHER RECEIVER HOT RODDING HINTS, C. Hutton. Tells what you can do to further improve the performance of even the best commercial receivers, and some problems with the older receivers being used.
- R22 THE LYONODYNE CRYSTAL WIRELESS RECEIVER, R.W. Tuggle. The concepts of vintage crystal radio are incorporated in these detailed construction plans for a simple receiver, offered as a "sporting" alternative to modern receivers; yet it has the potential for real DX.

DOMESTIC DX

- D1 1570-1580 STATION LOCATION MAPS. Two maps pinpointing the location of all domestic stations operating on these two superb sunrise/sunset skip channels. A valuable aid to the sunrise/sunset DXer.
- D2 IT TAKES TWO TO VERIFY, PLUS HELPFUL HINTS, J. Murley and R. Schiller, respectively. If you are unhappy with your domestic QSL returns, read this article on the station's attitude toward reception reports. Also, veteran DXer Ron Schiller gives tips on increasing your returns.
- D3 CANADA'S WILDERNESS RADIO: THE LPRT, P. Taylor. In depth study of those 20 and 40 watt Canadian stations that you hear, but don't understand. A must for the domestic DXer.
- D4 WHAT IS A PRE-SUNRISE AUTHORIZATION? R.J. Edmunds. Some U.S. stations are authorized to operate with powers such as 14.3 watts during certain hours; this article explains why.
- D5 LONG DISTANCE RECEPTION OF DX TESTS, F. Dailey. Are you thinking about asking a station to do a DX test? Here are some proven techniques, that if used by the station, could make it easier for DXers to hear the test. A must for novice CPC members.
- D6 CLEARS AND CLASSIFICATIONS, M. Collins. Explains how the FCC allocates channel assignments and station power in accordance with the NARBA treaty.
- D7 NIGHTTIME LISTENING, M. Collins. A variety of programming can be heard on the high power clears which cover most of the nation at night.
- D8 NETWORKS, M. Collins. Explains how the four major networks operate.
- D9 THE NSP SITUATION, J. Starr. A look at this problem from the broadcasters' side of the fence.
- D10 DX FROM THE TWILIGHT ZONE, P. Sullivan. For various reasons some stations are audible at sunrise and sunset only. This article tells the reasons.
- D11 GRAVEYARD DX, R. Foxworth, with addition by M. Levintow. This article tells you how to DX those cluttered local channels and get results.

FOREIGN DX

- F1 ITU FREQUENCY PLAN - EUROPE, AFRICA, ASIA. D. Monferini & A. Merri-man. 1978 and 1979 will be years of change for many MW stations. This list gives the allocations assigned effective Nov. 28, 1978.
- F2 NEW ZEALAND 1978 FREQUENCY PLAN, N.Z. DX Times. On Nov. 23, 1978 New Zealand adopts 9 khz frequency spacing. Can we log New Zealand on the East Coast? Here's where to look for your first N.Z. station!
- F3 PORTUGUESE FOR DX'ERS, R. Schatz. Describes the important and unusual features of this language; a must if you DX Brazil.
- F4 TUNING IN JAPAN, E. Rittenhouse. The author gives some tips on logging Japan from the West Coast.
- F5 HUNTING THE LATIN AMERICAN MUSIC BY MUSIC, R. Schatz. Describes the various types of Latin American music indigenous to various countries and tells how to ID LA's using this information.
- F6 BOTTOM DX, Clarence Freeman. Quite a number of stations operate below 540 khz. This article tells how to modify your receiver to hear them and lists the stations.
- F7 TRANSPACIFIC RECEPTION DOES EXIST, J. Murley and G.P. Nelson. A highly experienced West Coast DXer gives a full rundown on how to hear, ID and verify transpacific stations. Much practical information.
- F8 DX'ING POLYNESIA AND BEYOND, J. Murley. Very detailed account of the stations in the Pacific that can be heard in North America.
- F9 THE ODDS ON EVEN TA'S, R. Schatz. TA's can be heard on some of our 10 khz channels; find out which ones and when to listen.
- F10 DX'ING RARE AFRICANS...SYSTEMATICALLY, R.J. Edmunds and Page Taylor. A country by country rundown of where and when to listen for the hard to hear stations in Africa.

MISCELLANEOUS ARTICLES

- M1 LOCAL SIDEBAND SPLASH: HOW MUCH IS TOO MUCH? G.P. Nelson. Many DXers complain about certain local stations overmodulating and producing large amounts of interference. Article describes FCC regulations on sideband radiation on the MW band and types of station originated spurious radiation.
- M2 MODULATION ARCING, J. Starr. Describes a frequent but rarely discussed cause of MW interference originating at the station that can wreak havoc on the MW band.
- M3 SUNRISE-SUNSET TABLES, G.P. Nelson. These charts permit the DXer to determine accurate time of sunset and sunrise at any point in the world on any particular day. Very useful for international DXers.
- M4 QUASIMONTHLY PATTERNS IN ATYPICAL MW DX RECEPTION, G.P. Nelson. A large body of data on TA reception gathered by R. Wood in England. Information is analyzed in an attempt to disprove the Lunar Phase Theory.
- M5 UNRESTRICTED RADIATION, G.P. Nelson. Discussion of carrier current stations and how to hear them.
- M6 RF POLLUTION, G. Hauser. General discussion of the radio interference problem and steps necessary to control it.

Send orders to NRC Publications Center, P.O. Box 401, Gales Ferry, Conn. 06335.

- M7 PATTERNS, PARTS I, IIa AND IIb. P. Hart. An understanding of the directional patterns used by North American MW stations is vital for the active domestic DXer. This series of articles explains in authoritative detail what patterns mean and how the DXer can fatten his log by understanding them.
- M8 PRECISION FREQUENCY ANALYSIS, R. Schatz with notes by R.J. Edmunds. A discussion of the technique of analysing the characteristics of a station's frequency over the long term as an aid to the identification or elimination of stations as possible DX catches at any given time.
- M9 MORE ON HOW DIRECTIONAL ANTENNA PATTERNS ARE PRODUCED, Wes Boyd. Supplementary information to the articles contained in the current edition of the NRC Night Pattern Book.

#### PROPAGATION

- P1 MEDIUM WAVE SIGNAL PATHS, PARTS I, II, III AND IV, G.P. Nelson. Discusses Great Circle Paths, seasonal absorption pattern, auroral effects and the Midwinter Anomaly.
- P2 SOLAR CONTROL OF DAWN E BLANKETING ON THE MW BCB, G.P. Nelson. Explains how the position of the sun controls the fadeout time of transatlantic and transpacific stations.
- P3 EAST-WEST SYMMETRY AND THE FADE-IN PROBLEM, G.P. Nelson. Explains how the sun controls the fade-in times for MW stations.
- P4 SUMMER RECEPTION ON THE BROADCAST BAND, G.P. Nelson. First article describing the seasonal patterns in solar terminator location which makes summer MW reception from deep South America and Africa possible.
- P5 METEOROLOGICAL EFFECTS ON MW GROUNDWAVE RECEPTION, R.J. Edmunds. Short term variations in groundwave propagation at MW frequencies and their relationship to weather conditions is discussed.
- P6 AURORAL EFFECTS AND THE 1969 TRANSATLANTIC LISTENING TEST, G.P. Nelson. Brief simple description of how the geomagnetic and auroral phenomena control TA reception from various stations. Best general introduction to MW auroral effects.
- P7 THE AURORA OF NOVEMBER 6-9, 1970, G.P. Nelson. Traces a classic MW auroral attack from its origins on the sun to its effects on MW reception.
- P8 COMPARATIVE MEASUREMENTS OF GEOMAGNETIC INDICES, R.J. Edmunds. The author compares on a daily basis for three months the various A-index measurements as reported by several major observatories. He tells how the indices are related to each other.
- P9 SKYWAVE OR GROUNDWAVE RECEPTION? G.P. Nelson. How to tell whether the signal from a station you are listening to is arriving via groundwave or skywave or both.
- P10 A BEGINNER'S GUIDE TO THE IONOSPHERE, Fr. J. Pejza. Radio wave propagation is influenced greatly by the conditions in the ionosphere. This article explains the processes which change the ionosphere and the effects of these changes on radio waves.
- P11 THE LIMITS OF MIDDAY MW DX. G.P. Nelson. Comprehensive article describing the factors which influence radio wave propagation and reception during the late morning and early afternoon hours.
- P12 LIMITATIONS IN THE USE OF THE A-INDEX, G.P. Nelson. While the A-index is a valuable tool for MW DXers, it is easily misinterpreted. This article shows why.

- P13 BCB RECEPTION DURING PERIODS OF HIGH AURORAL ACTIVITY, G.P. Nelson. Describes the author's research into the effects of the aurora on MW propagation.
- P14 SKYLINE BLOCKAGE, Fr. J. Pejza. Mathematical derivation of the formulas needed to calculate the effect which terrain has on signals.
- P15 SKYLINE BLOCKAGE, SOURCES OF UNCERTAINTY, G.P. Nelson. Takes into account the possibility of signal propagation by some less common modes which are subject to blocking by the horizon.
- P16 HORIZON BLOCKAGE: CAN FRESNEL DIFFRACTION BE IGNORED? G.P. Nelson. No, it can't!! This article shows how signals that should be blocked by the horizon can sometimes be heard.
- P17 TRANSPOLAR DX RECEPTION, R.J. Edmunds. Are you looking for Asian DX more exotic than Urumchi-1525? This technical article relates to the transpolar reception of central and eastern Asiatic stations at sunset in North America.
- P18 OBSERVATIONS OF TRANSATLANTIC MEDIUM WAVE RADIO SIGNALS, C.W. Bailey. The results of a lengthy survey to TA receptions made over a one year period.
- P19 PROPAGATION AT MEDIUM WAVE FREQUENCIES, P. Sullivan. Discusses some aspects of the factors which control signal reception on the MW.
- P20 FACTORS OF MEDIUM WAVE PROPAGATION, F. Dinning. Further discussion of the nature of MW propagation.
- P21 DOMESTIC PROPAGATION-ANSWERS TO FREQUENTLY ASKED QUESTIONS, R.J. Edmunds. A brief discussion on some of the propagational factors that affect domestic reception.

#### RECEIVER REVIEWS

- RR1 RECEIVER COMPARISONS-WHAT DO THEY MEAN? R.J. Edmunds. Certain problems arise when comparing product summaries, receiver reviews. The author explores these comparisons with an emphasis on MW DX.
- RR2 QUALITATIVE REVIEW OF THE YAESU FRG-7 RECEIVER, G. Hauser. A detailed, non-technical review of a new communications receiver.
- RR3 A REVIEW OF THE SONY ICF-5900W, Dan K. Phillips. A review and comparison with other portable receivers. Also deals with SW and FM sections of the unit.
- RR4 HEATH GR-78, R. Schatz.
- RR5 BARLOW-WADLEY XCR-30, M. Hardester.
- RR6 A REVIEW OF THE PANASONIC RF-2200, Michael Sapp. A non-technical comparison of the RF-2200 with the Sony ICF-5900 and Realistic TRF.
- RR7 A NON-TECHNICAL REVIEW OF THE WORCESTER LONG DISTANCE RECEIVER, Jerry Starr. A user's critical commentary on this revolutionary receiver.
- RR8 MCKAY-DYMEK DR-22, J. Clements. A detailed, non-technical pre-production review of one of the "new breed" of receivers; mentions features, performance and how it measures up to receivers now in use.

#### PRODUCT SUMMARIES

- PS1 DRAKE SSR-1 RECEIVER, R. Foxworth.

UPDATERS TO THE NRC LOG AND PATTERN BOOK

UDL A year's set of updaters to the NRC Domestic Log is available to members for a flat fee of \$1.00; to non-members \$2.00. (Available January 1979)

UPB A year's set of updaters to the NRC Pattern Book is available to members for a flat fee of \$1.00; to non-members \$2.00.

SUNRISE/SUNSET MAPS

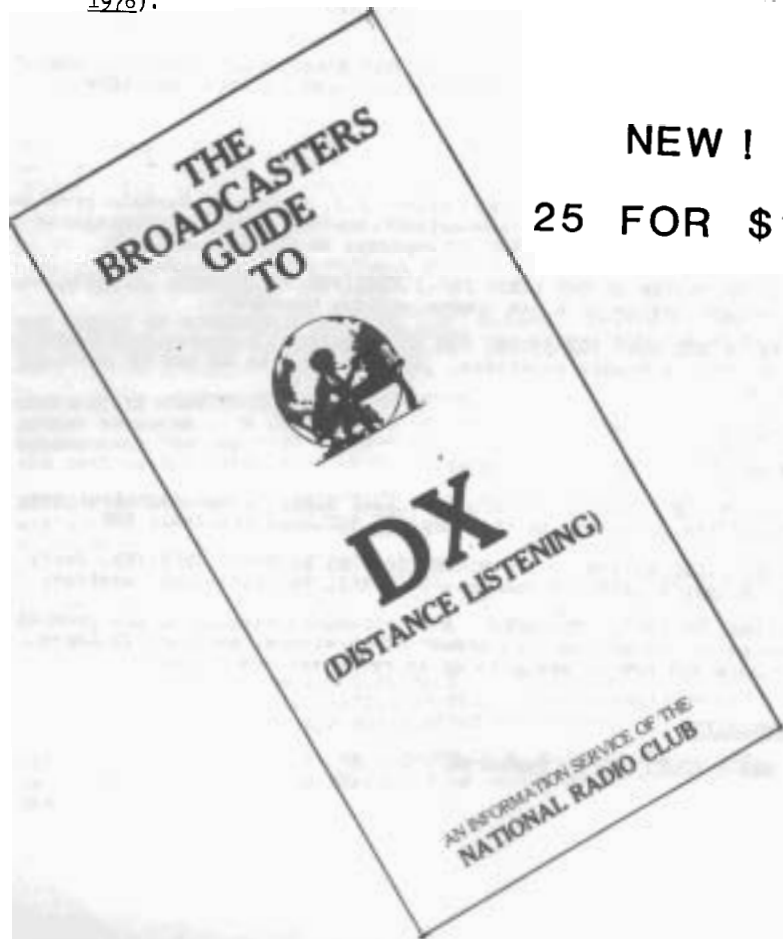
SSM A set of 12 maps (8½ x 11) with instruction sheet showing the monthly average sunrise/sunset times for the United States. An invaluable aid to the sunrise or sunset DXer. \$2.00 to all.

BROADCASTERS GUIDE TO DX

GUIDE A tri-folded guide for use with reception reports explaining the birth of DXing, how the NRC was formed and the importance of QSLs to DXers. Useful for obtaining "tough" verifications and as an aid in arranging DX tests. Printed on beige heavy paper. Sample is shown below. 25 for \$1.00.

STATIONARY/REPORT FORM MASTERS

FORMS A set of 3 masters for use in photo-offset printing to permit members to prepare their own NRC stationary, report forms and Spanish language report forms. For members only. 50¢ per set. (Available Sept., 1978).



# NRC PUBLICATIONS

The National Radio Club is proud to announce its list of booklet publications. All of these items are available from the National Radio Club Publications Center, P. O. Box 401, Gales Ferry, Conn. 06335.

DOMESTIC LOG

This spiral-bound volume contains listings of all U.S. and Canadian A.M. stations including locations, addresses, powers, antenna operations, networks, schedules and other useful information. Cost is \$6.50 to members and \$7.50 to non-members. (New edition June 1978)

NIGHT ANTENNA PATTERN BOOK

This spiral-bound volume features the nighttime directional antenna patterns of Canadian and U.S. stations on map pages of 8½ x 14 inches. These patterns are drawn to scale from official government sources. Commercial publications of this sort cost more than ten times as much for this most valuable DX reference. **Cost to members is \$6.50 post-paid** and \$7.50 to non-members. (Reprinted 1977)

ANTENNA REFERENCE MANUAL

This manual is a compilation of numerous articles on the subject of antennas for MW DXers which have appeared in the pages of DX News over the past several years in one handy volume. Includes data on air- and ferrite-core loops, antenna tuners for longwires, and beverage antennas, along with coupling devices. 5½ x 8½ booklet format. \$2.50 in the U.S. and Canada.

GETTING STARTED IN MEDIUM WAVE DX'ING

This booklet is designed to assist the novice DXer in pursuit of the hobby. It includes introductory articles on foreign and domestic DXing as well as related topics. Included are articles on reception reports and safety and preventive maintenance of your DX gear. All members who pay the New Member Fee automatically receive a copy of this booklet. For non-members the cost is \$1.25 in the U.S. and Canada.

RECEIVER REFERENCE MANUAL

This manual is similar to the manual on antennas, except that the subject is DX receivers. It includes useful articles on receiver modifications and accessories, and reviews of many of the commonly used MW DX receivers currently available. A must for the serious DXer/Experimenter. 5½ x 8½ booklet format. \$2.50 in the U.S. and Canada.

LOG & PATTERN BOOK UPDATERS

Periodic updaters for the NRC Domestic Station Log and the NRC Night-time Antenna Pattern Book are published in the pages of DX NEWS. Non-members may obtain reprints of these updaters in composite by ordering them through the NRC Reprint Service. Cost is \$1.00 for members and \$2.00 for non-members, covering all updaters from time of the most recent edition of the Log or Pattern Book to the date of the order.

\*\*\*Note: Prices subject to change without notice. Orders from outside North America, please contact Publications Center for applicable rates and methods of shipment.

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W08A	Fort Smith AR1208	12	1000/1200	950	ARN	See 287	C
W08A	Fort Smith AR1208	12	1000/1200	950	AI	See 488	C 2700-600
W08A	Fort Smith AR1208	12	1000/1200	950	AI	See 488	C 2700-600
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RECEIVING EQUIPMENT AND TECHNIQUES

- R1 SPIRITOUS SIGNALS AND SPURIOUS SIGNALS REVISITED, R. J. Edmunds and C. P. Nelson. Many DXers hear stations on frequencies where they don't belong. Article describes causes and cures of spurious MW signals. Especially valuable if you have powerful locals nearby.
- R2 SINGLE SIDEBAND RECEPTION ON THE PCB WITH MECHANICAL FILTERS, G. P. Nelson. Few commercial receivers covering the MW band have adequate selectivity to cope with MW interference--particularly in the presence of powerful local stations. Explains how to add mechanical filter to your station for improved selectivity and how to adjust channel rejection.. This technique is widely used by many top MW DXers.
- R3 SUBAUDIBLE HETERODYNES ON THE MW BAND, G. P. Nelson. Details on a technique for detecting and eliminating MW DX heterodynes. A good way to weak to hear at the time; also allows the DXer to count the number of stations on a channel, even if no programming is audible and permits direction finding on channels with several stations present.
- R4 MODIFYING THE REALISTIC TRAP TO 10 KHZ READOUT, G. Thomas and C. Barfield. Some relatively simple procedures for modifying this fine portable receiver to 10 KHz dialface markings and still maintain a professional appearance.
- R5 THE TRACKING PROBLEM AND HOW TO CURE IT, G. P. Nelson and T. Holmes. Many excellent receivers are poorly designed for MW DX operation; this article describes one of the most common design faults and how to cure it. Very useful if you have strong locals.
- R6 ELECTRONIC VERTER TUNING, R. Moore. Detailed instructions on how to fit a varactor to a MW receiver to provide fine bandspread.
- R7 MECHANICAL FILTERS FOR THE HQ-180, J. Starr. Complete details on the conversion of the popular Hamamatsu HQ-180A receiver to mechanical filter operation. Order with R2.
- R8 REDOING OLDER RECEIVERS, C. Hutton. The author explains how he took a \$50 HQ-129X receiver and "re-juvenated" it to compare favorably with a Collins R-390 or R-398. An electronics background is helpful in implementing this article.
- R9 RECEIVERS/ACCESSORY INTERFACES MADE SIMPLE AND CHEAP, R. J. Edmunds. A discussion of methods of interconnecting DX equipment.
- R10 UP THE CARRIER, W. Bailey. Dig the weak DX out of the mud with this form of exalted carrier reception.
- R11 PRECISION FREQUENCY MEASUREMENT, R. Schatz. How to use the frequency counter, an instrument now within the budget of the average serious DXer.
- R12 THE PWS-3 FREQUENCY MARKER STANDARD, R. Foxworth. A review of operation, how to make the proper connection to the receiver, and some modifications incorporated by the author to permit full use of the unit's capabilities.
- R13 SINGLE SIDEBAND RECEIVING ADAPTERS, T. Sundstrom. How to sharpen your receiver's IF bandpass using a B&W #370 receiving adaptor.
- R14 REVIEW OF THE AUTEX Q-BOX, T. Sundstrom. Describes the uses of this new noise filtering device and its applications in MW DX.
- R15 REVIEW OF THE HEATH SB-620 SPECTRUM ANALYZER, R. Foxworth. A comprehensive and detailed analysis of the unit's operation and uses, as related to MW DXing.
- R16 THE WORCESTER LONG DISTANCE AM RECEIVER, I. Worcester. A stage by stage description of the construction, theory and circuitry of a new type of AM DX receiver.

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# BASEBALL NETWORKS

Compiled and typed by Bill Hardy.

Acknowledgements: Broadcasting magazine; Sporting News; major-league teams; flagship stations; plus the following NRC and IRCA members:

American League: Mike Brooker, Nancy Hardy, Jon Orren, Eddie Ryan, Matthew Shugart, Robert Steadman, and Dan Sys.

National League: Jim Critchett, Joe Fela, Bob Galerstein, Herb Heller, Jim Hopkins, Albert Lobel, Pete Nolan, Ken Onyschuk, and Dan Sys.

Without their help, these listings would not have been possible.

## LEGEND:

- d+ Daytime-only AM station with an associated FM station. Games starting before sunset may begin on the AM and continue on the FM.
- + Fulltime AM station which is associated with an FM station that also carries the games.
- d- Daytime-only AM station with no associated FM station. Nighttime games probably not carried at all.
- Flagship stations are underlined. Other symbols are explained as they appear in the listings.

## AMERICAN LEAGUE -- 1978

### BALTIMORE ORIOLES

Announcers: Chuck Thompson  
Bill O'Donnell  
Sponsors: Maryland State Lottery  
Carling-National Brewing  
Hardees Burgers  
Buick  
Baltimore Federal  
Champion Spark Plugs  
Exrline Auto

### Boston Red Sox, cont.

860 d-WSBS Great Barrington, MA  
920 WJAR Providence, RI  
950 WAGM Presque Isle, ME  
1080 WTIC Hartford, CT  
1230 \*WBME Belfast, ME  
(\*--WBME is a "specified-hours" station, and thus is not necessarily on the air for night games)

1090 WBAL Baltimore, MD  
1500 WTOP Washington, DC (for "most games")  
(rest of 50-station network lineup unknown)

### BOSTON RED SOX

Announcers: Ned Martin  
Jim Woods  
Sponsors: Anheuser-Busch/Budweiser  
New England Chrysler-Plymouth  
Zayre  
Yellow Pages  
Champion Spark Plugs  
Coca-Cola  
Getty Oil  
Fenway Franks (Colonial Provision)  
Boston Globe  
Cooper Tire  
Magnavox  
Delta Airlines  
Kyanize Paint  
Crimson Travel  
Curtiss Candy  
Household Finance Corp.  
Realty World  
Bonanza Steak House  
Boyd/Amana

1240 WCOU Lewiston, ME  
WMKR Millinocket, ME  
WHA1 Greenfield, MA  
WFTN Franklin, NH  
WWON Woonsocket, RI  
WARE Ware, MA  
1270 WSPR Springfield, MA  
1280 WKIM Fitchburg, MA  
1290 WKNE Keene, NH  
1340 WNHC New Haven, CT  
WFAU Augusta, ME  
WHOU Houlton, ME  
WNBH New Bedford, MA  
WBRK Pittsfield, MA  
WTWN St. Johnsbury, VT  
1350 d-WLNY Putnam, CT  
1370 WDEA Ellsworth, ME  
1380 d-WKTJ Farmington, ME  
WBBK Portsmouth, NH  
WSYB Rutland, VT  
1390 d-WCAT Orange, MA  
1400 WIDE Biddeford-Saco, ME  
WMCS Machias, ME  
WHMP Northampton, MA  
WTSL Hanover, NH  
1450 WLKN Lincoln, ME  
WRKD Rockland, ME  
WXIV South Paris, ME  
WKRI West Warwick, RI  
W TSA Brattleboro, VT

550 WDEV Waterbury, VT  
560 WGAN Portland, ME  
580 WTAG Worcester, MA  
610 WGIR Manchester, NH  
790 d-WBDM Sanford, ME

(continued next page...)



## Boston Red Sox, cont.

1460 WBET Brockton, MA  
 1490 WSIR Winter Haven, FL  
WTVL Waterville, ME  
WEMJ Laconia, NH  
WFAD Middlebury, VT  
WLKE Newport, VT  
 1510 WMEX Boston, MA  
 (plus, an FM in West Yarmouth, MA)

CALIFORNIA ANGELS

Announcers: Dick Enberg  
 Don Drysdale  
 Al Wisk  
 Sponsors: Continental Airlines  
 Budweiser Beer  
 Chevron Gasoline  
 Chevrolet

710 KMPC Los Angeles, CA  
 970 KCHV Coachella, CA  
 \*d-KNUU Las Vegas, NV  
 (\*---"weekend games only)

1230 KWTC Barstow, CA  
KXO El Centro, CA  
KFRL Paso Robles, CA  
 1240 KSMA Santa Maria, CA  
 1280 KFYV Arroyo Grande, CA  
 1340 KFBR Nogales, AZ  
KDOL Mojave, CA  
KSFE Needles, CA  
 1400 KVOY Yuma, AZ  
KAAP Santa Paula, CA  
KONG Visalia, CA  
 1440 KPRO Riverside, CA  
 1450 KTIP Porterville, CA  
 1560 KPMC Bakersfield, CA  
 (plus, FM's in Phoenix and  
 Tucson, AZ; Blythe and Mojave,  
 CA; and Henderson, NV)

CHICAGO WHITE SOX

Announcers: Harry Caray  
 Lorn Brown  
 Jimmy Piersall  
 Sponsors: Chevrolet  
 Stroh Brewing Company  
 True Value Hardware  
 Champion Spark Plugs  
 Zenith Distributing Co.  
 RELO--World Leader in  
 Relocations  
 Household Finance Corp.  
 Chicagoland McDonald's  
 (Pre-game only:  
 Cal's Roast Beef  
 Restaurants  
 Tinder Box Tobacco  
 Shops)

670 WMAQ Chicago, IL  
 (no network)

CLEVELAND INDIANS

Announcers: Herb Score  
 Joe Tait  
 Sponsors: (unknown)

1100 WWVE Cleveland, OH  
 (rest of 26-station network  
 lineup unknown)

DETROIT TIGERS

Announcers: Ernie Harwell  
 Paul Carey  
 Sponsors: (unknown)  
 (Special note: What follows is the  
 1977 Detroit Tigers network lineup.  
 There may be some slight variations  
 for 1978.)

590 WKZO Kalamazoo, MI  
 680 \*\*WDBC Escanaba, MI  
 (\*\*--WDBC is listed on the 1978  
 Milwaukee Brewers network;  
 it is doubtful that they  
 could carry full schedules  
 for both Detroit and  
 Milwaukee)

760 WJR Detroit, MI  
 790 WSGW Saginaw-Bay City, MI  
 890 WKBZ Muskegon, MI  
 900 d-WATC Gaylord, MI  
 930 WBCK Battle Creek, MI  
 d-WHAK Rogers City, MI  
 d-WUPY Ishpeming, MI  
 1060 d-WHPB Benton Harbor, MI  
 d-WBMB West Branch, MI  
 1150 WCEN Mount Pleasant, MI  
 1220 d-WBCH Hastings, MI  
 1230 WCUZ Grand Rapids, MI  
WSOO Sault Ste. Marie, MI  
 1240 \*WCBY Cheboygan, MI  
 1280 d-WFYC Alma-St. Louis, MI  
 1290 WHGR Houghton Lake, MI  
 1320 \*WDMJ Marquette, MI  
 1340 WLEW Bad Axe, MI  
WMTE Manistee, MI  
WMBN Petoskey, MI  
 1350 d-\*WJEB Gladwin, MI  
WWAM Cadillac, MI  
WTCM Traverse City, MI  
WATZ Alpena, MI  
WHTC Holland, MI  
WMIQ Iron Mountain, MI  
WKLA Ludington, MI  
\*WNEY Newberry, MI  
 1460 d-WBRN Big Rapids, MI  
 1480 d-\*WIOS Tawas City-East Tawas,  
 MI  
 1490 WMPX Midland, MI  
 1590 WTVB Grayling, MI  
 \* - Our source is not sure if these  
 are actually on the network.  
 (our source did not indicate  
 whether or not the Tigers network  
 includes any FM stations)

KANSAS CITY ROYALS

Announcers: Denny Matthews  
 Fred White  
 Sponsors: Champion Spark Plugs  
 Guy's Potato Chips  
 Datsun  
 Pabst Beer  
 Cookpaint  
 Midland CB  
 Sentry Hardware

580 WIBW Topeka, KS  
 680 KFBQ St. Joseph, MO  
 690 KGGF Coffeyville, KS  
 740 KRMG Tulsa, OK  
 (continued next page...)

## Kansas City Royals, cont.

880 KRVN Lexington, NE  
 940 d+KSWM Aurora, MO  
 980 KMBZ Kansas City, MO  
 (KMBZ is the network outlet in  
 Kansas City; WIBW-580 holds  
 radio rights and thus is the  
 network flagship)

1130 d+KELR Bolivar, MO  
 1220 d+KOFO Ottawa, KS  
 1230 KTNC Falls City, NE  
 1240 WINK Fort Myers, FL  
KIUL Garden City, KS  
KAKE Wichita, KS  
KNEM Nevada, MO  
 1270 WEOC Charleston, IL  
 1280 KSOK Arkansas City, KS  
 d+KDKD Clinton, MO  
 1290 d-KALM Thayer, MO  
 1300 d+KMMO Marshall, MO  
 1340 KSEK Pittsburg, KS  
KGFV Kearney, NE  
 1350 KRNT Des Moines, IA  
 1360 d-KOYY El Dorado, KS  
 d-KMRN Cameron, MO  
 1370 KGNO Dodge City, KS  
 d+KIKS Iola, KS  
 1390 d+KAMO Rogers-Bentonville, AR  
 d-KNCK Concordia, KS  
 1400 +KCOG Centerville, IA  
KAYS Hays, KS  
 1420 KULY Ulysses, KS  
 d-KBTN Neosho, MO  
 1430 d+KAOL Carrollton, MO  
 1440 d-KCHE Cherokee, IA  
 1450 KWBH Hutchinson, KS  
WMBH Joplin, MO  
KOKO Warrensburg, MO  
KGFF Shawnee, OK  
 1460 d-KKOY Chanute, KS  
 1470 KARE Atchison, KS  
 d-KGEM Brookfield, MO  
 1490 KKAN Phillipsburg, KS  
+KDMO Cardthage, MO  
KDRO Sedalia, MO  
 1510 d+KTTT Columbus, NE  
 1530 d+KDSN Denison, IA  
 d-KMAN Butler, MO  
 1560 d+KABI Abilene, KS  
 1570 d+KNDY Marysville, KS  
 1580 d+KESM El Dorado Springs, MO  
 d+KNIM Maryville, MO  
 1590 KVGB Great Bend, KS  
 1600 d+KRPS Superior, NE  
 (plus, 18 FM stations in IA,  
 KS, MO, & NE that are not  
 associated with AM stations)

**Special note:** Some Kansas City  
 games will be tape-delayed until  
 7:25pm Central Time, according to  
 flagship station WIBW-580.

MILWAUKEE BREWERS

Announcers: Merle Harmon  
 Bob Uecker  
 Mike Hegan  
 Sponsors: Pabst Beer  
 Chevrolet  
 Mantz Paint  
 Wisconsin Telephone  
 Yellow Pages  
 Oscar Mayer Meats

## Milwaukee Brewers, cont.

550 WBAU Wausau, WI  
 570 WNAM Marinette, WI  
 590 WITY LaCrosse, WI  
 620 WTMJ Milwaukee, WI  
 680 WDBC Escanaba, MI  
 980 d+WNEH Park Falls, WI  
 d+WPRE Prairie du Chien, WI  
 1090 d+WISS Berlin, WI  
 1230 WIKB Iron River, MI  
WBEY Appleton, WI  
 +WCLO Janesville, WI  
 1240 +WJPD Ishpeming, MI  
WOMT Manitowoc, WI  
WOBT Rhinelander, WI  
 1260 d-WWIS Black River Falls, WI  
 d+WKKZ Monroe, WI  
 1270 d+WRJC Mauston, WI  
 1290 d+WCOV Sparta, WI  
 1310 WIBA Madison, WI  
 1340 WLDY Ladysmith, WI  
 1350 d+WPDH Portage, WI  
 1360 d+WMNE Menomonee, WI  
 1380 WBEL South Beloit, IL  
 1400 +WATW Ashland, WI  
WHIZ Eau Claire, WI  
WRDB Reedsburg, WI  
WNFL Green Bay, WI  
 1440 KPIZ Fond du Lac, WI  
 +WBCO Richland Center, WI  
 1490 +WIGM Medford, WI  
 1550 d+WVWR River Falls, WI  
 1590 +WSWW Platteville, WI  
 (plus, 7 FM stations in Wisconsin  
 that are not associated with AM  
 stations)

MINNESOTA TWINS

Announcers: Herb Carneal  
 Sid Hartman  
 Rod Carew  
 Joe McConnell  
 Sponsors: (unknown)

830 WCCO Minneapolis, MN  
 (rest of 20-to-25-station  
 network lineup unknown)

NEW YORK YANKEES

Announcers: Phil Rizzuto  
 Frank Messer  
 Bill White  
 Sponsors: (unknown)

1010 WINS New York, NY  
 (rest of 40-station network  
 lineup unknown)

OAKLAND A'S

Announcers: Larry Baer  
 Bob Kozburg  
 Sponsors: NONE

90.7-FM KALX Berkeley, CA (10-watt  
 educational FM station!)  
 (no network)

**Special note:** Oakland A's radio  
 coverage is being handled via short-  
 term contracts, about two weeks  
 apiece, while the team looks for  
 commercial coverage on the AM band.  
 The latest contract extended thru  
 (continued next page...)

Oakland A's, cont.

5/7/78, so this information on A's coverage is subject to unannounced change. It looks as though the A's will not move to Denver in 1978.

#### SEATTLE MARINERS

Announcers: Dave Niehaus  
Ken Wilson  
(Pre-game only:  
Bob Robertson)

Sponsors: Chevrolet  
Olympia Brewing  
Seattle-First National  
Bank  
Fred Meyer Stores  
Chevron Gasoline  
Champion Spark Plugs  
(Pre-and-post-game only:  
Langendorf Bread  
Sears  
Pepsi-Cola)

570 KVI Seattle, WA  
590 KHQ Spokane, WA  
790 KGMI Bellingham, WA  
920 KITN Olympia, WA  
1230 KVAS Astoria, OR  
KTDO Toledo, OR  
1280 KIT Yakima, WA  
1340 KAIN Nampa, ID  
KAGT Anacortes, WA  
1400 KEDO Longview, WA  
1450 KPLS Klamath Falls, OR  
KHKW Aberdeen, WA  
1490 KTEL Walla Walla, WA  
1550 KGAR Vancouver, WA  
1590 KTIL Tillamook, OR  
(plus, FM's in Corvallis, OR,  
and Ellensburg, WA)

### NATIONAL LEAGUE -- 1978

#### ATLANTA BRAVES

Announcers: Ernie Johnson  
Pete Van Wieren  
Skip Caray

Sponsors: (unknown)

750 WSB Atlanta, GA  
(rest of 60-station network  
lineup unknown)

#### CHICAGO CUBS

Announcers: Vince Lloyd  
Lou Boudreau

Sponsors: (unknown)

720 WGN Chicago, IL  
980 WITV Danville, IL  
1220 d-WLPO LaSalle, IL  
1230 WSAL Logansport, IN  
1250 WGL Fort Wayne, IN  
1290 d-WREY New Albany, IN  
1330 d-WRAM Monmouth, IL  
1340 WSOY Decatur, IL  
1400 WBAT Marion, IN  
1420 WVJS Owensboro, KY  
1440 WGBM Quincy, IL  
1460 WKAM Goshen, IN  
1540 d-WBNI Boonville, IN

#### TEXAS RANGERS

Announcers: Jon Miller  
Bill Merrill

Sponsors: (unknown)  
820 WBAP Fort Worth, TX  
(rest of 20-station network  
lineup unknown)

#### TORONTO BLUE JAYS

Announcers: Tom Cheek (play-by-play)  
Barly Wynn (color)

Sponsors: (unknown)

560 CJKL Kirkland Lake, ON  
730 CJNR Blind River, ON  
930 CKNS Espanola, ON  
950 CKBB Barrie, ON  
980 CFPL London, ON  
CHFX Peterborough, ON  
1090 CKKW Kitchener-Waterloo, ON  
1110 CKJD Sarnia, ON  
1230 CJTT New Liskeard, ON  
1340 CKNR Elliot Lake, ON  
1400 CKCB Collingwood, ON  
1430 CKFH Toronto, ON  
1450 CHUC Cobourg, ON

(plus, 7 FM's in Ontario that are  
not associated with AM stations)

Note: As nearly as we can determine,  
all Toronto baseball broadcasts are  
in English only, and there are no  
regular radio broadcasts in French  
(although CBC Television carries  
Toronto games on both its English and  
French TV networks).

Chicago Cubs, cont.

1580 d-WCCR Urbana, IL  
d-KWNT Davenport, IA  
(plus, FM's in Chillicothe, IL;  
and Elwood and Linton, IN)

#### CINCINNATI REDS

Announcers: Marty Brennaman  
Joe Nuxhall

Sponsors: Stroh Brewing  
Marathon Oil  
Kahn's Meats  
Conwood Tobacco Co.  
Kings Island  
(Following sponsors on  
WLW-700 only:  
First National Bank  
of Cincinnati  
Frisch's Restaurants  
Pepsi-Cola  
Riverside Ford)

560 WJLS Beckley, WV  
580 WCHS Charleston, WV  
680 WCTT Corbin, KY  
700 WLW Cincinnati, OH  
(continued next page...)

Cincinnati Reds, cont.

730 d-WPMW Madison, KY  
910 WPPB Middletown, OH  
920 d-WLIV Livingston, TN  
930 WGNT Huntington, WV  
970 WAVE Louisville, KY  
980 WSIX Nashville, TN  
990 d-WJEH Gallipolis, OH  
1000 d-WREM Jenkins-Pound Mountain, KY  
d-WHTH Heath, OH  
1010 d-WMEV Marion, VA  
1050 d-WNES Central City, KY  
1150 d-WLCC Munfordville, KY  
WIMA Lima, OH  
1230 WHLR Danville, KY  
WANO Pineville, KY  
WIRO Ironton, OH  
1240 WHBU Anderson, IN  
+WFTM Maysville, KY  
+WSFC Somerset, KY  
WHI Zanesville, OH  
1290 d-WOMP Bellaire, OH  
WHIO Dayton, OH  
+WVOW Logan, WV  
1300 WBLG Lexington, KY  
d-WMVO Mount Vernon, OH  
1320 d-WBRT Bardstown, KY  
1330 d-WKOY Wellston, OH  
1340 +WHLW Bedford, IN  
WLBC Muncie, IN  
WEKY Richmond, KY  
WMON Montgomery, WV  
WIEB Welch, WV  
1350 +WIOU Kokomo, IN  
1370 d-WGOH Grayson, KY  
1390 d-WMPO Middleport-Pomeroy, OH  
1400 +WCYN Cynthiaana, KY  
+WPAY Portsmouth, OH  
WBTH Williamson, WV  
1410 WLBK Bowling Green, KY  
1430 WIRE Indianapolis, IN  
1440 d-WPGW Portland, IN  
WHIS Bluefield, WV  
1450 WLKS West Liberty, KY  
WLAF LaPollette, TN  
WPAR Parkersburg, WV  
1470 d-WDCL Dunedin-Clearwater, FL  
1480 +WTHI Terre Haute, IN  
1490 +WKBY Richmond, IN  
+WKAY Glasgow, KY  
+WBEX Chillicothe, OH  
WMOA Marietta, OH  
1540 d-WNRN Circleville, OH  
1550 d-WPDF Corydon, IN  
WCVL Crawfordsville, IN  
WCTW New Castle, IN  
1570 d-WKKS Vanceburg, KY  
d-WPTW Piqua, OH  
d-WSWV Pennington Gap, VA  
1600 d-WSTL Eminence, KY  
(plus, 41 FM stations in IN, OH,  
OH, TN, & VA that are not  
associated with AM stations)

#### HOUSTON ASTROS

Announcers: Gene Elston  
Dewayne Staats

Sponsors: (unknown)  
950 KPRC Houston, TX  
(rest of 20-station network  
lineup unknown)

#### LOS ANGELES DODGERS

##### Dodgers - English language

Announcers: Vin Scully  
Jerry Doggett  
Ross Porter

Sponsors: Union Oil of California  
Datsun Dealers  
Farmer John  
Anheuser-Busch Brewing  
California Federal  
Savings and Loan

590 KGMB Honolulu, HI ("weekend &  
some holiday games only")  
610 KAVL Lancaster, CA  
620 KTAR Phoenix, AZ  
KNGS Hanford, CA  
790 KABC Los Angeles, CA  
920 KVBC San Luis Obispo, CA  
KORK Las Vegas, NV  
1010 KCHJ Delano, CA  
1230 KGEE Bakersfield, CA  
KIBS Bishop, CA  
1240 KBON San Bernardino, CA  
1250 KTMS Santa Barbara, CA  
1300 KROP Brawley, CA  
1370 +KWRM Corona, CA  
1400 KTUC Tucson, AZ  
1440 KUHL Santa Maria, CA  
1450 KPSI Palm Springs, CA  
+KVEN Ventura, CA  
(plus, FM's in Big Bear, Hemet,  
and Ridgecrest, CA)

##### Dodgers - Spanish language

Announcers: Jaime Jarrin  
Rudy Hoyos

Sponsors: (unknown)  
950 XEGM Tijuana, BCN, Mexico  
(no network)

#### MONTREAL EXPOS

##### Expos - English language

Announcers: Dave Van Horne  
Duke Snider

Sponsors: (unknown)  
600 CFCF Montréal, QU  
(rest of 4-to-9-station  
network lineup unknown)

##### Expos - French language

Announcers: Jacques Doucet  
Claude Raymond

Sponsors: (unknown)  
550 CHLN Trois-Rivières, QU  
560 CKCN Sept-Îles, QU  
630 CJLA Lachute, QU  
CHLT Sherbrooke, QU  
CKAC Montréal, QU  
CKVD Val D'Or, QU  
CKCH Hull, QU  
CJAF Cabano, QU  
CKLS La Sarre, QU  
CKCV Quebec City, QU  
CJSO Sorel, QU  
1340 JHAD Amos, QU  
1400 JKRV Drummondville, QU  
JJFP Rivière-du-Loup  
JKRN Rouyn, QU  
1420 CJMT Chicoutimi, QU  
1450 CHEF Granby, QU  
CHRT St-Eléuthère, QU

NEW YORK METS

Announcers: Lindsey Nelson  
Bob Murphy  
Ralph Kiner

Sponsors: (unknown)

570 WMCA New York, NY  
(rest of 20-station network  
lineup unknown)

PHILADELPHIA PHILLIES

Announcers: Harry Kalas  
Rich Ashburn  
Andy Musser  
Chris Wheeler  
(possibly also Robin  
Roberts for Sunday  
home games)

Sponsors: Tasty Kake  
Gino's  
Chrysler-Plymouth  
Dealers  
MAB Paints  
Buick Dealers  
Sun Oil  
Budweiser Beer  
Coca-Cola  
Philadelphia Daily News  
Acme Markets  
Girard Bank  
Champion Spark Plugs  
Penn-Jersey Auto Stores  
Warrens' Card and Gift  
Shops  
Colonial Federal and  
Savings  
Widener College

800 d-WCHA Chambersburg, PA  
850 WREU Reading, PA  
930 d-WTHD Milford, DE  
1060 KYW Philadelphia, PA  
1150 WDEL Wilmington, DE  
1220 d-WJUN Mexico, PA  
1230 WEPZ Lock Haven, PA  
1270 WLEB Lebanon, PA  
1320 WGBT Gettysburg, PA  
1340 WTAN Clearwater, FL  
+WBRB Wilkes-Barre, PA  
1350 WHWH Princeton, NJ  
1360 WPPA Pottsville, PA  
1400 WEST Easton, PA  
WRAK Williamsport, PA  
1440 d-WMVE Millville, NJ  
d-WCDL Carbondale, PA  
1450 WFPG Atlantic City, NJ  
1480 +WISL Shamokin, PA  
1490 WAZL Hazleton, PA  
WDDL Lancaster, PA  
WMRF Lewistown, PA  
(plus, FM's in Harrisburg and  
Sunbury, PA; and Wildwood, NJ)

PITTSBURGH PIRATES

Announcers: Milo Hamilton  
Lanny Frattare

Sponsors: (unknown)

590 WMBS Uniontown, PA  
600 d-WSOM Salem, OH  
970 d-WBLF Bellefonte, PA  
990 d+WVSC Somerset, PA  
1020 KDKA Pittsburgh, PA

Pittsburgh Pirates, cont.

1050 d+WMSG Oakland, MD  
1150 d+WHUN Huntingdon, PA  
1230 WTIV Titusville, PA  
1250 d-WLEM Emporium, PA  
1270 WCBC Cumberland, MD  
1280 WKST New Castle, PA  
1310 d+WBFJ Bedford, PA  
1340 WSTV Steubenville, OH  
WCVI Connellsville, PA  
+WTRN Tyrone, PA  
1370 WWCW Corry, PA  
1390 WFMJ Youngstown, OH  
d+WKLP Keyser, WV  
1400 WKBI St. Marys, PA  
WBEN Clarksburg, WV  
WKWK Wheeling, WV  
1420 +WCED DuBois, PA  
1450 WWGO Erie, PA  
+WFRA Franklin, PA  
1470 WPAR Farrell, PA  
1490 WTRL Bradenton, FL  
+WJNL Johnstown, PA  
1580 d+WANB Waynesburg, PA  
(plus, FM's in Altoona,  
Linesville, and Ridgeway, PA)

ST. LOUIS CARDINALS

Announcers: Jack Buck  
Bob Starr  
Mike Shannon

Sponsors: (unknown)

1120 KMOX St. Louis, MO  
(rest of 120-station network  
lineup unknown)

SAN DIEGO PADRESPadres - English language

Announcers: Jerry Coleman  
Dave Campbell

Sponsors: (unknown; however, will  
undoubtedly include  
McDonald's, since Ray  
Kroc owns both the team  
and the restaurant chain)

600 KOGO San Diego, CA  
1490 KICQ Calexico, CA

Padres - Spanish language

Announcers: (unknown)  
Sponsors: (unknown)

1420 YEXX Tijuana, BCN, Mexico  
Home games only.

SAN FRANCISCO GIANTS

Announcers: Lon Simmons  
Joe Angel

Sponsors: Chevrolet  
Chevron Gasoline  
Champion Spark Plugs  
Bank of America  
Blue Shield  
Budweiser Beer  
TWA Airlines  
Farmer's Insurance  
Long's Drug  
(network sponsors are not  
heard on KHVH-990 or  
KCKY-1150)

(continued next page...)

San Francisco Giants, cont.

560 KSFO San Francisco, CA  
570 d-KCNO Alturas, CA  
580 KMJ Fresno, CA  
620 d-KWSD Mt. Shasta, CA  
630 KIDD Monterey, CA  
980 KINS Eureka, CA  
990 KHVH Honolulu, HI  
1110 KPOP Roseville, CA  
1150 KCKY Coolidge, CA

San Francisco Giants, cont.

1230 KDAC Fort Bragg, CA  
KWG Stockton, CA  
1310 d-KPLY Crescent City, CA  
1340 KORV Oroville, CA  
1490 \*KSYC Yreka, CA  
(\*--The Giants' pocket schedule  
says KSYC is on the Giants  
network, although KSFO did  
not list KSYC in the 1978  
network lineup)  
(plus, an FM in Reno, NV)

Whew. What a massive amount of typing, hi. Special thanks to my wife Nancy, who helped with proofreading and with helping put this into frequency order.

A few cautions on late-night games when East-Coast teams play out West: There may still be a few small-town stations which normally have sign-off times around 10pm to midnight ELT, who may not want to stay on the air late when a game won't begin until 10:30pm ELT. Thus, don't rely on a small station staying on the air for a game in the West. However, many of the East-Coast stations can be heard on the air past midnight ELT when the games are out West. ID's aren't frequent, so tune in when the game is ending - you might grab a rare catch (especially on the graveyard channels) when they prepare to sign off!

While I've tried to make this listing as accurate as possible, there are sure to be some errors, omissions, or typos in the above. If you have any corrections or additions to this baseball list, please send them to:

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

I especially need information listed as "unknown" above. If I receive sufficient material before the summer ends, I'll run an "updater." Thanks.  
--BH.



**WJW**  
CLEVELAND  
850 MC  
5000 Watts

## CONTESTS

BOB WALKER  
2220 W. HWY. 524  
WESTPORT, KY 40077

Time for another contest report, this one including the fifth and the sixth contests. It looks like we've got a real runaway with Mike Heppe leading his nearest competitor by some 1,400 points. Anyway, here's the latest listings.

CONTEST STANDINGS  
May 1, 1978

Name	5th	6th	Total
Heppe, Mike	164-3	452-1	3,152
Hardy, Nancy	210-1	152	1,785
Cox, Harold	65	---	1,776
Hardy, Bill	195-2	---	1,480
Kromka, John	---	---	1,438
Mount, Paul	100	---	1,246
Wessolowski, Bob	---	---	1,040
Hicks, James	68	---	1,024
Wheeler, Frank	42	172-3	953
Anderson, Gordon	---	281-2*	862
Heinen, Wayne	---	---	752
Wallace, James	---	---	720
Tuggle, Mike	---	134	699
Brainerd, Sam	---	---	635
Rychalsky, K.	---	---	525
Allen, Doug	---	---	464
Staff, Jack	---	---	403
Faulkner, Jack	---	---	320
Hayes, Harry	---	---	269
Hogan, Mike	---	---	145

And also those without any points:

Clemmer, John; Eddie, Rich; Erickson, Don; Kitt, Jeff; Littek, Arnim; Lobel, Albert; Schmidt, Dave; Schuster, Jac; Steadman, Robert; Windelman, Bruce.

We have one final contest left, lasting from 0000 on May 20 to 2359 on May 31. There will be a limit of three stations per state with no bonus points.

All entries for the contest will be due on July 1. By the way, the winners must notify me of which prizes they wish to receive. Gordon Anderson is declared the winner of the sixth contest since Mike Heppe has already won a contest.

The last column of this season will appear in July with a very important announcement forthcoming so see you then!

73s, *Bob Walker*

"THE VOICE OF THE CARIBBEAN"

680 kc — San Juan, Puerto Rico — 10,000 watts

# WAPA

FIRST in POWER—PROGRAMS—PERFORMANCE

## DOMESTIC DX ACHIEVEMENTS

BOB WALKER  
2220 W. HWY. 524  
WESTPORT, KY 40077

Hello again to DDXA. This month the listings are by total taped so let's get to it.

DOMESTIC DX ACHIEVEMENTS #37  
May 1, 1978

YR NAME & LOCATION	TDH	TDI	ST	PT
73 Murphy, Louisville	1,412	735	45+	6
62 Edmunds, NYC (NJ)	1,446	705	41+	8
68 Pimper, near Salt Lake City	1,365	643	40	5
70 Buehler, near St. Louis	589	478	38+	5
**73 Ayers, Jackson, Mississippi	517	432	32	1
74 Morby, upstate NY	681	287	32	8
70 Hayes, NE-PA	893	243	35+	4
74 Walker, near Louisville	500	231	31	4
73 Hanavan, San Diego	663	221	29	4
30 Wheeler, NW-PA	2,683	210	34	3
73 Mount, NYC (NJ)	444	150	24+	4
74 Waterman, W-MA	674	104	27+	4
62 Atkins, Louisville	1,338	102	36	1
62 Musco, Hartford, Connecticut	1,086	89	28	3
60 Rugg, Montreal, Quebec	1,115	38	8	3
66 Siegel, Toledo, Ohio	2,400	25	12	4
67 Scheel, E-IA	880	2	2	0

And those who don't collect tapes (with their total heards in parenthesis):

Allen (3,006), Arruda (1,149), Carr (830), Eddie (1,232), Francis (1,902), Hardy, B. (717), Hardy, N. (640), \*\*Hathaway (666), Heppe (650), Kay (305), Korinek (369), Kromka (1,120), Pistek (1,361), Straus (1,110), and Wesolowski (2,030).

A reminder that those with a \*\* need to update their totals immediately.

The next listing will be by total verifications with the deadline for updates June 1. Also, remember to send in your all-location totals for this summer's hall of fame. I've only received one set so far (from Dennis Pimper). My deadline for this column will be July 1, 1978 with the column, hopefully, appearing in August.

73s,

*Bob Walker*

THINK ATLANTA!!!

NRC 1978 CONVENTION

SEPT. 1-4, 1978



The  
GAADs

Details on page 46

## MUSINGS

The opinions expressed in this column are those of the individual members, and do not necessarily reflect those of the editors, publishers or NRC.

JAMES E. CRITCHETT - 1635 Walbridge Street - Red Bluff, California - 96080

Most late-night DXing has been done on weekends; log-filling anywhere from 5:30 to 8am, LST. SM April 2 @ 6:57 on 990, CBW, Winnipeg signed on and faded; then a long-sought KNIN-990 came on @ 7:01 with the slogan "The 10,000 watt powerhouse at the Top of Texas". Wichita Falls had partly cloudy skies at 6:09 (7:09, EST). MM 4/3 from 3:14 to 3:20 on 1450 there was no tone or ID by KBFT, Bonners Ferry, Ida.; no f/c, perhaps second Monday. From 3:21 to 3:46 on 1460 there was no KROW TEST; only KDON and KMWX, Yakima. I almost had KROQ-1500 from 3:59 to 5:40, but no IDs. SM April 9 on 1510, KGA went off @ 6:02 to return at 11:00. At 6:06 "Radio Oro" was the announcement, @ 6:24, KNSE, Ontario, Cal. IDed in SS. KDKO "Radio 15" was the other station heard. Several nearby stations had the San Francisco Giants vs. San Diego Padres from 5:13pm EST to 5:35; the list was sent to BILL HARRY, Sports Editor. MM 4/10 between 5:38 & 6:59 on 1070, CFAX was heard; KNX came on at 6:59. They were too loud for KERR, if on. Sat. 4/15 atmospheric CX gave me @ 8:11 on 550 KENI to the East on my Sanserino Loop, & @ 8:16 on 550, KMVI to the South. KENI said 11 after 3, & KMVI said 3:16. No KOY, KBOW, or KAFI, usually AN on 550 here. Sun. April 16, KOH-630 had the Mutual-Larry King show @ 8:06, after the CBS NX. At 10:28 on 1300, KRVB, Medford, also had Mutual ID. MM 4/17 I tried again at 6 for KSOO-1140, but too weak through CKKL. On 1060 with CFGN there was intermittent talk from 6:26. At 6:59 KGFY gave South Dakota WX, & IDed @ 7:05. Then at 7:13 KKKQ IDed as the talker, mostly religious - ex-KUPD. KPAY IDed @ 7:02, testing, but only with OC, thankfully. The CP's, new calls, and unIDs are there; get them.

MORTON D. NEWMAN - 7682 North Star Avenue - Twentynine Palms, California - 92277

Sunday evening 4/2 with my Sanserino Loop I had KKIM Albuquerque signing off @ 8:43pm on 1000 kc/s. while KMLO was still on the air. And at 8:50 the loop gave me a beautiful signal from KERR-1070, Polson, Mont. o/KNI. MM 4/3 I had KXIV-1400 Phoenix in a mess asking for reception reports via telephone. And I thought that was his only silent period. I listened for quite some time to the cl mx and lady announcer in SS on 880 but I couldn't get an ID although I know it's Cuba. They have been coming in here all winter and WGBS rarely overrides them. Prior to 6:43am I had what sounded like FF deep in the noise on 850 but KOA came on and ended that. Wonder if this was CKVL, Quebec? I struggled with some weak signals on 860 until 7am when KONO San Antonio and KOAM, Pittsburg, Kans. signed on. KOAM, as usual, was the louder. NRC member RICK NEWMAN, and DJ at KRAM, Las Vegas, tells me KRAM-1340 is the #1 station in Las Vegas but is permitted to use only 188 watts because they interfere with Needles, Cal. (population 4,000). Local KHHI-1250 is celebrating their 17th birthday this week. This time of year many stations that carry NBA BBK and Major League BB have a conflict with both games at once. Stations like KPSI and KTMS will broadcast both games and the delayed game will carry them into the early morning hours beyond their normal s/off. I've sold my HQ-180 and the two HQ-129-X's but have plenty of receivers left. In fact I'm having another room added to the cottage so I can display some of my radio collection.

JERRY ROBERTSON - 6065 Gardner Line - Crosswell, Michigan - 48422

A Listeners' Club is a great ideal I have looked for one, but have never found one in the last 15 years. Maybe someone could start one or could devote part of the NRC to "listeners". The Best Bet for Vermont from Michigan is WVMT-620. I've heard this station several times, but have heard no other Vermont stations. I collect air checks (w/mx) of AM & FM stations, 50's mx, and c/w mx. Anyone wishing to trade tapes please write. Latest DX: 3/20- CHTN-1190 was in so strong I thought it was WQW. I was looking for the KPAP TEST at 2:20 but heard only CHTN w/pop mx. At 3:30 I got WIBC-1070 u/o WTSO w/pop mx. (WTSO had c/w mx), until KNX took over the frequency @ 3:35 w/NX. 3/22- I heard CKLQ-1570 o/mess w/c/w @ 1:20 and later at 6:10pm, I heard WPGC-1580 w/r until s/off @ 6:15. At 6:26 I brought in WBCO-1540 w/WX & MoR. C/w mx heard on 1510 @ 6:35 until s/off @ 6:45 turned out to be WJCO. At 6:45-6:50pm I heard KSTP-1500 w/r. 3/29- WMTN-1300 heard s/off @ 6:45 & WURL-1290 o/WHIO @ 6:53 w/r. 73s.

W. R. RITAIK - 1408 Valencia Avenue - Holly Hill, Florida - 32017

My "DR's" referred to ERC's recent Dominican Republic catches which through some miracle I heard before him. As + said, I can't believe I heard them before ERC! La Cadena, etc. I heard was 860, not 869 kHz. WJAR CP was meant to be "CPC". Also I meant the last time I heard them was when I lived in N.Y.C. Another member & I asked if LW signals were best heard parallel or broadside to the antenna - still no answer. I know we have a lot of good technical members so how about some recommendations to help with my decreased hearing? I have seen earphones for: "stereo, TV & radio, 8 ohms", etc. but I have been told that is too low for radio. Yes? No? 3/22- 1:44am, WBFN-1500 Miss. 2:03, KLTII-1560, Mo. How long I tried for WBFN! Hardly ever for KLTII, what with the Cuban Minute Man & that AM both knock through my tin ears! I don't want to give up this unpredictable hobby so how about some advice? To you all: "Bock Beer." (I'll drink to that! -ERC)  
AS THEY SAY IN BRATTLEBORO, VT. "W.T.S.A." "A WONDERFUL TIME'S IN STORE IN ATLANTA!" 9/1-41

GEORGE A. SANTULLI - 2100 Westchester Drive #1 - Memphis, Tennessee - 38134

The prodigal DXer returneth to the ranks! As a former NRcer in the 60's I finally have gotten school, Army, and a couple of jobs out of the way, and have re-joined. In those days I lived in Cranford, New Jersey and DXed from 1960 until 1968 from that 10-20. (?? -ERC) Now having to start all over again here is exciting and new. Since I've only DXed since 1/78 I'll capsuleize my season thus far. 1/21- KKAA-1560 S.D.; KNOE-540 La.; KSD-550 Mo.; WMMI-570, Miss.; WBSW-580 Kan., WDAF-610 Mo.; KKOK-630 Mo.; WSLX-980 Tenn., KSKY-660 Tex.; WAVE-970 Ky.; WOKK-910 Miss.; WMAY-970 Ill.; WSLI-930 Miss.; CJBC-860 Ont., All those were from 7pm to midnight EST as I just scanned the dials. 2/11- WDR-710 N.Y., KFI-640, Cal., WMAQ-670 Ill.; WCOO-830 Minn.; WHAS-840 Ky.; WLS-890 Ill.; WML-870 La.; WBAF-820 Tex.; CBL-740 Ont.; KRMG-740 Okla.; WSB-750 Ga.; WAVE-1100 O.; WJJD-1160 Ill.; KMOX-1120 Mo.; WHAM-1189 N.Y.; WQW-1190 Ind.; WDAI-1200 Tex.; KTW-1030 Wyo.; WCKY-1530 O.; WBZ-1030 Mass.; KDKA-1020 Pa.; WCEL-1000 Ill.; WHO-1040 Ia.; WDXR-1560 Ky.; WKWB-1520 N.Y.; KOMA-1540 Okla.; CHLO-1570 Ont.; WCAZ-990 Ill.; WNOE-1060 La.; KRLD-1080 Tex.; KMBC-980 Mo.; WLLD-920 La.; WRL-1290 Ill.; WMAK-1300 Tenn.; WSPD-1370 O.; WING-1410 O.; WIL-1430 Mo.; KSD-1460, Ia.; WDXK-1460 La.; WMBD-1470 Ill.; KLCL-1470, La.; WOKJ-1550 Miss.; WNDL-1260, Ind.; WBRF-1270 Ill.; WTHI-1480 Ind.; WHIO-1290 O.; WVA-1170 W.Va.; WTC-1080 Conn.; WJR-760 Mich.; KLVJ-560 Tex.; WTIX-690 La.; WINS-1010 N.Y.; WIBC-1070 Ind.; KSL-1160 U.; WAPX-1600 Ala.; WDEE-1500 Mich.; KSTP-1500 Minn.; WTHI-1530 Ga.; WFBC-1330 S.C.; WAKR-1590 O.; KALB-580 La.; WTKQ-1320 Pa.; CHML-900 Ont.; WIRE-1430 Ind.; KTSB-550 Tex.; WIMG-860 Ga.; WQLS-1580 Ga.; CEM-940 Que. All that on 2/131, between 5pm & 1am. Some of those were pretty basic stuff, but when one must start over, basic is good. It's funny, when I got WBZ Mass., my first reaction was, heck - only Boston. My mind still thinks it's in N.J. Now, Boston is a good catch. I hope to DX through the Summer static. Good DX to all. And like Cousin Minnie Pearl says, "I'm just so proud to be here". (We're just as proud to have you there, George! Welcome back, and please Muse often! -ERC)

KARL JETER - 2816 Frontier Trail N.E. - ATLANTA, Georgia - 30341

The response for the SOLID SOUTH issue was overwhelming and heartening! Good to see so many DXers from this area sending in, although I wish they all will keep it up, as reading the DXploits of DXers around you are always more useful than ones from other parts of the country - it's information you can readily use to help your OWN DX. Mine has needed some help so far in April, as so far, no new logs, and no veries! Ungrateful! I have become a bit bothered by the lack of response recently to reports, and I see my return percentage has really plummeted. The lack of DX has NOT been for a lack of trying, hi. Here's what little I do have: Back to 4/7, I noted unnn WQMS-1050 L&C and almost alone @ 6:08pm EST w/c/w, and "Countdown" show promo; not bad for still being broad daylight at that distance. Later, WBAI-1090, also unnn, barreling in @ 6:23 w/SX; this is unusual, as it's seldom heard @ SSS. A tentative on WUST-1120 on 4/7, w/black gospel mx noted @ 6:26pm, some talk, no ID @ 6:45 & seemed to be gone by 6:45, the proper s/off time. Back to 4/5, KSLI-1050 in w/s/off, unnn, 7:44pm - do they verie? Up to 4/9, WAOA-1520 alone w/s/off 7:14pm, thanks to WDL for the early s/off @ 7:10, opening the channel! And WAMY-1580 (yep, unnn, hi) s/off 7:28 on 4/9 also. Most of these, although unnn, ARE needed for veries, so some more reports sent. Time for my 2¢ worth on call changes: NOT logged here, only noted in my logbook. This is because way back in 1970, I logged WJAS-1320 in Pittsburgh, and veried 'em. So, last year or so ago, I came along and logged WTKQ-1320, and veried them too! Then, I wondered why I had two Pittsburghs on 1320. I had forgotten about the earlier WJAS! Frequency changes are logged as this involves a new set of conditions for hearing the changed station. If I logged call changes, I'd have a bonanza without locals, like WSSA, with about four changes in its life: WOMN, WQAK, WLL-1310, all since I've been here; WERD-WXAP-860, et al. By the way, if you logged WGOA-900 in Calhoun, Ga. way back, feel free to log the new WJTH-900 in Calhoun. This is NOT a call change, but an entirely new station, new facilities, XR, tower, personal, everything. Only log 'em when you hear 'em, hi! We've got our Convention site chosen, so details will be upcoming in DX NEWS - I hope everyone can make it - beware of the SECRET DX SAFARI! 73's. (If EVERYONE makes it, can you seat 700 in the banquet site, hi! -ERC)

JEFF LOCKWOOD - 3131 El Prado Boulevard - Tampa, Florida - 33609

Sorry HQ, not this time. After writing what apparently was the first Muse in years to appear in DX NEWS without first crossing ERC's desk (hi) it's time to check back in. I just got a call from BROCK WHALEY, a fellow NRcer who works at a local FM rock station. He told me about his equipment and best catches, & suggested I get - you guessed it - a TRF to add to my shack. He also may be able to give me a ride to the NRC Convention. Right now plans are more or less under way here to build the 4' AA loop. One thing that's got me puzzled - why necessarily use insulated wire? I'd like to hear from anyone who's built this antenna and can explain that. I'd also like to know if anyone's used the "ultra-sensitive" loop available from Edmund Scientific for about \$180 and heard anything exotic with it. I got some reprints this past week along with the Night Pattern Book and Antenna Manual. The articles about GY and daytime DX were especially interesting. DX here has been rather slow; most of my receptions have been rather regular. New ones are WCEL-1000, WVOJ-1320 and WJAC-2510 shortly after midnight ET on 4/16. Daytime DX so far has netted only two 100+ mile receptions, WMOF-900 and WGBS-710, both regulars. The other channels are either dead or blocked by locals or adjacent-channel QRM from locals during the day. My LW either worsens the problem; I'm anxious to see how the loop will work. Well, that's about it for now; time to hit the books. 73 & C U in ATLANTA. I hope. (Welcome to Musings, Jeff, & we hope you'll be a regular in these pages! C U N ATLANTA! -ERC)

TOM FARMERIE - 62 Sunrise Avenue - Grafton, Massachusetts - 01519

Massachusetts is indeed the Promised Land for BCB DX, as I am finding out. As a DX site it's far ahead of Montreal. I thought I'd pass on a few tips & comments over the radio beacons in and around the BCB, covered in a recent DX NEWS article. Around 1960, HANK HOLBROOK & I were just about the only ones pursuing these stations. I think our results proved that very low power (50w, 100w) reception over long distances was still possible on MW frequencies. Amongst my QSLed reactions from North of Pittsburgh were NQ-532, 50w, Riviera, Texas; NHK-532, 12w, Patuxent, Md., LA-2600, 50w, La Lima, Honduras; CIG-1610, 50w, Cartagena, Colombia. Those are just a few of the better ones. Even good ol' NB, which has always been a pest, provided a thrill one night when it went over to voice to guide in an emergency landing. Tips - local noise level is important - try after midnight, signals peak before dawn, an external hi-fi audio amp often made a weak signal readable. Also, a number of stations were logged that none of us could ID, not even HANK HOLBROOK. ERC, when's your next shindig going to be? I plan on lots of Summer DXing, and promise to Muse on it, here in "The DX State." (It's not set yet, Tom - probably next Fall though, unless a few express a desire to come here in the busy, busy Summer tourist season! -ERC) (Visit ANY TIME! -ERC Jr)

MARC DeLORENZO - Box 466 - Centerville, Massachusetts - 02632

Well, I really miss driving through Provincetown every day. It is a town of such character and beauty! However, my new position as a computer operator here in Hyannis offers me more of a future than the job with the Cape Cod Times. Alas, something's lost and something's gained in living every day." Only DX: MM 4/24 - Long sought KNIX-1580 (ex-KTUP) in surprisingly well on DX TEST 2:44-3:01am w/c/w mx & frequent IDs o/KLOU and static bursts. This was obviously a simulcast of their FM RS - no mention of an AM ET was noted here. I have been after this station for the past 12 years! Only Arizona #3 here - the others being the old KALF-1510 (now KDKB) also heard on an NRC TEST back in 1966, and KRDS-1190 heard on RS in 1969. At any rate, a most welcome catch and many thanks to JERRY STARR & all of you persevering CPers. Also (of course) thanks to KNIX engineer CLIFF RENO whom I seem to remember from Connecticut & IRCA ten years ago. 73. (Thanks for the kind (and true!) words about Provincetown, Marc - come down & pay me a visit, eh? -ERC)

ERIC FADER - 23-35 Ball Boulevard - Bayside, New York - 11360

Hi people. Some DX this month & some comments later. 4/3 - Rare WOKK-1070 easily on top 6:25pm w/rr. WKEI-1510 still IDing as such - I thought they were due for a change! (It happened on 4/7 as the BB season opened, Eric -ERC) Newie WARR-1520 N.C. fair w/s/off @ 6:45 u/a weakened WKBW. Also, WARR very loud 4/4 @ 6:35pm w/promos, o/WTGR, S.C. 4/4 - WEND-1580 Pa., also new, w/MOR instrumentals 6:53pm. Mention of Ebensburg clinched ID, although I heard no full calls. That's all for DX as the FM/TV season is underway, but here's some notes: First, ERC: Your unID T-40 station on 850 M 3/27 is WKIX, N.Y. Re RJE's 1060 Caribbean unID, all I can say is that it's not in the Bahamas as they have no six-digit phone numbers. Thanks to PAUL MOUNT for the AT-40 station update, I haven't listened to them in ages. Nice article by DON DAVIS on those beacons, thanks Don! And thanks also to Ye Olde Englishman TOM FAWCETT, for making me realize I'm not the only one in this Club with mental problems, hi. Good to see a few of you guys writing about your personal DX histories. CLKW was a real shock to me too, the first time. Here's a bit of useless info: I first Mused 1/6/75. This is my 91st Musing in 105 issues. (So that's where all my typing paper went, hi!) Re call & frequency changes, I agree with WAYNE MURPHY's analogies on frequency changes, but I count call changes too. (Why not, hi). I don't care about RON MUSCO's "final" tubes, though. Here's the equivalent of counting KFI-641 as a frequency change: Count the Brooklyn pirate as different calls! (WFSR/WICE/WFAT/etc.) OK, all you people have a good Summer, & remember these words to live by: "I got rid of the aerosol, & kept the spray." 73.

WAYNE HEINEN - 427 East Caramillo Street - Colorado Springs, Colorado - 80907

In answer to BOB WESSOLOWSKI all I have to do is get a Collins RX to be the "Coloradan with the Coors & the Collins." DX is winding down with some T-storms noted in the past few weeks. Planned summer projects include new antenna system and trying to verify many locals and semi-locals. I had a cold this past weekend, so I sent out 45 f/ups, most with PP/c's. If I don't find any info in Verle Signers I usually go this route as money is a scarce commodity in the Heinen Household. Last small batch of f/ups led to v/PP/c's from KOOL-960, KEND-1590, & KSEI-930. v/q- KONO-860 & for first report, KLOU-1580. I hope that all verifying DXers who aren't supporting the v/s will start. Anyone who plans to be in Colorado Springs area please call; my brother-in-law, Dave Brower & I are the only two BCBers in town. We enjoy company. Phone is 303-632-3332. If the spare room isn't already occupied passers-by are welcome. 73's from the Pikes Peak DXer.

CHARLES GEORGE - 6407 Howard - Dallas, Texas - 75227

I received a verie from another station: KEDR. I told MIKE HOPKINS about the verie and he thought up that it stood for (K)-E-Over-R of Ohm's Law as we were talking about the meanings of various station calls. My DXing of the MW has stopped temporarily because of all the stations that play Dolly Parton, Bee Gees, & Debby Boone. I have also been enjoying listening to stations with nostalgia type programs. I tuned in to WHAM one morning when KLIF was off. I was hoping to hear the good jazz that I used to listen to while at college - what a disappointment! C/W and not even good c/w at that - three boos to WHAM. 73s.

AS THEY SAY IN MEMPHIS, "AMPS-680" - "WE'LL MEET IN THE PEANUT STATE." LET'S ALL MAKE OUR PLANS WELL IN ADVANCE SO AS TO BE SURE NOTHING GOES AWRY - SCHEDULE YOUR TRIP NOW! OF COURSE WE'RE REFERRING TO THE N.R.C. BIG DIXIE CONVENTION IN ATLANTA, SEPTEMBER 1-2-3-4! BE THERE!

DAVE ROGERS - Box 74 - Buffalo, Oklahoma - 73834

Greetings. I haven't DXed much lately but I received one new verie: a big v/q from KKA-1560 plus bumper sticker. I was interested to read some members are having trouble getting veries from KGYN-1210, Guymon, Okla. I worked for KGYN for a while in 1969 while I attended college at Panhandle State at Goodwell, Okla. At that time KGYN had just switched from 1220 to 1210 kHz and went to 10kw clear channel. I recall the owner, T. M. Rayburn, & Program Director, Joe Fields, were quite interested in DX reports and conducted one DX TEST for the NRC & IRCA in early 1969 that netted reports from many DXers as far away as New Zealand & Australia. I had 500 QSLs printed out of my own pocket to verify with which I suppose were used up long ago. While I worked there I was the v/s and although most reports from IRCA/NRC members were quite good it seemed that at least 50% or more of the reports were fair to poor (like examples in the NRC New Member Book) with few if any program details, and demanding (not asking for) verification. I don't know why KGYN has changed its policy on verification. Perhaps the newness of their going clear channel and receiving distant reports wore off but I wonder if in part the poor quality of reports from some DXers had a lot to do with it too. Here in Buffalo I'm not troubled by any local NSPers; the nearest AM station is KSIW-1450 Woodward, 30 miles SW of here. Their sked is 7am (8am SM) to 11:15pm EST but after LSS they cannot be received here. Their slogan is "The Voice of N.W. Oklahoma" and they were friendly toward DXers the last time I was there. 73 & good DX.

LARRY VAN HORN - Route 2 - Box 270 - Brighton, Tennessee

Greetings from the Land of MADS and Stroh's Beer. I hope all is well since last. Many interesting things to note this week: Current totals are 351/36, states 35/18, countries 14/2, provinces 3/0. Lotsa good LA openings the last two weeks. On April 14 all the local TV WX men were excited about the biggest solar flare eruption in four years. Info was carried on all three channels plus a special on PBS TV. Local newspapers carried news of the event but from what I was able to tell they were about two days late! Veries in from KMOX, WKCU, KXOK. Reports out to WFLI, KPCA, KEIB, KBEM, KXKQ, KDRS. 4/2 - R. Belize-834 11:50pm w/BB game, religious moment, then s/off w/NA @ 12:25am, for country #7. 4/3 - KTWD-1030 Wyo. @ 1:29am w/religious program, then ID mixing w/R. Centro at good levels for state #34. KKA-1560 S.D. @ 1:41am w/ID plus location in a mess of them for state #35. 4/19 - brought 17 new stations with the best surprise this year, TICAL "R. Rumbo" Costa Rica-525a @ 11:52pm w/R. Rumbo ID, light CA vocals, weak though, for country #14. Many thanks to MIKE DERTZ for helping on the MADS flash alert to obtain these new ones and a few more. Also to MIKE HEPPE for his Sunday morning call. He told me his GY DX secret but if you want to find out what it is, be at the MADS Memorial Day weekend fling as Mike will (tentatively) be here. Till next time 73's to all from Gayle & me, especially the best Musings Editor in the World (the only one for sure) and I hope all your DX catches will be big ones. ATLANTA in '78, Memphis in '79 - we'll be at both - will you?

MARTY WRIGHT - "The Ice Age DXer" - 1913 Jeanette Lane #7 - Springfield, Illinois - 62702

Greetings from the land of ice and snow. The Easter weekend ice storm really botched things up here in Springfield and surrounding Central Illinois. Most of the city was without power for three to five days and some rural areas for over a week! Damage was set at \$127 million & in Springfield alone there was five million damage to the city's power distribution system. All local stations were off the air at various times, but most lost only three to four hours as generators were hooked up. At WCVS where I work we had a farm tractor with a power takeoff running a generator outside the front door. All AM station towers stayed up but Channel 17 in Decatur lost its 1,100' footer and the Illinois Educational TV 1600 footer at Eluffs went down. An unexpected bonus of the storm was hearing WKEI-1450 3/27 during the afternoon while WCVS was off the air. Due to our NSF, loggings on 1450 are rare here. The WXAP & KNWS TESTS were heard but not very well. I used a battery powered portable & DXed by candlelight wrapped in blankets. I have heard 51 newies since 1/1 but veries are somewhat slow. Best catches have been KPAR TEST which was heard at 2:15am, very well, & tape sent, & unusual signal from WNEW-1130 3/13, first heard @ 2:15, a super signal, dominating 1130. Only three have been heard in April so far - KLCN-910 very strong on s/off 4/1 7:23-7:30pm; WFAK-1220 TT, IDs 2:12 & 2:18am 4/5, & KEDD-1550 heard on last of ET 4/12 @ 1:55-1:58am. Not many veries as I mentioned: WDNW-1280, nice v/l for 2/21 when I heard them with BKB tournament for over an hour, Ohio #20. Finally a verie from KIMN-950 - PP, and a phone call turned the trick with this non-verifier. In closing, maybe some good news. A friend of mine who is an FCC field inspector was in town two weeks ago & I brought up the matter of testing stations not giving IDs. He says the FCC is aware, and may take some action soon to cause offenders to comply. He assumes this means fines as an example to others. HE says the FCC finds most stations do not ID on tests. Good DX to all and if any would like to try for any specific stations in my area I will try to arrange a TEST if you will let me know what you would like to hear. (How about WCVS with 1 kw? -ERC)

STAN MORSS - Route 3 - Bradford, Massachusetts - 01830

Verie, WOKX-1590 - I heard only "Country Livin' OK 16" given on test - & took a guess which paid off. Strong OC on 1580 Sat. AM 4/8 @ 4:45 when I got up to go to work - no ID by Sun. WMD-1560 La Plata, Md. noted on RS already @ 5:30am when I got up for work (late start Sun. 4/16), needed, so copied for a report, in clear till 6:15 tuncout. Tester on 1570 SM 4/23 @ 5, going 1 - 2 - 3 - 4 - etc. but faded on ID, naturally. 1450 continues busy - WSNQ AN in several AMs, WKIP AN several AMs also, & WMAS seemed AN also, last week, but I didn't hear WXIV all week - I got a good tape ID out of WKRI, & WISA now s/on @ 5am.

WE HOPE TO SEE SCORES OF YOU IN ATLANTA - AND ALSO IN DX NEWS OF JUNE 12 - DEADLINE SAT. 5/27!

PAUL MOUNT - 471 Emerson Avenue - Teaneck, New Jersey - 07666

201 - 836 - 1137

It's BB Season! I made my first "visit-DXers-and-radio-stations-driving" trip, for want of a better name, on 3/24 after being snowed out the previous week. I put WKER-1500 on the car radio as I drove W on NJ 4 & 208. WKER had troubles getting through WJIT-1480 sloop at first, & didn't get really strong until I went up hills in Fair Lawn. Arriving in "Smalltown USA" Pompton Lakes around noon, it was time to play "I see the tower but is it theirs?" There was a police tower on a moountain & a CATV tower near Wanaque, & the ones I couldn't see were WKER's at the end of Lincoln Avenue. WKER operates from a house (the Kerr's?) - turned-studio with the three towers in the backyard. They weren't all that friendly despite my listening to WKER for years, coming up from Teaneck & knowing their CE. No big deal anyway. They gave their "double power" CM (from the time they doubled power, years ago) & the survey was not a music one but an audience response one that had them eighth among about 12 stations, beating WMTR. The rest were NYC stations & only one FM, strange. My next target was WQTK. In Pompton Lakes (you should have your N.J. map out now) WKAP-1320 Allentown comes in well but WQTK is awful, though WVLP is happy, hi. WQTK didn't get strong till I got to the 23/46/80 merger. Now it was time to play "I see the towers but how do I get there?" I drove about six miles around the towers but couldn't find the entrance. I went to a gas station, pointed at the towers & asked "How?" Finally, I had to drive a holey dirt road to the studio w/no windows. You see the DJ as you go in; it's really small. The CM they gave me shows the top half of NJ & the WQTK coverage part is only marked for the part that hits Essex Co.; the big lobe W was not drawn in. They also gave me a nonsensical job application. Their towers (four in a row) are built in a river, so maintenance must be fun. Once out of there, the driving was easier up 287 to 202 & JOHN KROMKA. He demonstrated the terrible buzz on the DX-160 which prohibits daytime DX, & the Patrolman radio that heard KIRO. Grr. We also did some FM listening, & he plays a mean TV set-hockey/tennis. Let that be a warning to you all. Then we went down to Morristown to DAVID WILLIAMS' (N.J. version) place on the hill. They tuned in some "common" SSS catches I've never heard of & we played nine tapes. Comparing totals, John's doubled in a year, & I don't mean 20 to 40. He had 1,170 so figure that to be a lot of stations. After taking everyone home the Florham Park Jack-in-the-Box was visited before winding my way back to I-80, where another tower came into view, Ch. 50's tantalizing tower w/strobe lights. WZZP's is better though. I had a great time, thanks to NRCers John & Dave for their hospitality, and thank you.

BILL HARDY - 2301 Pacific Avenue - Aberdeen, Washington - 98520

I'm going to start this Musing with some comments about my local, KGHO-1560, in hopes that I can explain some of KGHO's activity lately. KGHO has run many ETs off and on during the "experimental period" 3-9am on MMs, usually w/rr & frequent IDs. These ETs have been almost weekly, although not always for a solid six hours. MM has been preferred, because KGHO-FM is AN-6 on RS & has a MM SP, thus freeing up the main studio for ETs on MMs. However, KGHO has tested on other mornings a few times, often w/FM simulcast. Another thing lately is that KGHO's modulation is running quite hot, causing sloop all the way from 1500 to the top of the dial. A third recent development is that, for the first time since the year 1967, KGHO has opted to s/on at LSR rather than waiting till 9am ET. This has something to do with the new 24-hour status of the FM. At 8:30am, the FM DJ turns on the AM XR, plays the s/on tape, & proceeds with simulcasting. It's possible that KGHO is still off till 9am MMs, but Tues. through Sun, the AM now goes on at LSR. In March, our local newspaper had a front page Sunday feature about one of KGHO's engineers, who is blind. The article told about all the special instruments he had to be able to read meters, schematic diagrams, etc. I'd imagine he found it necessary to be able to test on-the-air to check XR performance after maintenance or repairs, hence so many ETs. I have very little contact with any of my locals now, having left the broadcasting industry here last Summer. Otherness: My work at a local garden-and-pet store since 2/27 has left me unable to stay up late MMs, although I've done a bit of SM DX. For instance, 3/26 brought in a relog of KQEN-1240 s/on @ 9:53am, "Queen Radio", booming in w/SSE, full particulars, & into AI NX. 4/9- 7:44am, KSLM-1390 on RS w/MBS NX & pop mx, they've never been AN before, rats. Three stations that morning noted on between their sunrise & 9am - KOKR-1440 good & all alone w/o/w 8:22am, KRKT-990 good for 250w & no QRM 8:46am (CBW faded & KKS was still off), & the afore-mentioned KGHO-1560 s/on 8:32. 4/16. KHSN-1230 Coos Bay, Ore. 8:40am poor w/T-40, DJ mentioned KHSN & quickly faded under, first logging since the call change from KOOS last year. KOOS was rare too, but KHSN seems to be AN-rr now. They have a rooftop antenna on a four-story downtown building, so I imagine the signal is pretty rotten. I'm out of room so I'll muse again next time; 73 to all.

BILL HARANG - 811 Nevada Avenue - San Jose, California - 95725

In late May 1927, the newly empowered Federal Radio Commission assigned 1250 kc/s to KEX. On 6/1/27 KEX received its first license. The station's slogan, in use both on the air & off by 9/27 was "A Public Service Necessity." Also, in the late months of 1927, KEX changed frequency to 1080 from 1250. A hidden ownership question was raised in 1/28. While licensed to the Western Broadcasting Co., owned by Vincent Kraft (who also owned Seattle's KJR), it was disclosed that Adolph F. Linden, President of the Puget Sound Savings Bank, Seattle, kicked in \$6,500 a month for the past 12 months to KEX's parent organization to overcome financial difficulties. KEX was required to change frequency on 11/11/28 to 1180 kc/s. Also, in November, the FRC granted permission for KEX to double its power from 2,500 to 5,000w. In the mid-30's, KEX's XR was moved from East Gilson Street & Buckley Avenue to a new site on Pacific Highway, North Portland. By mid-1938, KEX was operating daily from 6:30am to mid-night, with the exception of silence from local sunset at Albuquerque to 8pm, local time, as specified in its license. On 11/27/39, KEX was granted Special Authority (SA) to (con'd.)

(Harang, con'd.) operate on 1160 kc/s. fulltime, with 5,000w, while still licensed for 1180 kc/s., share time nights with KOB, Albuquerque. A license was issued in 1940 by the FCC for fulltime 1160 kc/s. operation. At this time, KEX was using a new 300' vertical radiator at its North Portland site. KEX switched from 1160 to 1190 kc/s., as a result of the NARBA Treaty reallocations effective at 3am Saturday, 3/29/41, affecting the dial position of most North American broadcast stations.

9337  
 ERNIE COOPER - "The Cape Tip DXer" - 5 Anthony Street - Provincetown, Mass. 02657 617-487-  
 Oh wheel A Verle arrived; from WQBS-630, Puerto Rican #51, and verie #4,087. We had interesting and welcome phone chats with ELLIOT STRAUS, ROLLAND LINDELADE, DR. TOM WILLIAMSON (who called from his station with "Project Hope" in Quetzaltenango, Guatemala!) and HILL COLEMAN (twice). My weekday DX was somewhat limited by attendance at Town Meetings during the week, running till 11pm or later. However, let's go: 4/20- Windy, rainy, & ultra-noisy! Unns WCTC-1450 on top w/NX @ 2 to s/off @ 2:06. On 1340, WNHC, now BFL, noted w/ID @ 2:30 and backie to beddie. 4/21- UnID TTer on 1570 1:09-2:41, no IDs noted & the whole morn wasted on him. Hey, Mr. FCC man; you readin'? 4/22- On a special tip from DAVE SCHMIDT, I tried to hear unnn WMSV-1010 on a PoP 12:01-1am, but nothing noted u/WINS save a weak CFRB. It was clear and very mooney, but also very noisy! SM 4/23- TT-1470 @ 2:20 in the pile of ANs, coulda been the second DAVE SCHMIDT tip, WTZE, also sked for a PoP that morning, but no way to talk with all that competition. At 3:01 on 860, somebody with Strauss w/als, suddenly went off @ 3:03. WPOP-1410 today was silent from 2 to 3, then back with Larry King-MBS. And a TTer on 920, 2:50-2:55, and a weak SS on 725a circa 2:57. WPOW-1330 now is signing on on Sunday mornings @ 3, just like the other six days, but WEVD goes off at midnight daily. MM 4/24- At long last, some new stuff! I was already tuned to 1230 as the HQ-180 #1 warmed up & in rode WFAL, N.C., on top & I started to take a report, then researched & found I didn't need them. But it was a harbinger of better things to come, viz: WQSO-1030, really pounding this morning @ 1:58-2:11, including six minutes of CBS NX @ 2; they are all EE & MoR. I sent my second report to them. Finally, after trying all winter, I found WXVI-1600 on top, & I managed to squeak out a report for them, before the channel gets infested by soon-to-be NSP-ers WOKB & WXXI. It took a while to get enough, & lo, I almost missed KNIX - but I didn't, hi, but they were rather difficult here due principally to R. Principe. 4/29- Oh oh - the Cuban is back on 590, apparently, noted u/WEET @ 1:28. WOOU-1240, unnn, c/w, on top today. Unn KTRH-740 atop with good ol' Hoibie @ 1:29. SM 4/30 - UnID TTer-1140 @ 1:18 & on, likely WRVA (silent SMs). Also, a TTer on 1320 1:42-1:57 - then suddenly it was, not 2, but 3am, as EST departed till Oct. 29! MM 5/1- Again, noisy. Unn WASA-1330 testing with repeated IDs @ 1:05, sounded like "WOSA" for a while. Unn WROK-1390 Tting o/WFEH w/ID @ 1:31. CKLM-1570 was off all AM, but only XERP there, hiya, Pancho, hi! Unn WKBA-1550 testing most of the AM, loud. And of course, WTTI-1530 also. Unn WRAP-850, Norfolk, holding top spot here @ 3am, first time heard on this frequency, old w/l is from their 1050 days, 25 years ago. On1410, a TT o/u WPOP 3:04-3:11, & WSGA-1400 once again on top there. OK - L C U N four weeks! Aloha!

AFTER A GREAT ISSUE (#24) WE'VE SEEN AN EBB TIDE OF MUSINGS - PLEASE LET US HEAR FROM YOU FOR THE JUNE 12th ISSUE OF "DX NEWS." PROVINCETOWN DEADLINE IS SATURDAY, MAY 27. BE IN IT!

M O T H E R A L L M E M O R I E S

CHAPTER XXXII - "TEN TEN WINS NEW YORK" - by PETE KEMP, Waterbury, Conn.  
 Murray the K, Stan Z. Burns (what does the Z stand for?), Jack Lacey, Paul Sherman (the crown prince of radio) and Pete Meyers (AKA Mad Daddy) all contributed to the dominance of WINS as Westinghouse Broadcasting's voice in the Big Apple. Murry the K (for Kaufman) was the ringer. His holiday rr shows at the Brooklyn Fox Theater coupled with his close association with the Beatles, added to his stature. He promoted submarine races and a special language for teens called "Murray Talk" or phonetically Me-a-sury T-a-sauk. It was an adaptation of old carnival talk used by the barkers at travelling side shows. Murray produced TV specials and later went on to new radio horizons when WINS changed its format to all-NX. In 1960 WINS was not above some summertime fun. In August, the morning papers, Times, Tribune, Daily News, etc. had carried stories about what appeared to be an Egyptian stone tablet that had been left in a taxicab. In its thorough way, the Times called in an Egyptian expert from a local museum to examine the stone for its authenticity. Its message in modern hieroglyphics read "Everybody's Mummy Listens to WINS-10-10". Alan Freed, the Grand-daddy of the DJ's, also had a fling on WINS. His "We start 'em, the others chart 'em" was his battle cry. With the Payola scandals Freed was a dejected man. He moved on to WABC but was canned for failure to sign a clause in his contract, on November 21, 1959, and two days later his show on WNEW-TV was axed. He tried numerous times for a comeback, but eventually filed for bankruptcy and passed away a broken man, on January 20, 1965. Now, onWINS, it's "For music, news, time, and the weather, put your dial where the tens come together, 10-10 WINS, New York." WE HAVE SEVERAL MORE FROM PETE KEMP, AND ALSO FROM: NEIL ZANK, RUSS EDMUNDS, BOB SELLECK, KEN CHATTERTON, ANDY RUGG, & VERNON SHEARER. SOME WILL RUN MORE THAN ONE CHAPTER, AND WE'LL HOLD THOSE TILL WE GET TO PUBLISHING FREQUENTLY AGAIN IN THE AUTUMN, AND STICK WITH THE ONE-CHAPTER ONES WHILE WE'RE COMING OUT ONLY MONTHLY, SO AS TO PRESERVE CONTINUITY. SO, NEXT ISSUE, WE'LL TUNE IN ON RUSS EDMUNDS & HEAR ABOUT HIS DAYS AS A BEGINNER IN THE DX HOBBY. WE STILL ARE ASKING FOR MORE MOTHBALL MEMORIES TO TAKE US THROUGH NEXT SEASON AND VOLUME 46!

HERE WE ARE IN THE MIDDLE OF MAY ALREADY. IT IS CERTAINLY NOT TOO SOON TO BEGIN MAKING PLANS FOR ATTENDING THE GREAT UP-COMING ATLANTA CONVENTION! WE HOPE FOR A RECORD-BREAKING CROWD THIS YEAR, AND THINGS ARE ALREADY LOOKING GOOD ALONG THAT LINE! IT'LL BE THE FIRST FOUR DAYS OF SEPTEMBER, REMEMBER, AND MAKE THOSE AIRLINE RESERVATIONS, OR WHATEVER, AS EARLY AS POSSIBLE!

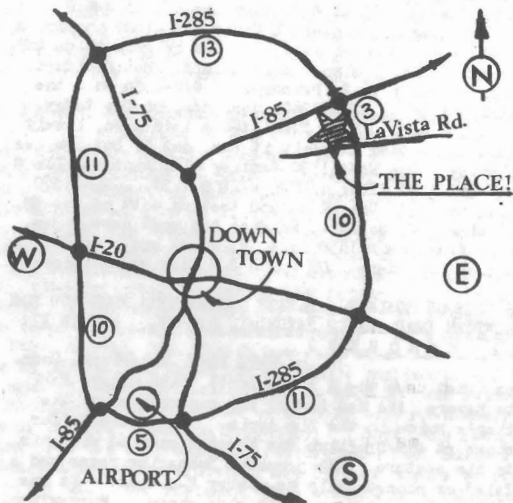
# THE 1978 NRC ATLANTA CONVENTION

The 1978 National Radio Club Convention will be held September 1-4 at the Northlake Hilton on LaVista Road at I-285 in suburban DeKalb County. The motel is situated within view of the expressway, in a modern commercial and office-park development. Within walking distance are a variety of eating establishments, as well as a major shopping center, Northlake Mall. The Northlake Hilton itself is only several years old and is one of the finest suburban inns in the area.

## HOW TO GET TO ATLANTA

**BY AUTO:** Atlanta is crisscrossed by three major interstate routes; east-west by I-20, northeast-southwest by I-85 and northwest-southeast by I-75. Completely encircling the city, and intersecting all of the above, is the perimeter highway, I-285.

If you are driving, and plan to be arriving in the Atlanta area in the mid-to-late afternoon, we recommend you use the perimeter highway to avoid much of the traffic and delays that occur on the thru-town routes. Also, at present, I-285 is undergoing construction which is expected to continue during convention time, so keep this in mind when traveling on I-285.



Here are some recommended routes to take:

### From points NORTH

I-75--Exit to I-285 East@Exit 105E  
I-85--Exit to I-285 South@Exit 35A

### From points SOUTH

I-75--Exit to I-285 East@Exit 81A  
I-85--Exit to I-285 (either way)

### From points EAST

I-20--Exit to I-285 North@Exit 35B

### From points WEST

I-20--Exit to I-285 North@Exit 15B

### LaVista Road is Exit No. 28

(Circled numbers on the map are approximate mileage between interchanges)

**BY AIR:** Atlanta's Hartsfield International Airport is served by most domestic carriers, including American, Braniff, Delta, Eastern, Northwest Orient, Pan Am, TWA and United. Regional carriers for the southeast are Piedmont and Southern. Delta and Eastern offer the most flights into Atlanta from most areas.

If you are flying to the convention, please make note on the registration form so we can arrange transportation to and from the airport. The motel has no limosine service, and a taxi ride from the airport (south of the city) is VERY expensive!! Let us know your arrival/departure times as soon as possible, and we'll take care of the rest.

**BY BUS:** Both Greyhound and Trailways operate to and from Atlanta to their separate terminals downtown. Again, let us know if this is your mode of transportation, so that we can get you to the convention site.

**BY RAIL:** Only one passenger train operates into Atlanta; the Southern Railway/AMTRAK "Crescent" which originates in the New York-Washington area. By the time of convention there may be a second train available, the "Floridian" originating in Chicago.

## ACTIVITIES AT THE CONVENTION

**THE TOUR:** As fate would have it, and despite our best efforts, the FCC will not permit us to tour the monitoring station on Saturday because of the holiday. So, there is the possibility of a limited tour if enough interest exists for late Friday morning. If anyone plans on arriving early, say Thursday or early Friday morning, and would be interested, please let us know. FCC will allow only a group of a dozen or so through.

The tour will include the following stops on SATURDAY:

- \* A visit to the WTCG (Channel 17) TV satellite earth station
- \* A tour through WSB-AM-FM-TV's "White Columns" studio-home
- \* A look at WSB's modern automated transmitter site, located almost across the street from the convention site!
- \* A stop at famed Stone Mountain, close to the Hilton.

**BANQUET:** A buffet-style banquet will be held Saturday night at the motel; the menu to be announced later.

**AUCTION:** The annual auction, after the banquet, will happen at the motel, so bring your items with you, or send them post-paid to Karl Jeter, 2816 Frontier Trail NE, Atlanta, GA 30341.

**BEVERAGE:** Yes, on Monday morning, beginning at midnight or so, a beverage session! So bring your receiver, and try out IDX editor Chuck Hutton's phased beverage.

**OTHER ACTIVITIES** include Technical sessions on Sunday afternoon on a variety of subjects, and of course, the SECRET DX SAFARI. We can't say any more on the latter, except bring your TRF!!

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### 1978 N.R.C. ATLANTA REGISTRATION

(Clip or Copy. fill out completely and mail to Karl Jeter, 2816 Frontier Trail NE, Atlanta, GA 30341)

REGISTRATION DEADLINE AUGUST 20, 1978 -- LAST MINUTE RESERVATIONS 404-458-2912 (after 9:30 p.m.)

Name \_\_\_\_\_ Phone \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Convention registration fee is \$15. This may be paid in advance or at the Convention.

I will be staying at the motel YES NO  
I will take part in the banquet YES NO Circle one  
I will take part in the tour YES NO

### ACCOMMODATIONS PREFERENCE:

\_\_\_\_\_ ONE PERSON -- \$18.00 per night  
\_\_\_\_\_ TWO PERSONS - \$25.00 per night Room rates subject to change  
EACH ADDITIONAL PERSON, \$6.00

I will be arriving on \_\_\_\_\_ (day/time)

I will be departing on \_\_\_\_\_ (day/time)

Mode of transportation \_\_\_\_\_

If you are planning to come to the convention, but have no transportation, please write us and we'll do our best to try to arrange something (carpooling, etc).

Any special instructions, comments, etc., use remaining space, or enclose separate letter (i.e. room-sharing preference, the FCC tour as mentioned above, etc.)